

# EFAPEL®

**30** YEARS  
Producing Electrical Devices

## GENERAL CATALOGUE 2009



ELECTRICAL SOLUTIONS



Discover the News along the Catalogue!

## QUADRO 45 TRUNKINGS DEVICES



Sockets and Adapters

## MODUS 55 MODULAR PROTECTIONS AND DEVICES FOR ELECTRICAL PANELS



Miniature Circuit Breakers (MCB)



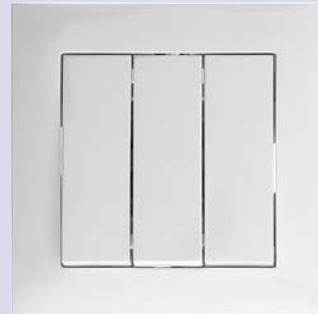
Residual Current Circuit Breakers (RCCB)



Over-Voltage and Surge Protection Devices (SPD)

**LOGUS<sup>90</sup>**

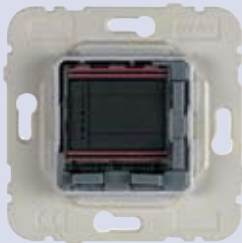
FLUSH MOUNTING DEVICES



All the Mechanisms of the MEC 21 Series can be applied.

**mec 21**

ONLY ONE TYPE OF MECHANISM FOR ALL THE SERIES OF EFAPEL



One Circuit Digital Clock Switch



Electronic Blinds Control Module



Motion Detector

**Jazz**  
*Light*



Modular Sound Central Units



Sound Control Unit with FM Tuner and Infrared Remote Control



Loudspeaker

**EFAPEL®**



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|                                                                                   |                   |
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# EFAPEL - 30 YEARS IN CONTINUOUS DEVELOPEMENT AND GROWTH

## Who We Are

Established in 1978 and exclusively integrated by Portuguese capitals and investments, actually EFAPEL S.A. is a Portuguese company with a working team of almost 300 collaborators divided in 3 modern industrial units with a total surface area of 18.750 m2.

EFAPEL S.A. is certified in accordance with the **NP EN ISO 9001** standards (Quality Management System), **NP EN ISO 14001** standards (Environmental Management System) and **OHSAS 18001 / NP 4397** standards (Occupational Health and Safety Management System).

We also were the first company in Portugal and in our sector of activity, to get the **EMAS** Register (Eco-Management and Audit System).

## 30 Years in Continuous Development and Growth

We export to more than 45 countries World-wide and we are present in Germany, France, Russia, Belgium, The Netherlands, Greece, Singapore, Vietnam, Mexico, Costa Rica, Argentina, Chile, Peru, Angola, Cape Green, Mozambique, Saudi Arabia and Iran, among others.

## What We Do

We develop and manufacture high quality products to be used in low voltage electrical installations such as Flush and Surface Mounting and Waterproof Devices, Technical Trunkings, Surrounding Sound System, DVI products (Data, Voice and Image) and Modular Protections and Devices for Electrical Panels.

Our Team of the **Research, Development and Innovation Department (RDI Department)** dedicate its job and efforts to the research, conceptualization of products and solutions that match the needs of our Customers, by keeping in mind the following **three basic directives**:

- **Good Quality/Price Ratio;**
- **Easy and Quick Installation;**
- **Safety and Comfortable for the User.**

Our goal is to offer to our Customers a complete range of products and equipments that allows them to project and build an electrical installation, all with EFAPEL materials.

## Where We Are

Located in Serpins, and just 30 Km away from Coimbra, we have a strategic location in the Centre of Portugal, which allows us to deliver the orders of our Customers in an effective and quick way either to the North or to the South of the country.

## Our Compromise with Our Customers

Our compromise with our Customer is based on **three pillars** that have always ruled the EFAPEL 's policy: **the Product** (to always develop and manufacture Quality products that match the needs and expectations of our Customers), **the Service** (to serve our Customer in the most effective and quick way) and **the Best Quality/Price Ratio**.

In this way, we pretend to be recognized by our competitiveness, confiability of our products and the efficiency of the service we give to our Customers.



# Our VISION, MISSION, VALUES and POLICY

## Vision

To be a company of excellence in the field of the electrical solutions.

## Mission

To create and produce the best options of products devices and accessories for electrical and data, voice and image installations, with the commitment to satisfy our Customers, Partners, Suppliers, Shareholders and the Society...

...by ensuring value for the customer, satisfying their needs and expectations...

...by developing products and processes with efficiency and effectively, pursuing the elimination of all waste...

...by developing the talent of our colleagues, ensuring their motivation and encouraging their creativity, and caring for their safety and health...

...by actively contributing with the society, by continuously improving the environment performance and participating in the local and national development...

...to ensure the sustained growth of EFAPEL.

## Values

|                   |                                                                           |
|-------------------|---------------------------------------------------------------------------|
| <b>Ethic</b>      | Honesty and seriousness.                                                  |
| <b>Rigor</b>      | Fulfilment of the undertaken compromises with all the interested parties. |
| <b>Simplicity</b> | What is simple, it is great.                                              |
| <b>Dynamism</b>   | Guidance for changes and learning.                                        |
| <b>Creativity</b> | Constant search for innovative solutions.                                 |

## Policy

- The Customer at First Place.
- Doing Well at the First Time.
- The Supplier is a Partner in our Business.
- Continuously Improve the performance of the Organization.
- Comply with the Law and Other Applicable Requirements.
- Promote the Formation and Training of our Collaborators and Others who are Working in the Name of EFAPEL.
- Prevent the Pollution.
- Spread the Good Environment Behaviour.
- Eliminate or Minimize the Professional Risks.



# Our Commitment with the **QUALITY**, the **ENVIRONMENT** and the **SAFETY**



## Quality and Safety

Knowing that the Quality and the Safety are critical factors in the domain of electrical equipment, all our products are developed, manufactured and tested in strict accordance with all the related standards and they respond to the requirements of each country for which they are destined.

By using advanced test equipments and ensuring a constant supervision over the production processes, we guarantee the quality of our products from the conception to its use.

Beside the rigorous Internal Quality Control, our products and production processes are systematically subjected to audits made by independent and credential entities.



## Environment

EFAPEL is proud to have been the first company in Portugal, and in its sector of activity, to be registered under the EMAS (Eco-Management and Audit System).

All the environmental factors are systematically identified, controlled and measured in order to guarantee the continuous improvement of the environmental behaviour and performance of EFAPEL.

With the intention of promoting the good environmental practices within the Community, we encourage our Colleagues, Suppliers and Customers to implement our daily practices in their day-by-day.



## CERTIFICATIONS OF THE COMPANY



**APCER**  
Certification of Quality Systems

**Quality Management System** implemented, in accordance with the standard **NP EN ISO 9001**.



**APCER**  
Certification of Environment Management Systems

**Environment Management System** implemented, in accordance with the standard **NP EN ISO 14001**.



**APCER**  
Certification of Occupational Health and Safety Management Systems

**Occupational Health and Safety Management System** implemented, in accordance with the standard **OHSAS 18001 / NP 4397**.



**ENVIRONMENT INSTITUTE**  
Verified Environment Management

**Environmental Management System** according to the Regulation (EU) n° 761/2001 of the European Parliament and of the Council, dated 19th March 2001.

## CERTIFICATIONS OF THE PRODUCTS

The mark, when placed on a product, guarantees its conformity with all the applicable standards, and guarantees that the product was produced by a manufacturer who has an appropriate production control system.



**CERTIF**  
Product Certification (Portugal)



**Verband Deutscher Elektrotechniker**  
Product Certification (Germany)



**AFNOR – LCIE**  
Laboratoire Central des Industries Électriques (France)



**SGS Belgium N.V. - CEBEC**  
Product Certification (Belgium)



**KEMA Quality B.V.**  
Product Certification (the Netherlands)



**GOSSTANDART RUSSIA**  
Product Certification (Russia)



**Underwriters Laboratories**  
Product Certification (EUA)



**INTERTEK ETL SEMKO**  
Product Certification (Sweden)



**UKRSEPRO**  
Product Certification (Ukraine)

### Mark of conformity to the European Community Directives applicable to the product



**MANUFACTURER**

The CE mark, as established by 2006/95/CE (Low Tension) and 2004/108/CE (Electromagnetic Compatibility) Directives, shows that the manufacturer fulfils the duties required relating to equipment compliance with the applicable Directives of the European Community Council.

All the currently commercialised EFAPEL products are under CE mark, except for:

- 16A (250V) Sockets; - Music Sockets; - 12V Switches; - Plastic Fittings.

# A VALUE-ADDED COMPANY

In EFAPEL, the satisfaction of our Customers is a daily compromise. That is why we have services that put us closer to them:



## Technical Support Services (SAT)

Whenever you need technical advice we have at your disposal a qualified team to help you.



## Sales Service

Whenever you need help in developing your orders, or if you wish to submit a suggestion or clarify any doubt, we have at your disposal a team prepared to solve your problem or question, in a quick and efficient way.



## Delivery Service and Logistics

In order to answer the requests of your customers on time, we have a professional and effective delivery service ready to send your orders.



## Communication Service and Merchandising

To promote and support the brand EFAPEL, we have at your disposal a personalized service that provides you with all promotional materials (Exhibitors, Catalogues, Samples, Technical Documentation and Training).

Telephone: +351 239 970 136 | +351 917 303 430 | +351 967 008 859 | +351 937 303 431

Fax: 800 202 344

e-mail: [export@efapel.pt](mailto:export@efapel.pt) | [sat@efapel.pt](mailto:sat@efapel.pt)



## EFAPEL at the World Wide Web

With the objective to keep you informed of all the activities developed by EFAPEL, we have a modern and complete online information tool: our Web-Site at [www.efapel.pt](http://www.efapel.pt). Seated comfortably at home, you can read and know more about all the details of the ranges of products we commercialize, the Releases of Products and News related with them and the information about Fairs and Events where the company will be present, among other valuable information.

Also, we created an exclusive area specially for Professionals of the sector, where they can find specific information for reach a better develop of their activities and works (Catalogues, Price Lists, Certificates of the Company and its Products, etc.).

Simply type [www.efapel.pt](http://www.efapel.pt) and discover what we have prepared there for You ... We Hope to See You Soon !!

# The EFAPEL PRODUCTS and the ELECTRICAL MARKET

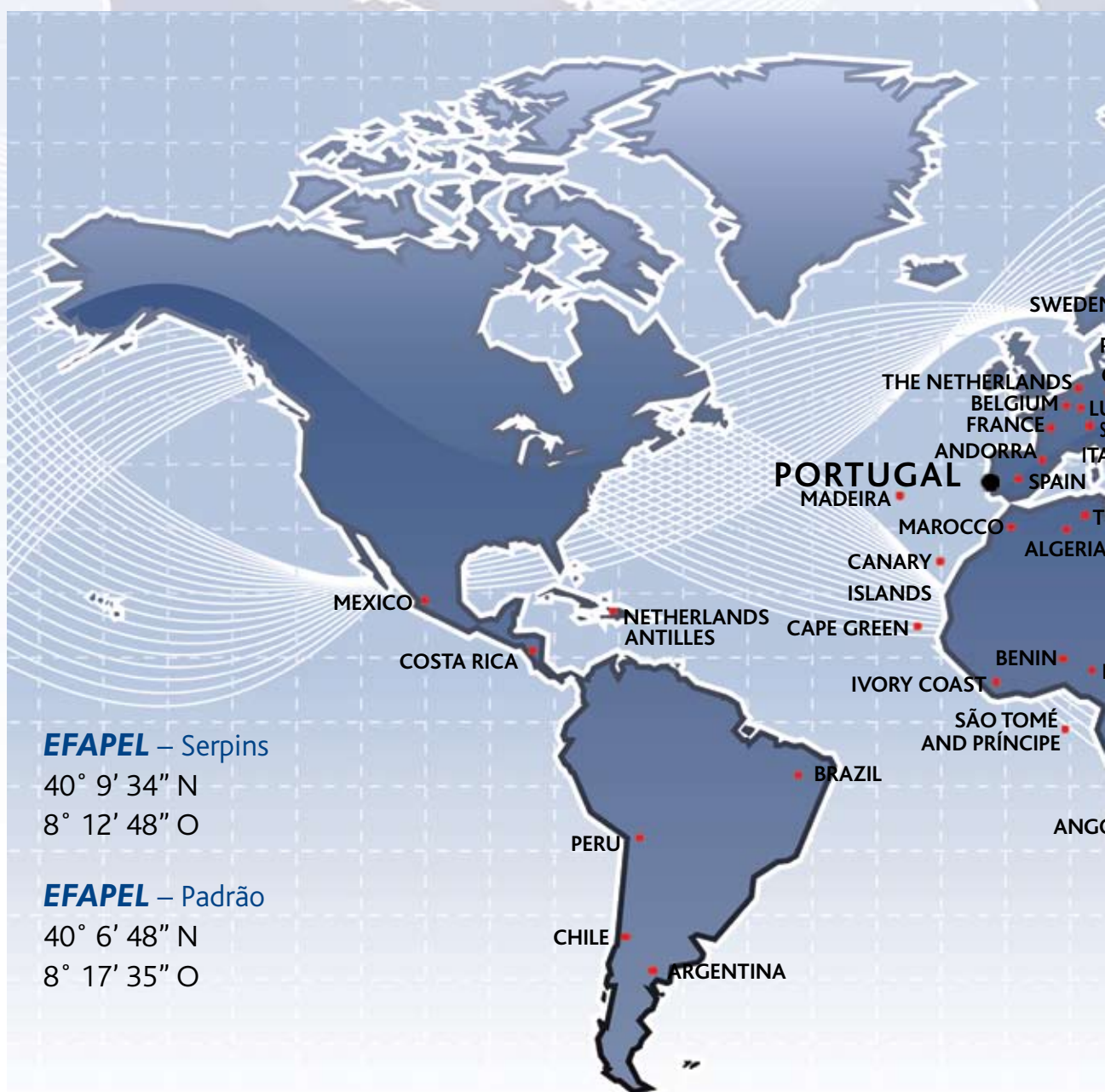
EFAPEL manufactures a wide range of products which are targeted to different segments of the Low Voltage electrical sector, such as: Residential and Domestic, Utilities, Industrial, Institutions, Hotels, Supermarkets (Do It Yourself), Structured Cabling, and Telecommunications .

In the following Table, it is possible to see the way that the EFAPEL products are distributed in this Markets.

|                          |  | RANGE OF <i>EFAPEL</i> PRODUCTS |                          |                    |                          |     |                                 |                 |
|--------------------------|--|---------------------------------|--------------------------|--------------------|--------------------------|-----|---------------------------------|-----------------|
|                          |  | FLUSH MOUNTING DEVICES          | SURFACE MOUNTING DEVICES | WATERPROOF DEVICES | SURROUNDING SOUND SYSTEM | DVI | TECHNICAL TRUNKINGS AND DEVICES | MODULAR DEVICES |
| SERIES<br>MARKET         |  | 90 – 70 – 50                    | 26 – 37                  | 48                 | Jazz Light               | DVI | 10 – 16 – 13 – 14<br>47 – 45    | 55              |
| RESIDENTIAL AND DOMESTIC |  | ✓                               | ✓                        | ✓                  | ✓                        | ✓   | ✓                               | ✓               |
| UTILITIES                |  | ✓                               | ✓                        | ✓                  | ✓                        | ✓   | ✓                               | ✓               |
| INDUSTRIAL               |  | ✓                               | ✓                        | ✓                  | ✓                        | ✓   | ✓                               | ✓               |
| INSTITUTIONS             |  | ✓                               | ✓                        | ✓                  | ✓                        | ✓   | ✓                               | ✓               |
| HOTELS                   |  | ✓                               | ✓                        | ✓                  | ✓                        | ✓   | ✓                               | ✓               |
| SUPERMARKETS             |  | ✓                               | ✓                        | ✓                  |                          | ✓   | ✓                               | ✓               |
| STRUCTURED CABLING       |  | ✓                               | ✓                        |                    |                          | ✓   | ✓                               |                 |
| TELECOMMUNICATIONS       |  | ✓                               | ✓                        |                    |                          | ✓   | ✓                               |                 |

Our goal is to offer a complete range of products and equipments that allows to project and build an electrical installation by using only EFAPEL products.

[www.efapel.pt](http://www.efapel.pt)



# A "WORLD CLASS" COMPANY GROWING in EVERY DIRECTION in the WORLD

In 1988, EFAPEL crossed across the borders of Portugal by giving the first step in the process of Trading and Exporting with the opening of its first International Customer in Greece. Passed 20 years, we are now present in more than 45 countries in Europe, Asia, Africa, Middle East and Latin America.

Among the countries with the highest trading activity appears Spain, Belgium, France, Germany, Greece, Russia, Bulgaria, Saudi Arabia, Angola and Peru.



# mec 21

s e r i e s

Developed and manufactured with top technology and modern materials, the **MEC 21 Series** is composed by 108 main functions that allow executing electrical installations guaranteeing quality, functionality, fast installation and security.

**The mechanisms MEC 21 were designed to allow the installation of all the Flush-Mounting Series of EFAPEL.**

With only one mechanism, the **MEC 21 Series** allows the Professional to build the installation first, giving to the Customer the choice to personalise his space with the different finishing of the LOGUS 90, Sirius 70 and Apolo 5000 Series.

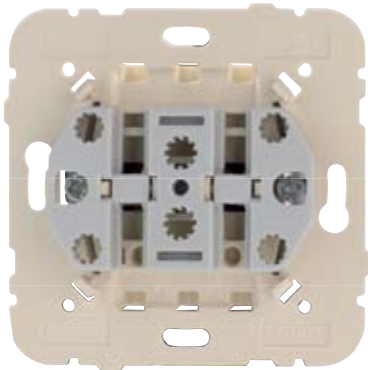
The Professional can protect the electrical installation during the period when the Customer thinks about the decoration by using the **Cover for Mechanisms Protection**, which protects the mechanism during the painting or the wallpaper application, the cleaning and the final finishing.

In the case of remodelling or decorating your space, the mechanisms of the **MEC 21 Series** goes with your mood, facilitating the easy and perfect fast change of the selected finishing of the Flush Mounting Series.

All the mechanisms of the **MEC 21 Series** are produced in accordance with international standards and, according to their final destination, they have certificates issued by **CERTIF** (Portugal), **VDE** (Germany), **NF** (France), **CEBEC** (Belgium) , **KEMA-KEUR** (The Netherlands) and **GOST** (Russia), among others.



## New Functions



Three Circuits Switch



Single RJ45 Computer Socket

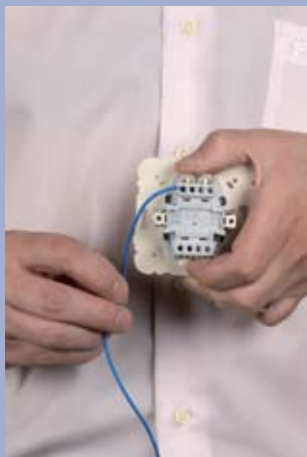


Motion Detector



General Blinds Control Module

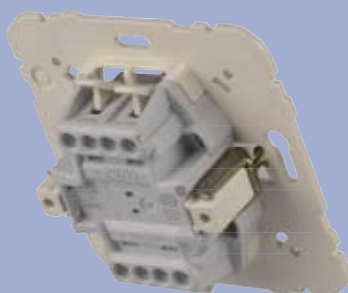
## Quick and Easy Installation



### Value-Added Connections

- Fast connection up to 10A.
- Connection with screws up to 20A.
- Electrical diagrams engraved in the mechanism.

### Hidden Claws



- For Avoid elastic/springs.
- Do not hurt the hands.
- Do not hurt the insulation of the cables at the time of the installation of the mechanism.

### Compact Mechanism



- More space for the wirings.
- Improved accommodation of the cables inside the wall-box.

## Security



- Mechanism fully isolated.
- Visual verification of the internal position of the cable inside of the mechanism.
- Access for testing with voltage-testers without dismantling the mechanism.
- Active parts not accessible.

## Finishing with Quality



- Easy alignment and levelling of the mechanisms by using the **Level and Mounting Accessory**.
- Ensuring the right alignment of the mechanisms in double, triple, quadruple or quintuple montages.

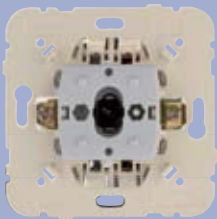


- **Cover for Mechanisms Protection:** accessory to protect the mechanisms at time of the painting, wallpaper application, cleaning and final finishing.

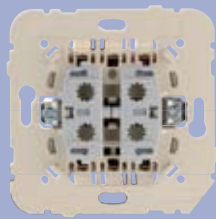
## Diversity of Functions

108 Functions that meets the needs of electrical installations in the most diverse segments of applications.

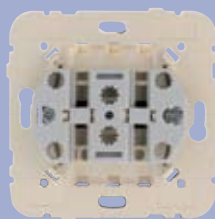
Some examples:



Single Pole Switch



Two Circuits Switch



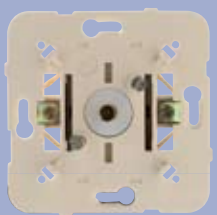
Three Circuits Switch



Card-system  
Switch



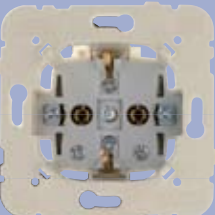
Pull-Cord Push-button



Rotary Switch



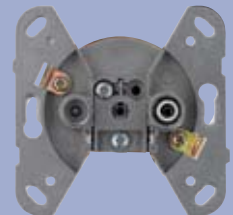
Dimmer / Two-way switch



Earth Socket  
(Schuko type)



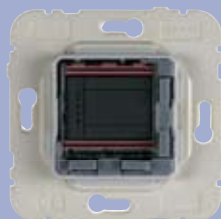
Telephone Socket



R - TV Socket



Single RJ45 Computer Socket



Digital Clock Switch

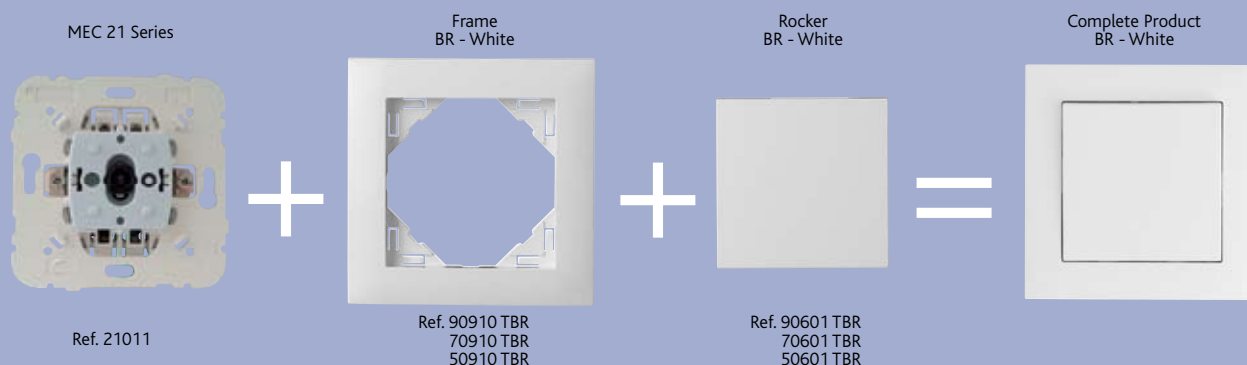


General Blinds Control Module



Motion Detector

# How to MOUNT our PRODUCTS



## 1. Selection of the Reference:

To make your order, you only need to choose:

- The reference of the **Mechanism** of the function that you need;
- The reference of the **Frame** of the chosen Series **decoration/finishing**;
- The reference of the **Rocker/Cover Plate** applicable of the chosen mechanism in the selected Series;

### Example: Simple Switch Series LOGUS 90

- Mechanism - Ref. 21011;
- Frame - Ref. 90910 TXX;
- Rocker - Ref. 90601 TXX.

## 2. Selection of Decoration/Finishing:

To choose the decoration/finishing in the selected Series, you only need to add a two-letter suffix with the colour/finishing you need.

For this purpose, you can consult our Decoration/Finishing Chart or our Catalogues.

### Example: Simple Pole Switch Series LOGUS 90 finished with Metal Inox / Aluminium

- Mechanism - Ref. 21011;
- Frame - Ref. 90910 TIA.
- Rocker - Ref. 90601 TAL;

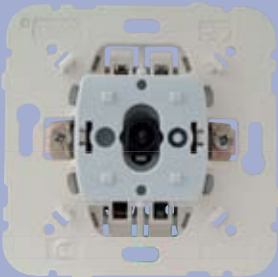
| LOGUS 90 Series - BASE Line      |                         |
|----------------------------------|-------------------------|
| BR                               | - White                 |
| MF                               | - Ivory                 |
| LOGUS 90 Series - AQUARELLA Line |                         |
| CE                               | - Ice                   |
| PE                               | - Pearl                 |
| AL                               | - Aluminium             |
| IS                               | - Gray                  |
| LOGUS 90 Series - CRYSTAL Line   |                         |
| CG                               | - Cristal/Ice           |
| CP                               | - Cristal/Pearl         |
| CA                               | - Cristal/Aluminium     |
| CS                               | - Cristal/Gray          |
| LOGUS 90 Series - METALLO Line   |                         |
| TP                               | - Titanium/Pearl        |
| IA                               | - Inox/Aluminium        |
| OP                               | - Gold/Pearl            |
| QS                               | - Nickel/Gray           |
| US                               | - Aluminium/Gray        |
| RS                               | - Chrome/Gray           |
| LOGUS 90 Series - ARBORE Line    |                         |
| FP                               | - Beech Wood/Pearl      |
| JP                               | - Cherry Tree/Pearl     |
| MS                               | - Mahogany/Gray         |
| NA                               | - Walnut Tree/Aluminium |
| LOGUS 90 Series - PETRA Line     |                         |
| GG                               | - Granite/Ice           |
| GP                               | - Granite/Pearl         |
| GA                               | - Granite/Aluminium     |
| GS                               | - Granite/Gray          |

| Sirius 70 Series CLASSIC Line |                          |
|-------------------------------|--------------------------|
| BR                            | - White                  |
| MF                            | - Ivory                  |
| AT                            | - Anthracite             |
| Sirius 70 Series AMBIENT Line |                          |
| BB                            | - White/White            |
| MM                            | - Ivory/Ivory            |
| BM                            | - White/Ivory            |
| BZ                            | - White/Blue             |
| BA                            | - White/Yellow           |
| BV                            | - White/Green            |
| Sirius 70 Series METAL Line   |                          |
| BI                            | - White/Inox             |
| MI                            | - Ivory/Inox             |
| AI                            | - Anthracite/Inox        |
| BO                            | - White/Gold             |
| MO                            | - Ivory/Gold             |
| AO                            | - Anthracite/Gold        |
| Sirius 70 Series WOOD Line    |                          |
| BF                            | - White/Beech Wood       |
| MA                            | - Ivory/Beech Wood       |
| AF                            | - Anthracite/Beech Wood  |
| BC                            | - White/Cherry Tree      |
| MC                            | - Ivory/Cherry Tree      |
| AC                            | - Anthracite/Cherry Tree |
| BG                            | - White/Mahogany         |
| MG                            | - Ivory/Mahogany         |
| AG                            | - Anthracite/Mahogany    |
| BN                            | - White/Walnut Tree      |
| MN                            | - Ivory/Walnut Tree      |
| AN                            | - Anthracite/Walnut Tree |

| Apolo 5000 Series METALLIZED Line |             |
|-----------------------------------|-------------|
| PR                                | - Silver    |
| GR                                | - Graphite  |
| PL                                | - Platinum  |
| CH                                | - Champagne |
| Apolo 5000 Series STANDARD Line   |             |
| BR                                | - White     |
| MF                                | - Ivory     |
| PT                                | - Black     |

## DECORATION /FINISHING CHART

## Install Now and Protect. Decorate Later!!

| MECHANISM                                                                                                                | SERIES                                                                                                | FRAMES                                                                                                                                                                                                                          | DECORATION /FINISHING                                                  |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                                                                                                                          |  <p>LOGUS 90</p>     | <ul style="list-style-type: none"> <li>- Single Frame</li> <li>- Double Frames</li> <li>- Triple Frames</li> <li>- Four-Gang Frames</li> <li>- Five-Gang Frames<br/>(Only available in the BASE and AQUARELLA Lines)</li> </ul> | <p>BASE<br/>AQUARELLA<br/>CRYSTAL<br/>METALLO<br/>ARBORE<br/>PETRA</p> |
|  <p>MEC 21<br/>ONLY ONE MECHANISM</p> |  <p>SIRIUS 70</p>  | <ul style="list-style-type: none"> <li>- Single Frame</li> <li>- Double Frames</li> <li>- Triple Frames</li> <li>- Four-Gang Frames<br/>(Only available in the CLASSIC Line)</li> </ul>                                         | <p>CLASSIC<br/>AMBIENT<br/>METAL<br/>WOOD</p>                          |
|                                                                                                                          |  <p>APOLO 5000</p> | <ul style="list-style-type: none"> <li>- Single Frame</li> <li>- Double Frames</li> <li>- Triple Frames</li> <li>- Four-Gang Frames</li> </ul>                                                                                  | <p>STANDARD<br/>METALLIZED</p>                                         |

**NEW**

In this catalogue, we intend to facilitate the selection to our Customer by using new tables that present the mechanisms with their respective rockers and/or cover plates.

A close-up, artistic photograph of a woman's face, focusing on her eyes and a ring on her finger. She has dark hair and is looking directly at the camera with a slight smile. The ring is a simple band with a clear stone. The image is partially cut off by the right edge of the page.

# LOGUS<sup>90</sup>

With a defined geometric shape and with the use of real materials, the **LOGUS 90 Series** offers a wide range of colours and textures, where the most exigent design tendencies find a creative answer.

Inspired on the architecture and modern decorations, this Series allows you to free your imagination and to create modern and charismatic ambients.

The 6 Lines of the **LOGUS 90 Series** allow creating different ways to feel and to be:

**BASE** - Good finishing. Discreet shape and function.

**AQUARELLA** - Colours with personality. Nuances that characterize the space.

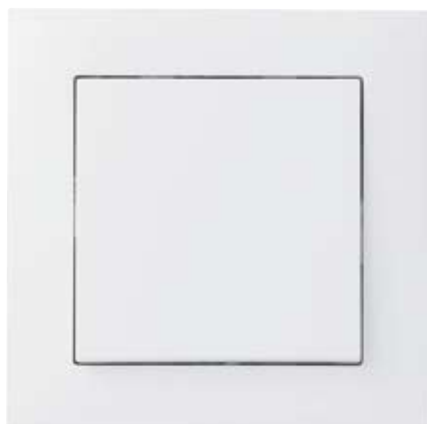
**CRYSTAL** - Clearness and transparency. Tones that transport the luminosity of the crystal to multifaceted experiences.

**METALLO** - Distinction and modernity. The nobilities and the bright of the metal add value to the ambient and get the inspiration for the great moments.

**ARBORE** - The election of what is natural and genuine. The woods with their different textures create rooms full of welfare and warm comfort.

**PETRA** - Natural beauty and stability. The stone with its non-equal patterns, sculpted by the time and the Nature, translates the taste for those what is solid and endless.

### BASE



BR - White

### AQUARELLA



GE - Ice

### CRYSTAL



CG - Cristal/Ice

### METALLO



TP - Titanium/Pearl

### ARBORE



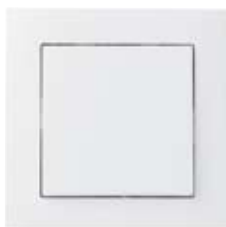
FP - Beech Wood/Pearl

### PETRA



GG -Granite/Ice

## BASE



BR - White



MF - Ivory

## AQUARELLA



GE - Ice



PE - Pearl



AL - Aluminium



IS - Gray

## CRYSTAL



CG - Cristal/Ice



CP - Cristal/Pearl



CA - Cristal/Aluminium



CS - Cristal/Gray

- All the lines of the **LOGUS 90 Series** have single, double, triple and four-gang Frames
- The **BASE and AQUARELLA lines** also have five-gang Frames.
- Due to its squared symmetry, all the Frames of the **LOGUS 90 Series** can be mounted in vertical and horizontal positions.
- The single and double rockers of the **LOGUS 90 Series** assures the **protection index of IP21** to the MEC 21 mechanisms.

**METALLO**



**TP** - Titanium/Pearl



**IA** - Inox/Aluminium



**OP** - Gold/Pearl



**QS** - Nickel/Gray



**US** - Aluminium/Gray



**RS** - Chrome/Gray

**ARBORE**



**FP** - Beech Wood/Pearl



**JP** - Cherry Tree/Pearl

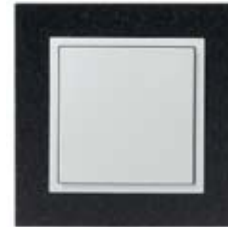


**MS** - Mahogany/Gray



**NA** - Walnut Tree/Aluminium

**PETRA**



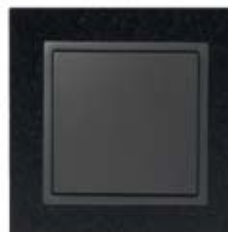
**GG** - Granite/Ice



**GP** - Granite/Pearl



**GA** - Granite/Aluminium



**GS** - Granite/Gray

The CRISTAL, METALLO, ARBORE and PETRA lines use the same rockers and Frames of the AQUARELLA line (colours Ice, Pearl, Aluminium and Gray).

| CONTROL DEVICES                                                                     |                                                          |       |          | ROCKERS AND COVER PLATES                                                            |                                                                     |         |                      |          |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------------------|----------|
|                                                                                     |                                                          | Ref.  | Box (Un) |                                                                                     |                                                                     | Ref.    | Colour               | Box (Un) |
|    | Single Pole Switch<br>10A - 250V                         | 21011 | 10       |    | Rocker for Switches                                                 | 90601 T | BR MF<br>GE PE AL IS | 20<br>2  |
|    | Three Circuits Switch<br>16A - 250V                      | 21088 | 10       |    | Triple Rockers<br>(Three)                                           | 90661 T | BR MF<br>GE PE AL IS | 20<br>2  |
|    | Single Pole Switch with<br>Orienting Light<br>10A - 250V | 21012 | 10       |    | Rocker for Lighted<br>Switches                                      | 90602 T | BR MF<br>GE PE AL IS | 20<br>2  |
|   | Single Pole Switch with<br>Pilot Lamp<br>10A - 250V      | 21013 | 10       |   | Rocker for Lighted<br>Switches/Push-<br>buttons with<br>Lamp Symbol | 90797 T | BR MF<br>GE PE AL IS | 2        |
|  | Two-pole Switch<br>10A - 250V                            | 21021 | 10       |  | Rocker for Switches                                                 | 90601 T | BR MF<br>GE PE AL IS | 20<br>2  |
|                                                                                     |                                                          |       |          |  | Rocker for Two-pole<br>Switch                                       | 90608 T | BR MF<br>GE PE AL IS | 2        |
|  | Two-pole Switch with<br>Pilot Lamp<br>10A - 250V         | 21023 | 10       |  | Rocker for Lighted<br>Switches                                      | 90602 T | BR MF<br>GE PE AL IS | 20<br>2  |
|  | Two-pole Switch with<br>Pilot Lamp 20A<br>20A - 250V     | 21024 | 10       |  | Rocker for Lighted<br>Switches/Push-<br>buttons with<br>Lamp Symbol | 90797 T | BR MF<br>GE PE AL IS | 2        |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.  
Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                     |       |             | ROCKERS AND COVER PLATES                                                            |                                                                |         |                      |             |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------|---------|----------------------|-------------|
|                                                                                     |                                                                     | Ref.  | Box<br>(Un) |                                                                                     |                                                                | Ref.    | Colour               | Box<br>(Un) |
|    | Card-system Switch<br>10A - 250V<br>(For Card type ATM, Ref. 21999) | 21031 | 10          |    | Cover Plate for<br>Card-system<br>Switch                       | 90731 T | BR MF<br>GE PE AL IS | 2           |
|    | Intermediate Switch<br>10A - 250V                                   | 21051 | 10          |    | Rocker for Switches                                            | 90601 T | BR MF<br>GE PE AL IS | 20<br>2     |
|    | Intermediate Switch with<br>Orienting Light<br>10A - 250V           | 21052 | 10          |    | Rocker for<br>Lighted Switches                                 | 90602 T | BR MF<br>GE PE AL IS | 20<br>2     |
|    | Two Circuits Switch<br>10A - 250V                                   | 21061 | 10          |   | Double Rockers<br>(Pair)                                       | 90611 T | BR MF<br>GE PE AL IS | 20<br>2     |
|   | Two Circuits Switch 20A<br>20A - 250V                               | 21065 | 10          |                                                                                     |                                                                |         |                      |             |
|  | Two-way Switch<br>10A - 250V                                        | 21071 | 10          |  | Rocker for Switches                                            | 90601 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  | Two-way Switch with<br>Orienting Light<br>10A - 250V                | 21072 | 10          |  | Rocker for<br>Lighted Switches                                 | 90602 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  | Two-way Switch with<br>Pilot Lamp<br>10A - 250V                     | 21073 | 10          |                                                                                     |                                                                |         |                      |             |
|  | Two-way Switch 20A<br>20A - 250V                                    | 21075 | 10          |  | Rocker for Switches                                            | 90601 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  | Pull-cord Push-button<br>10A - 250V                                 | 21091 | 10          |  | Cover Plate for<br>Pull-cord<br>Push-button/<br>Two-way Switch | 90741 T | BR MF<br>GE PE AL IS | 2           |
|  | Pull-cord Two-way Switch<br>10A - 250V                              | 21092 | 10          |                                                                                     |                                                                |         |                      |             |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.  
Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                           |       |          | ROCKERS AND COVER PLATES                                                            |                                                            |         |                   |          |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------|---------|-------------------|----------|
|                                                                                     |                                                           | Ref.  | Box (Un) |                                                                                     |                                                            | Ref.    | Colour            | Box (Un) |
|    | Double Two-way Switch 10A - 250V                          | 21101 | 10       |    | Double Rockers (Pair)                                      | 90611 T | BR MF GE PE AL IS | 20 2     |
|    | Double Two-way Switch 20A 20A - 250V                      | 21103 | 10       |                                                                                     |                                                            |         |                   |          |
|   | Rocker Push-button 10A - 250V                             | 21151 | 10       |    | Rocker for Switches                                        | 90601 T | BR MF GE PE AL IS | 20 2     |
|                                                                                     |                                                           |       |          |    | Rocker for Switches with Lock Symbol                       | 90604 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |   | Rocker for Switches with Bell Symbol                       | 90605 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |  | Rocker for Switches with Maid Symbol                       | 90606 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |  | Rocker for Switches with Lamp Symbol                       | 90607 T | BR MF GE PE AL IS | 2        |
|  | Rocker Push-button with Orienting Light (250V) 10A - 250V | 21152 | 10       |  | Rocker for Lighted Switches                                | 90602 T | BR MF GE PE AL IS | 20 2     |
|                                                                                     |                                                           |       |          |  | Rocker for Lighted Switches / Push-button with Lock Symbol | 90794 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |  | Rocker for Lighted Switches / Push-button with Bell Symbol | 90795 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |  | Rocker for Lighted Switches / Push-button with Maid Symbol | 90796 T | BR MF GE PE AL IS | 2        |
|                                                                                     |                                                           |       |          |  | Rocker for Lighted Switches / Push-button with Lamp Symbol | 90797 T | BR MF GE PE AL IS | 2        |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

Wiring diagrams from page 187 to 199.

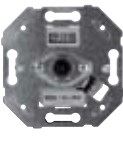
| CONTROL DEVICES                                                                     |                                                                                |       |             | ROCKERS AND COVER PLATES                                                            |                                                                     |         |                      |             |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------------------|-------------|
|                                                                                     |                                                                                | Ref.  | Box<br>(Un) |                                                                                     |                                                                     | Ref.    | Colour               | Box<br>(Un) |
|    | Rocker Push-button<br>with Identification (250V)<br>10A - 250V                 | 21155 | 10          |    | Rocker for<br>Switches with<br>Identification Card                  | 90603 T | BR MF<br>GE PE AL IS | 2           |
|    | Double Push-button<br>10A - 250V                                               | 21156 | 10          |    | Double Rockers<br>(Pair)                                            | 90611 T | BR MF<br>GE PE AL IS | 20<br>2     |
|    | Rocker Push-button<br>and Two-way Switch<br>10A - 250V                         | 21159 | 10          |                                                                                     |                                                                     |         |                      |             |
|  | Rocker Push-button with<br>Orienting Light (12V)<br>6A - 12V                   | 21162 | 10          |    | Rocker for<br>Lighted Switches                                      | 90602 T | BR MF<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                                                |       |             |   | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lock Symbol | 90794 T | BR MF<br>GE PE AL IS | 2           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Bell Symbol | 90795 T | BR MF<br>GE PE AL IS | 2           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Maid Symbol | 90796 T | BR MF<br>GE PE AL IS | 2           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lamp Symbol | 90797 T | BR MF<br>GE PE AL IS | 2           |
|  | Rocker Push-button<br>with Identification (12V)<br>6A - 12V                    | 21165 | 10          |  | Rocker for<br>Switches with<br>Identification Card                  | 90603 T | BR MF<br>GE PE AL IS | 2           |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With electrical blockage.      | 21281 | 10          |  | Rockers for Venetian<br>Push-buttons (Pair)                         | 90612 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With normally closed contacts. | 21282 | 10          |                                                                                     |                                                                     |         |                      |             |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                           |          |    | ROCKERS AND COVER PLATES                                                            |                                                     |                           |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|-------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------|----------|
|                                                                                     | Ref.                                                                                                                                                                                      | Box (Un) |    |                                                                                     | Ref.                                                | Colour                    | Box (Un) |
|    | Venetian Double Push-button for multiple Point Blinds Control<br>10A - 250V<br>- With electrical blockage.<br>- Allows the control of the motor from one or several points.               | 21283    | 10 |    | Rockers for Venetian Push-buttons (Pair)            | 90612 T BR MF GE PE AL IS | 20<br>2  |
|    | Venetian Switch<br>10A - 250V<br>With mechanical and electrical blockage.                                                                                                                 | 21290    | 10 |    | Rockers for Venetian Switch (Pair)                  | 90613 T BR MF GE PE AL IS | 20<br>2  |
|    | Venetian Switch with Mechanical Blockage<br>10A - 250V<br>With mechanical and electrical blockage.                                                                                        | 21291    | 10 |                                                                                     |                                                     |                           |          |
|    | Venetian Switch with Mechanical Blockage<br>10A - 250V<br>With mechanical and electrical blockage.                                                                                        | 21292    | 10 |                                                                                     |                                                     |                           |          |
|  | Rotary Two-way Switch 16A<br>16A - 250V                                                                                                                                                   | 21301    | 10 |  | Cover Plate for Rotary Push-button / Two-way Switch | 90761 T BR MF GE PE AL IS | 2        |
|  | Rotary Switch 16A<br>16A - 250V                                                                                                                                                           | 21302    | 10 |  | Cover Plate for Rotary Switch                       | 90762 T BR MF GE PE AL IS | 2        |
|  | Rotary Venetian Push-button 16A<br>16A - 250V                                                                                                                                             | 21303    | 10 |  | Cover Plate for Rotary Push-button / Two-way Switch | 90761 T BR MF GE PE AL IS | 2        |
|  | Dimmer / Two-way Switch of 500W<br>- 40-500W - 230V incandescent and halogen lamps.<br>- 100-400W - 12/24V halogen lamps of low voltage connected through magnetic lighting transformers. | 21211    | 1  |  | Cover Plate for Dimmer Two-way Switch               | 90721 T BR MF GE PE AL IS | 2<br>1   |
|  | Electronic Dimmer / Two-way Switch of 320W<br>5-320W - 12/24V halogen lamps and bulbs of low voltage connected through electronic lighting transformers.                                  | 21212    | 1  |                                                                                     |                                                     |                           |          |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                                                                                                                                                         |                     |          | ROCKERS AND COVER PLATES                                                            |         |                      |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|-------------------------------------------------------------------------------------|---------|----------------------|----------|
|                                                                                     |                                                                                                                                                                                                                                                                                                                         | Ref.                | Box (Un) |                                                                                     | Ref.    | Colour               | Box (Un) |
|    | Key-lock Push-button<br>10A - 250V                                                                                                                                                                                                                                                                                      | 21351               | 1        |    | 90351 T | BR MF<br>GE PE AL IS | 1        |
|    | Key-lock Two-way Switch<br>10A - 250V                                                                                                                                                                                                                                                                                   | 21352               | 1        |                                                                                     |         |                      |          |
|    | One Circuit Digital Clock Switch<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 10A<br>- Output Type: ON, OFF and IMPULSE<br>• Wiring diagrams on page 192.                                                                                                                                                    | <b>NEW</b><br>21046 | 1        |    | 90046 T | BR MF<br>GE PE AL IS | 1        |
|   | Two Circuits Digital Clock Switch<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A + 6A<br>- Output Type: ON, OFF and IMPULSE<br>• Wiring diagrams on page 192.                                                                                                                                               | <b>NEW</b><br>21047 | 1        |   | 90047 T | BR MF<br>GE PE AL IS | 1        |
|  | General Blinds Control Module with Infrared Remote Control<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR transmitter (Ref. 81901) or locally by using push-buttons.<br>- Two programmable functions (Up/Down)<br>- Function: "Standby"<br>• Wiring diagrams on page 193. | <b>NEW</b><br>21311 | 1        |  | 90311 T | BR MF<br>GE PE AL IS | 1        |
|  | Local Blinds Control Module with Infrared Remote Control<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR transmitter (Ref. 81901) or locally by using push-buttons.<br>- Function: "Standby"<br>• Wiring diagrams on page 193.                                             | <b>NEW</b><br>21312 | 1        |  | 90312 T | BR MF<br>GE PE AL IS | 1        |
|  | Motion Detector of 1000W<br>- Power Source: 230V~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°                                                                                                                                                                                 | <b>NEW</b><br>21401 | 1        |  | 90401 T | BR MF<br>GE PE AL IS | 1        |
|  | Motion Detector of 400W<br>- Power Source: 230V~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°<br>• Wiring diagrams on page 191.                                                                                                                                                | <b>NEW</b><br>21402 | 1        |                                                                                     |         |                      |          |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.  
Wiring diagrams from page 187 to 199.

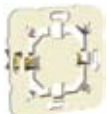
| SOCKETS                                                                             |                                                          |       |             | ROCKERS AND COVER PLATES                                                            |                                                                            |         |                                  |             |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------|----------------------------------|-------------|
|                                                                                     |                                                          | Ref.  | Box<br>(Un) |                                                                                     |                                                                            | Ref.    | Colour                           | Box<br>(Un) |
|    | Earth Socket (French Type)<br>16A - 250V                 | 21111 | 10          |    | Safety Cover Plate<br>for Earth Socket<br>(French Type)                    | 90652 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|    | Earth Socket (Schuko Type)<br>16A - 250V                 | 21131 | 10          |    | Cover Plate for Earth<br>Socket (Schuko Type)                              | 90631 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                          |       |             |    | Safety Cover Plate<br>for Earth Socket<br>(Schuko Type)                    | 90632 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                          |       |             |    | Safety Spring<br>Operated Cover<br>Plate for Earth Socket<br>(Schuko Type) | 90634 T | BR MF<br>GE PE AL IS             | 20<br>2     |
|   | Ceramic Earth Socket<br>(French Type)<br>16A - 250V      | 21471 | 10          |   | Safety Cover Plate<br>for Earth Socket<br>(French Type)                    | 90652 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|  | Ceramic Earth Socket<br>(Schuko Type)<br>16A - 250V      | 21491 | 10          |  | Cover Plate for Earth<br>Socket (Schuko Type)                              | 90631 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                          |       |             |  | Safety Cover Plate<br>for Earth Socket<br>(Schuko Type)                    | 90632 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                          |       |             |  | Safety Spring<br>Operated Cover<br>Plate for Earth Socket<br>(Schuko Type) | 90634 T | BR MF<br>GE PE AL IS             | 20<br>2     |
|  | Earth Socket<br>(Euro-USA Type)<br>15A - 127V/16A - 250V | 21140 | 10          |  | Cover Plate for<br>Earth Socket<br>(Euro-USA Type)                         | 90841 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |
|                                                                                     |                                                          |       |             |  | Cover Plate for Safety<br>Earth Socket<br>(Euro-USA Type)                  | 90842 T | BR MF<br>LR VD VM<br>GE PE AL IS | 20<br>2     |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; LR – Orange; VD – Green; VM – Red.

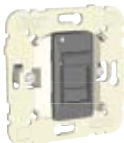
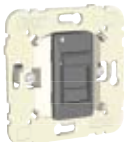
## TERMINAL BOXES, PILOT LIGHTS AND ACCESSORIES

|                                                                                                                                                                           | Ref.  | Box<br>(Un) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|
|  Three Terminal Box<br>3x2,5mm <sup>2</sup> - 250V                                       | 21173 | 10          |
|  Four Terminal Box<br>4x2,5mm <sup>2</sup> - 250V                                        | 21174 | 10          |
|  Pilot Light<br>- To be used with Lamp ref. 81012.<br>(page 183)<br>- Max. 5W (E14) 250V | 21360 | 10          |
|  Support for Blind Cover                                                                 | 21222 | 10          |

## ROCKERS AND COVER PLATES

|                                                                                                                        | Ref.    | Colour               | Box<br>(Un) |
|------------------------------------------------------------------------------------------------------------------------|---------|----------------------|-------------|
|  Cover Plate for<br>Terminal Boxes    | 90671 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  Transparent Cover<br>for Pilot Light | 90781 T | IC LR VD VM          | 2           |
|  Blind Cover Plate                    | 90677 T | BR MF<br>GE PE AL IS | 10<br>2     |

DATA SOCKETS  
Supplied with Connectors

|                                                                                                                                             | Ref.  | Box<br>(Un) |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|
|  <b>NEW</b><br>Single RJ45 UTP Computer<br>Socket Cat 5e | 21453 | 10          |
|  <b>NEW</b><br>Single RJ45 UTP Computer<br>Socket Cat 6  | 21455 | 10          |
|  <b>NEW</b><br>Single RJ45 FTP Computer<br>Socket Cat 5e | 21443 | 10          |
|  <b>NEW</b><br>Single RJ45 FTP Computer<br>Socket Cat 6  | 21445 | 10          |

## ROCKERS AND COVER PLATES

|                                                                                                                                        | Ref.    | Colour               | Box<br>(Un) |
|----------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------|-------------|
|  Cover Plate for<br>Single RJ45<br>Computer Sockets | 90751 T | BR MF<br>GE PE AL IS | 20<br>2     |

## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; IC – Incolor; LR – Orange; VD – Green; VM – Red.

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

Wiring diagrams from page 187 to 199.

## RADIO, TELEVISION, SATELLITE AND DATA SOCKETS

## ROCKERS AND COVER PLATES

|                                                                                     |                                                                                                                                                                                          | Ref.  | Box<br>(Un) |                                                                                     |                                       | Ref.    | Colour               | Box<br>(Un) |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|---------------------------------------|---------|----------------------|-------------|
| <b>STAR CONNECTION</b>                                                              |                                                                                                                                                                                          |       |             |                                                                                     |                                       |         |                      |             |
|    | Equalized R - TV Socket<br>for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 1dB                                                                      | 21530 | 10          |    | Cover Plate for<br>R - TV Sockets     | 90685 T | BR MF<br>GE PE AL IS | 20<br>2     |
|    | Low Losses R-TV Socket<br>for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 2dB                                                                       | 21540 | 10          |                                                                                     |                                       |         |                      |             |
|    | R TV - SAT Socket for<br>Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 1,5dB<br>- 950 - 2400 MHz<br>- Attenuation ≤ 3dB<br>- Current Flow 600 mA (DC) | 21550 | 10          |    | Cover Plate for<br>R TV - SAT Sockets | 90686 T | BR MF<br>GE PE AL IS | 2           |
|   | R TV - DAT Socket for Star<br>Connection<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT                                                                                    | 21560 | 10          |    | Cover Plate for<br>R TV - DAT Sockets | 90687 T | BR MF<br>GE PE AL IS | 2           |
| <b>SERIES CONNECTION</b>                                                            |                                                                                                                                                                                          |       |             |                                                                                     |                                       |         |                      |             |
|  | Equalized R - TV Socket<br>for Series Connection<br>(Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 5dB                                                 | 21531 | 10          |                                                                                     |                                       |         |                      |             |
|  | Equalized R - TV Socket<br>for Series Connection<br>(Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 9dB<br>- Flow ≤ 1.2dB                              | 21532 | 10          |  | Cover Plate for<br>R - TV Sockets     | 90685 T | BR MF<br>GE PE AL IS | 20<br>2     |
|  | Low Losses R-TV Socket<br>for Series Connection<br>(Terminal Type)<br>- Connector Coaxial ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 5dB                                                  | 21541 | 10          |                                                                                     |                                       |         |                      |             |
|  | Low Losses R-TV Socket<br>for Series Connection<br>(Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 9dB<br>- Flow ≤ 1dB                                 | 21542 | 10          |                                                                                     |                                       |         |                      |             |
|  | R TV- SAT Socket for Series<br>Connection (Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 5dB<br>- Current Flow 600 mA (DC)                            | 21551 | 10          |  | Cover Plate for<br>R TV - SAT Sockets | 90686 T | BR MF<br>GE PE AL IS | 2           |
|  | R TV- SAT Socket for Series<br>Connection (Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 10dB<br>- Current Flow 600 mA (DC)                          | 21552 | 10          |                                                                                     |                                       |         |                      |             |

### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

| RADIO, TELEVISION, SATELLITE AND DATA SOCKETS                                     |                                                                                                                      |          |    | ROCKERS AND COVER PLATES                                                          |         |                      |          |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|----|-----------------------------------------------------------------------------------|---------|----------------------|----------|
|                                                                                   | Ref.                                                                                                                 | Box (Un) |    |                                                                                   | Ref.    | Colour               | Box (Un) |
|  | R TV- DAT Socket for Series Connection (Terminal Type)<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT  | 21561    | 10 |  | 90687 T | BR MF<br>GE PE AL IS | 2        |
|  | R TV- DAT Socket for Series Connection (Crossover Type)<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT | 21562    | 10 |                                                                                   |         |                      |          |

| TELEPHONE SOCKETS                                                                   |                                           |          |                |             | ROCKERS AND COVER PLATES                                                            |                                                  |         |                      |             |
|-------------------------------------------------------------------------------------|-------------------------------------------|----------|----------------|-------------|-------------------------------------------------------------------------------------|--------------------------------------------------|---------|----------------------|-------------|
| 50V---70V~                                                                          |                                           | Ref.     | Colour         | Box<br>(Un) |                                                                                     |                                                  | Ref.    | Colour               | Box<br>(Un) |
|    | Telephone<br>Socket (RITA)                | 21251 S* | BR MF<br>CZ AT | 10          |  | Cover Plate for<br>Telephone Sockets             | 90712 T | BR MF<br>GE PE AL IS | 20<br>2     |
|   | Telephone<br>Socket<br>(4 Conductors)     | 21252 S* | BR MF<br>CZ AT | 10          |                                                                                     |                                                  |         |                      |             |
|  | Telephone<br>Socket<br>(6 Conductors)     | 21253 S* | BR MF<br>CZ AT | 10          |                                                                                     |                                                  |         |                      |             |
|  | GEL Telephone<br>Socket<br>(RITA)         | 21254 S* | BR MF<br>CZ AT | 10          |                                                                                     |                                                  |         |                      |             |
|  | GEL Telephone<br>Socket<br>(4 Conductors) | 21255 S* | BR MF<br>CZ AT | 10          |                                                                                     |                                                  |         |                      |             |
|  | GEL Telephone<br>Socket<br>(6 Conductors) | 21256 S* | BR MF<br>CZ AT | 10          |                                                                                     |                                                  |         |                      |             |
| 8 contacts                                                                          |                                           |          |                |             |                                                                                     |                                                  |         |                      |             |
|  | T8 French<br>Telephone<br>Socket          | 21411    | -              | 10          |  | Cover Plate for<br>T8 French<br>Telephone Socket | 90718 T | BR MF<br>GE PE AL IS | 20<br>2     |

**Legend:**

\* – Supplied Semi-assembled.

S – Semi-assembled; T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; AT – Anthracite; CZ – Grey.

For the Cover Plates of the AQUARELLA Line, please use the mechanisms in the following colours:

- AL (Aluminium) – CZ (Grey);
- GE (Ice) – BR (White);
- IS (Gray) – AT (Anthracite);
- PE (Pearl) – MF (Ivory).

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

## ACCESSORIES

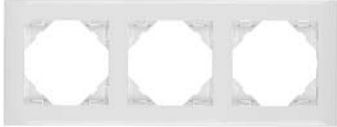
|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                   | Ref.    | Colour                  | Box (Un) |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
|    | Surface Mounting Box for LOGUS 90 Series<br>(To be used in installations with Trunkings of the 10 and 16 Series)                                                                                                                                                                                                                                                                  | 10976 A | BR MF                   | 10       |
|    | Cover for Mechanisms Protection                                                                                                                                                                                                                                                                                                                                                   | 21971   | -                       | 40       |
|    | Level and Mounting Accessory for MEC 21 Mechanisms                                                                                                                                                                                                                                                                                                                                | 21989   | -                       | 2        |
|   | Card for Card-system Switch                                                                                                                                                                                                                                                                                                                                                       | 21999   | -                       | 20       |
|  | Universal Cover Ring/Adaptor for 45x45 Modules<br>(Accessory for 45x45 Series)                                                                                                                                                                                                                                                                                                    | 90881 T | BR MF VM<br>GE PE AL IS | 5<br>2   |
|  | Relay for Blinds Control<br>- Power Source: 230V – 50Hz<br>- Breaking Capacity: 6A<br>- Electrical blockage.<br>- Connect locally to Venetian Double Push-buttons (Ref. 21283).<br>For the centralized command of the installation, connect remotely to a Venetian Double Push-button (Ref. 21283) or to a General Blinds Control (Ref. 21311).<br>• Wiring diagrams on page 195. | 81511   | -                       | 1        |
|  | Automatic Relay for Blinds Control<br>- Power Source: 230V – 50Hz<br>- Breaking Capacity: 6A<br>- Electrical blockage.<br>- Connect locally to Double Push-buttons (Ref. 21156).<br>For the centralized command of the installation, connect remotely to a Double Push-button (Ref. 21156) or to a General Blinds Control (Ref. 21311).<br>• Wiring diagrams on page 194.         | 81512   | -                       | 1        |
|  | Infrared Remote Control Transmitter for Blinds Control<br>- 4 groups of programmable functions.<br>- It works with 2 AAA batteries, not included.                                                                                                                                                                                                                                 | 81901   | -                       | 1        |

### Legend:

A – Accessory; T – Rocker, Cover Plate or Frame.

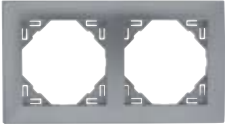
BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; VM – Red.

## FRAMES - BASE LINE

|                                                                                     |                                                       | Ref.    | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|---------|--------|-------------|
|    | Single Frame                                          | 90910 T | BR MF  | 20          |
|    | Double Frame                                          | 90920 T | BR MF  | 10          |
|    | Triple Frame                                          | 90930 T | BR MF  | 10          |
|    | Four-Gang Frame                                       | 90940 T | BR MF  | 2           |
|   | Five-Gang Frame                                       | 90950 T | BR MF  | 2           |
|  | Monoblock Cover for Earth Socket (Schuko Type)        | 90902 T | BR MF  | 20          |
|  | Monoblock Cover for Safety Earth Socket (Schuko Type) | 90903 T | BR MF  | 20          |
|  | Monoblock Cover for Safety Earth Socket (French Type) | 90904 T | BR MF  | 20          |
|  | Monoblock Cover for R - TV Socket                     | 90905 T | BR MF  | 20          |
|  | Monoblock Cover for R TV - SAT Socket                 | 90906 T | BR MF  | 2           |
|  | Monoblock Cover for R TV - DAT Socket                 | 90907 T | BR MF  | 2           |

**Legend:**  
**T** – Rocker, Cover Plate or Frame.  
**BR** – White; **MF** – Ivory.

## FRAMES - AQUARELLA LINE

|                                                                                     |                                                       | Ref.    | Colour      | Box (Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|---------|-------------|----------|
|    | Single Frame                                          | 90910 T | GE PE AL IS | 2        |
|    | Double Frame                                          | 90920 T | GE PE AL IS | 2        |
|    | Triple Frame                                          | 90930 T | GE PE AL IS | 2        |
|    | Four-Gang Frame                                       | 90940 T | GE PE AL IS | 2        |
|   | Five-Gang Frame                                       | 90950 T | GE PE AL IS | 2        |
|  | Monoblock Cover for Earth Socket (Schuko Type)        | 90902 T | GE PE AL IS | 2        |
|  | Monoblock Cover for Safety Earth Socket (Schuko Type) | 90903 T | GE PE AL IS | 2        |
|  | Monoblock Cover for Safety Earth Socket (French Type) | 90904 T | GE PE AL IS | 2        |
|  | Monoblock Cover for R - TV Socket                     | 90905 T | GE PE AL IS | 2        |
|  | Monoblock Cover for R TV - SAT Socket                 | 90906 T | GE PE AL IS | 2        |
|  | Monoblock Cover for R TV - DAT Socket                 | 90907 T | GE PE AL IS | 2        |

### Legend:

T – Rocker, Cover Plate or Frame.

GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

## FRAMES - CRYSTAL LINE

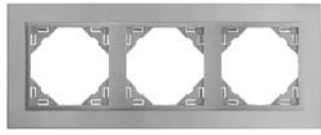
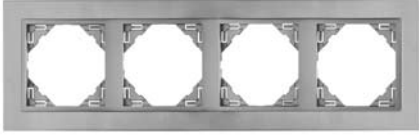
|                                                                                    |                 | Ref.    | Colour      | Box<br>(Un) |
|------------------------------------------------------------------------------------|-----------------|---------|-------------|-------------|
|   | Single Frame    | 90910 T | CG CP CA CS | 1           |
|   | Double Frame    | 90920 T | CG CP CA CS | 1           |
|   | Triple Frame    | 90930 T | CG CP CA CS | 1           |
|  | Four-Gang Frame | 90940 T | CG CP CA CS | 1           |

**Legend:**

T – Rocker, Cover Plate or Frame.

CG – Cristal/Ice; CP – Cristal/Pearl; CA – Cristal/Aluminium; CS – Cristal/Gray.

## FRAMES - METALLO LINE

|                                                                                     |                 | Ref.    | Colour            | Box<br>(Un) |
|-------------------------------------------------------------------------------------|-----------------|---------|-------------------|-------------|
|  | Single Frame    | 90910 T | TP IA OP QS US RS | 1           |
|  | Double Frame    | 90920 T | TP IA OP QS US RS | 1           |
|  | Triple Frame    | 90930 T | TP IA OP QS US RS | 1           |
|  | Four-Gang Frame | 90940 T | TP IA OP QS US RS | 1           |

**Legend:**

T – Rocker, Cover Plate or Frame.

TP – Titanium/Pearl; IA – Inox/Aluminium; OP – Gold/Pearl; QS – Nickel/Gray; US – Aluminium/Gray; RS – Chrome/Gray.

## FRAMES - ARBORE LINE

|                                                                                    | Ref.    | Colour      | Box (Un) |
|------------------------------------------------------------------------------------|---------|-------------|----------|
|   | 90910 T | FP JP MS NA | 1        |
|   | 90920 T | FP JP MS NA | 1        |
|   | 90930 T | FP JP MS NA | 1        |
|  | 90940 T | FP JP MS NA | 1        |

**Legend:**

T – Rocker, Cover Plate or Frame.

FP – Beech wood/Pearl; JP – Cherry tree/Pearl; MS – Mahogany/Gray; NA – Walnut tree/Aluminium.

## FRAMES - PETRA LINE

|                                                                                     | Ref.    | Colour      | Box (Un) |
|-------------------------------------------------------------------------------------|---------|-------------|----------|
|  | 90910 T | GG GP GA GS | 1        |
|  | 90920 T | GG GP GA GS | 1        |
|  | 90930 T | GG GP GA GS | 1        |
|  | 90940 T | GG GP GA GS | 1        |

**Legend:**

T – Rocker, Cover Plate or Frame.

GG – Granite/Ice; GP – Granite/Pearl; GA – Granite/Aluminium; GS – Granite/Gray.

## SEMI - ASSEMBLED DEVICES (Supplied without Connectors)

|                                                                                   |                                 | Ref.        | Colour               | Box<br>(Un) |
|-----------------------------------------------------------------------------------|---------------------------------|-------------|----------------------|-------------|
|  | Double RJ45 Computer Socket     | 90450 S (a) | BR MF<br>GE PE AL IS | 10<br>2     |
|  | ST Fibre Optics / F Type Socket | 90459 S (a) | BR MF<br>GE PE AL IS | 10<br>2     |

## COMPLETE DEVICES

|                                                                                     |                                                                  | Ref.    | Colour               | Box<br>(Un) |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------|---------|----------------------|-------------|
|    | Monoblock Earth Socket (Schuko Type)<br>16A - 250V               | 90135 C | BR MF<br>GE PE AL IS | 10          |
|   | Monoblock Safety Earth Socket (Schuko Type)<br>16A - 250V        | 90138 C | BR MF<br>GE PE AL IS | 10          |
|  | Earth Socket (British Type)<br>13A - 250V                        | 90183 C | BR MF<br>GE PE AL IS | 10<br>2     |
|  | Monoblock Double Earth Socket (Schuko Type)<br>16A - 250V        | 90331 C | BR MF<br>GE PE AL IS | 10<br>2     |
|  | Monoblock Double Safety Earth Socket (Schuko Type)<br>16A - 250V | 90332 C | BR MF<br>GE PE AL IS | 10<br>2     |
|  | Double Earth Socket (British Type)<br>13A - 250V                 | 90343 C | BR MF<br>GE PE AL IS | 5<br>2      |
| 50V~70V~                                                                            |                                                                  |         |                      |             |
|  | Telephone Socket (RITA)                                          | 90251 C | BR MF<br>GE PE AL IS | 10<br>1     |

## Legend:

C – Complete Device; S – Semi-assembled.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.

(a) To obtain complete or semi-assembled devices in the CRYSTAL, METALLO, ARBORE or PETRA lines, replace the frames of the SQUARELLA line by the frame of the chosen line.

To be used with DVI Series (page. 154 to 159).

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

Voice and Data Sockets - Technical Information from page 218 to 220.

## COMPLETE DEVICES

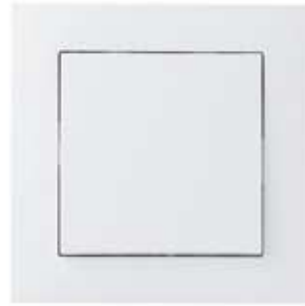
|                                                                                     |                                                                                                                                                                                                              | Ref.    | Colour               | Box<br>(Un) |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------|-------------|
| 50V~70V~                                                                            |                                                                                                                                                                                                              |         |                      |             |
|    | Telephone Socket (4 Conductors)                                                                                                                                                                              | 90252 C | BR MF<br>GE PE AL IS | 10<br>1     |
| 50V~70V~                                                                            |                                                                                                                                                                                                              |         |                      |             |
|    | Telephone Socket (6 Conductors)                                                                                                                                                                              | 90253 C | BR MF<br>GE PE AL IS | 10<br>1     |
| 50V~70V~                                                                            |                                                                                                                                                                                                              |         |                      |             |
|    | GEL Telephone Socket (RITA)                                                                                                                                                                                  | 90254 C | BR MF<br>GE PE AL IS | 10<br>1     |
| 50V~70V~                                                                            |                                                                                                                                                                                                              |         |                      |             |
|    | GEL Telephone Socket (4 Conductors)                                                                                                                                                                          | 90255 C | BR MF<br>GE PE AL IS | 10<br>1     |
| 50V~70V~                                                                            |                                                                                                                                                                                                              |         |                      |             |
|  | GEL Telephone Socket (6 Conductors)                                                                                                                                                                          | 90256 C | BR MF<br>GE PE AL IS | 10<br>1     |
|  | Dimmer Two-way Switch of 500W<br>- 250V - 50Hz<br>- 40 - 500W - 230V incandescent and halogen lamps.<br>- 100 - 400W - 12/24V halogen lamps of low voltage connected through magnetic lighting transformers. | 90211 C | BR MF<br>GE PE AL IS | 1           |
|  | Electronic Dimmer Two-way Switch of 320W<br>- 250V - 50Hz<br>- 5 - 320W - 12/24V halogen lamps and bulbs of low voltage connected through electronic lighting transformers.                                  | 90212 C | BR MF<br>GE PE AL IS | 1           |

### Legend:

C – Complete Device.

BR – White; MF – Ivory; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray.  
Wiring diagrams from page 187 to 199.

# LOGUS<sup>90</sup>



**EFAPEL®**



# sirius70

## series

### **CLASSIC line – Good Taste and Identity.**

The CLASSIC line highlights itself by its classic design and unique structure. It is defined by its elegant traces, being available in 3 basic colours – White, Ivory and Anthracite.

The beauty of the White, the deepness of the Ivory and the sensations of the Anthracite allow finding the right choice for each room.

### **AMBIENT line – The warmth of the colours for your favourite space.**

The AMBIENT line associates itself with the vanguard art and makes the happiness and the beauty of the colours invade your favourite spaces. This range uses frames in basic colours, White and Ivory, combined with colour clips, which allows obtaining a nice set of combinations using the White, Yellow, Green, Blue and Ivory colours for the clips.

### **METAL line – Spaces with Personality.**

The METAL line is characterized by the smooth, sensual and modern impact of the metal tones which transmit the same values to the daily environment. Without any doubt, this line is the right choice for personal and innovative rooms.

This line uses frames in basic colours White, Ivory and Anthracite, decorated with clips with Golden and Inox finishings.

### **WOOD line – The beauty of the natural nearby you.**

The WOOD line joins the natural textures with authentic finishings of beauty and distinction. It is the perfect choice for personal and elegant rooms. This line uses frames in basic colours White, Ivory and Anthracite, decorated with clips with Cherry Tree, Walnut Tree, Beech Wood and Mahogany finishings.

**CLASSIC**



**BR** - White

**AMBIENT**



**BM** - White/Ivory

**METAL**



**AI** - Anthracite/Inox

**WOOD**



**MG** - Ivory/Mahogany

# sirius70

series

## CLASSIC



BR - White



MF - Ivory



AT - Anthracite

## AMBIENT



BB - White/White



MM - Ivory/Ivory



BM - White/Ivory



BZ - White/Blue



BA - White/Yellow



BV - White/Green

## METAL



BI - White/Inox



MI - Ivory/Inox



AI - Anthracite/Inox



BO - White/Gold



MO - Ivory/Gold



AO - Anthracite/Gold

## WOOD



**BF** - White/Beech wood



**BC** - White/Cherry Tree



**BG** - White/Mahogany



**BN** - White/Walnut Tree



**MA** - Ivory/Beech wood



**MC** - Ivory/Cherry Tree



**MG** - Ivory/Mahogany



**MN** - Ivory/Walnut Tree



**AF** - Anthracite/Beech wood



**AC** - Anthracite/Cherry Tree

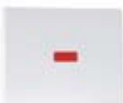


**AG** - Anthracite/Mahogany



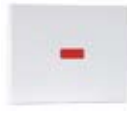
**AN** - Anthracite/Walnut Tree

- The **Sirius 70 Series** has single frames, double and triple horizontal and vertical frames.
- The **CLASSIC line** also has four-gang horizontal and vertical frames.
- The single and double rockers of the **Sirius 70 Series** assures the **protection index of IP21** to the MEC-21 mechanisms.

| CONTROL DEVICES                                                                     |                                                          |       |          | ROCKERS AND COVER PLATES                                                            |                                                                     |         |          |          |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------|----------|
|                                                                                     |                                                          | Ref.  | Box (Un) |                                                                                     |                                                                     | Ref.    | Colour   | Box (Un) |
|    | Single Pole Switch<br>10A - 250V                         | 21011 | 10       |    | Rocker for Switches                                                 | 70601 T | BR MF AT | 20       |
|    | Three Circuits Switch<br>16A - 250V                      | 21088 | 10       |    | Triple Rockers<br>(Three)                                           | 70661 T | BR MF AT | 20       |
|    | Single Pole Switch with<br>Orienting Light<br>10A - 250V | 21012 | 10       |    | Rocker for Lighted<br>Switches                                      | 70602 T | BR MF AT | 20       |
|   | Single Pole Switch with<br>Pilot Lamp<br>10A - 250V      | 21013 | 10       |   | Rocker for Lighted<br>Switches/Push-<br>buttons with Lamp<br>Symbol | 70797 T | BR MF AT | 5        |
|  | Two-pole Switch<br>10A - 250V                            | 21021 | 10       |  | Rocker for<br>Switches                                              | 70601 T | BR MF AT | 20       |
|                                                                                     |                                                          |       |          |  | Rocker for Two-pole<br>Switches                                     | 70608 T | BR MF AT | 5        |
|  | Two-pole Switch with<br>Pilot Lamp<br>10A - 250V         | 21023 | 10       |  | Rocker for Lighted<br>Switches                                      | 70602 T | BR MF AT | 20       |
|  | Two-pole Switch with<br>Pilot Lamp 20A<br>20A - 250V     | 21024 | 10       |  | Rocker for Lighted<br>Switches/Push-<br>buttons with Lamp<br>Symbol | 70797 T | BR MF AT | 5        |

**Legend:**

T – Rocker, Cover Plate or Frame.  
BR – White; MF – Ivory; AT – Anthracite.  
Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                     |       |          | ROCKERS AND COVER PLATES                                                            |                                                          |         |          |          |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------|---------|----------|----------|
|                                                                                     |                                                                     | Ref.  | Box (Un) |                                                                                     |                                                          | Ref.    | Colour   | Box (Un) |
|    | Card-system Switch<br>10A - 250V<br>(For Card type ATM, Ref. 21999) | 21031 | 10       |    | Cover Plate for Card-system Switch                       | 70731 T | BR MF AT | 5        |
|    | Intermediate Switch<br>10A - 250V                                   | 21051 | 10       |    | Rocker for Switches                                      | 70601 T | BR MF AT | 20       |
|    | Intermediate Switch with Orienting Light<br>10A - 250V              | 21052 | 10       |    | Rocker for Lighted Switches                              | 70602 T | BR MF AT | 20       |
|    | Two Circuits Switch<br>10A - 250V                                   | 21061 | 10       |    | Double Rockers (Pair)                                    | 70611 T | BR MF AT | 20       |
|   | Two Circuits Switch 20A<br>20A - 250V                               | 21065 | 10       |                                                                                     |                                                          |         |          |          |
|  | Two-way Switch<br>10A - 250V                                        | 21071 | 10       |  | Rocker for Switches                                      | 70601 T | BR MF AT | 20       |
|  | Two-way Switch with Orienting Light<br>10A - 250V                   | 21072 | 10       |  | Rocker for Lighted Switches                              | 70602 T | BR MF AT | 20       |
|  | Two-way Switch with Pilot Lamp<br>10A - 250V                        | 21073 | 10       |                                                                                     |                                                          |         |          |          |
|  | Two-way Switch 20A<br>20A - 250V                                    | 21075 | 10       |  | Rocker for Switches                                      | 70601 T | BR MF AT | 20       |
|  | Pull-cord Push-button<br>10A - 250V                                 | 21091 | 10       |  | Cover Plate for Pull-cord Push-button/<br>Two-way Switch | 70741 T | BR MF AT | 5        |
|  | Pull-cord Two-way Switch<br>10A - 250V                              | 21092 | 10       |                                                                                     |                                                          |         |          |          |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                 |       |             | ROCKERS AND COVER PLATES                                                            |                                                                      |         |          |             |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|----------|-------------|
|                                                                                     |                                                                 | Ref.  | Box<br>(Un) |                                                                                     |                                                                      | Ref.    | Colour   | Box<br>(Un) |
|    | Double Two-way Switch<br>10A - 250V                             | 21101 | 10          |    | Double Rockers<br>(Pair)                                             | 70611 T | BR MF AT | 20          |
|    | Double Two-way<br>Switch 20A<br>20A - 250V                      | 21103 | 10          |                                                                                     |                                                                      |         |          |             |
|   | Rocker Push-button<br>10A - 250V                                | 21151 | 10          |    | Rocker for Switches                                                  | 70601 T | BR MF AT | 20          |
|                                                                                     |                                                                 |       |             |    | Rocker for Switches<br>with Lock Symbol                              | 70604 T | BR MF AT | 5           |
|                                                                                     |                                                                 |       |             |   | Rocker for Switches<br>with Bell Symbol                              | 70605 T | BR MF AT | 20          |
|                                                                                     |                                                                 |       |             |  | Rocker for Switches<br>with Maid Symbol                              | 70606 T | BR MF AT | 5           |
|                                                                                     |                                                                 |       |             |  | Rocker for Switches<br>with Lamp Symbol                              | 70607 T | BR MF AT | 5           |
|  | Rocker Push-button with<br>Orienting Light (250V)<br>10A - 250V | 21152 | 10          |  | Rocker for<br>Lighted Switches                                       | 70602 T | BR MF AT | 20          |
|                                                                                     |                                                                 |       |             |  | Rocker for Lighted<br>Switches /<br>Push-buttons with<br>Lock Symbol | 70794 T | BR MF AT | 5           |
|                                                                                     |                                                                 |       |             |  | Rocker for Lighted<br>Switches /<br>Push-buttons with<br>Bell Symbol | 70795 T | BR MF AT | 5           |
|                                                                                     |                                                                 |       |             |  | Rocker for Lighted<br>Switches /<br>Push-buttons with<br>Maid Symbol | 70796 T | BR MF AT | 5           |
|                                                                                     |                                                                 |       |             |  | Rocker for Lighted<br>Switches /<br>Push-buttons with<br>Lamp Symbol | 70797 T | BR MF AT | 5           |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                |       |             | ROCKERS AND COVER PLATES                                                            |                                                                     |         |          |             |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------|-------------|
|                                                                                     |                                                                                | Ref.  | Box<br>(Un) |                                                                                     |                                                                     | Ref.    | Colour   | Box<br>(Un) |
|    | Rocker Push-button<br>with Identification (250V)<br>10A - 250V                 | 21155 | 10          |    | Rocker for<br>Switches with<br>Identification Card                  | 70603 T | BR MF AT | 5           |
|    | Double Push-button<br>10A - 250V                                               | 21156 | 10          |    | Double Rockers (Pair)                                               | 70611 T | BR MF AT | 20          |
|    | Rocker Push-button<br>and Two-way Switch<br>10A - 250V                         | 21159 | 10          |                                                                                     |                                                                     |         |          |             |
|  | Rocker Push-button with<br>Orienting Light(12V)<br>6A - 12V                    | 21162 | 10          |    | Rocker for<br>Lighted Switches                                      | 70602 T | BR MF AT | 20          |
|                                                                                     |                                                                                |       |             |   | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lock Symbol | 70794 T | BR MF AT | 5           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Bell Symbol | 70795 T | BR MF AT | 5           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Maid Symbol | 70796 T | BR MF AT | 5           |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lamp Symbol | 70797 T | BR MF AT | 5           |
|  | Rocker Push-button<br>with Identification (12V)<br>6A - 12V                    | 21165 | 10          |  | Rocker for<br>Switches with<br>Identification Card                  | 70603 T | BR MF AT | 5           |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With electrical blockage.      | 21281 | 10          |  | Rockers for Venetian<br>Push-buttons (Pair)                         | 70612 T | BR MF AT | 20          |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With normally closed contacts. | 21282 | 10          |                                                                                     |                                                                     |         |          |             |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                           |       |          | ROCKERS AND COVER PLATES                                                            |                                                     |         |          |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------|---------|----------|----------|
|                                                                                     |                                                                                                                                                                                           | Ref.  | Box (Un) |                                                                                     |                                                     | Ref.    | Colour   | Box (Un) |
|    | Venetian Double Push-button for multiple Point Blinds Control<br>10A - 250V<br>- With electrical blockage.<br>- Allows the control of the motor from one or several points.               | 21283 | 10       |    | Rockers for Venetian Push-buttons (Pair)            | 70612 T | BR MF AT | 20       |
|    | Venetian Switch<br>10A - 250V<br>With mechanical and electrical blockage.                                                                                                                 | 21290 | 10       |    | Rockers for Venetian Switch (Pair)                  | 70613 T | BR MF AT | 20       |
|    | Venetian Switch with Mechanical Blockage<br>10A - 250V<br>With mechanical Blockage and electrical Blockage.                                                                               | 21291 | 10       |                                                                                     |                                                     |         |          |          |
|   | Venetian Switch with Mechanical Blockage and Neutral Connection<br>10A - 250V<br>With mechanical and electrical blockage.                                                                 | 21292 | 10       |                                                                                     |                                                     |         |          |          |
|  | Rotary Two-way Switch 16A<br>16A - 250V                                                                                                                                                   | 21301 | 10       |  | Cover Plate for Rotary Push-button / Two-way Switch | 70761 T | BR MF AT | 5        |
|  | Rotary Switch 16A<br>16A - 250V                                                                                                                                                           | 21302 | 10       |  | Cover Plate for Rotary Switch                       | 70762 T | BR MF AT | 5        |
|  | Rotary Venetian Push-button 16A<br>16A - 250V                                                                                                                                             | 21303 | 10       |  | Cover Plate for Rotary Push-button / Two-way Switch | 70761 T | BR MF AT | 5        |
|  | Dimmer / Two-way Switch of 500W<br>- 40-500W - 230V incandescent and halogen lamps.<br>- 100-400W - 12/24V halogen lamps of low voltage connected through magnetic lighting transformers. | 21211 | 1        |  | Cover Plate for Dimmer Two-way Switch               | 70721 T | BR MF AT | 2        |
|  | Electronic Dimmer / Two-way Switch of 320W<br>5-320W - 12/24V halogen lamps and bulbs of low voltage connected through electronic lighting transformers.                                  | 21212 | 1        |                                                                                     |                                                     |         |          |          |

#### Legend:

T - Rocker, Cover Plate or Frame.  
BR - White; MF - Ivory; AT - Anthracite.  
Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                                                                                                                                      |                     |   | ROCKERS AND COVER PLATES                                                            |                                                                                        |                  |          |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------|----------|
|                                                                                     | Ref.                                                                                                                                                                                                                                                                                                 | Box (Un)            |   |                                                                                     | Ref.                                                                                   | Colour           | Box (Un) |
|    | Key-lock Push-button<br>10A - 250V                                                                                                                                                                                                                                                                   | 21351               | 1 |    | Cover Plate for<br>Key-lock Push-button/<br>Two-way Switch                             | 70351 T BR MF AT | 1        |
|    | Key-lock Two-way Switch<br>10A - 250V                                                                                                                                                                                                                                                                | 21352               | 1 |                                                                                     |                                                                                        |                  |          |
|    | One Circuit Digital Clock<br>Switch<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 10A<br>- Output Type: ON, OFF and<br>IMPULSE                                                                                                                                                             | <b>NEW</b><br>21046 | 1 |    | Cover Plate for One<br>Circuit Digital Clock<br>Switch                                 | 70046 T BR MF AT | 1        |
| •Wiring diagrams on page 192.                                                       |                                                                                                                                                                                                                                                                                                      |                     |   |                                                                                     |                                                                                        |                  |          |
|   | Two Circuits Digital<br>Clock Switch<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A + 6A<br>- Output Type: ON, OFF and<br>IMPULSE                                                                                                                                                        | <b>NEW</b><br>21047 | 1 |    | Cover Plate for Two<br>Circuits Digital Clock<br>Switch                                | 70047 T BR MF AT | 1        |
| •Wiring diagrams on page 192.                                                       |                                                                                                                                                                                                                                                                                                      |                     |   |                                                                                     |                                                                                        |                  |          |
|  | General Blinds Control<br>Module with Infrared<br>Remote Control<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR<br>transmitter (Ref. 81901) or<br>locally by using push-buttons.<br>- Two programmable functions<br>(Up/Down)<br>- Function: "Standby" | <b>NEW</b><br>21311 | 1 |  | Cover Plate for<br>General Blinds<br>Control Module<br>with Infrared<br>Remote Control | 70311 T BR MF AT | 1        |
| •Wiring diagrams on page 193.                                                       |                                                                                                                                                                                                                                                                                                      |                     |   |                                                                                     |                                                                                        |                  |          |
|  | Local Blinds Control<br>Module with Infrared<br>Remote Control<br>- Power Source: 230V~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR<br>transmitter (Ref. 81901) or<br>locally by using push-buttons.<br>- Function: "Standby"                                                | <b>NEW</b><br>21312 | 1 |  | Cover Plate for Local<br>Blinds Control<br>Module with<br>Infrared Remote<br>Control   | 70312 T BR MF AT | 1        |
| •Wiring diagrams on page 193.                                                       |                                                                                                                                                                                                                                                                                                      |                     |   |                                                                                     |                                                                                        |                  |          |
|  | Motion Detector of<br>1000W<br>- Power Source: 230V~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°                                                                                                                                                           | <b>NEW</b><br>21401 | 1 |  | Cover Plate for<br>Motion Detectors                                                    | 70401 T BR MF AT | 1        |
|  | Motion Detector of 400W<br>- Power Source: 230V~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°                                                                                                                                                               | <b>NEW</b><br>21402 | 1 |                                                                                     |                                                                                        |                  |          |
| •Wiring diagrams on page 191.                                                       |                                                                                                                                                                                                                                                                                                      |                     |   |                                                                                     |                                                                                        |                  |          |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Wiring diagrams from page 187 to 199.

| SOCKETS                                                                             |                                                     |       |             | ROCKERS AND COVER PLATES                                                            |                                                                            |         |                      |             |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------|----------------------|-------------|
|                                                                                     |                                                     | Ref.  | Box<br>(Un) |                                                                                     |                                                                            | Ref.    | Colour               | Box<br>(Un) |
|    | Earth Socket (French Type)<br>16A - 250V            | 21111 | 10          |    | Safety Cover Plate<br>for Earth Socket<br>(French Type)                    | 70652 T | BR MF AT<br>LR VD VM | 20          |
|    | Single Phase Socket<br>16A - 250V                   | 21121 | 10          |    | Cover Plate for Single<br>Phase Socket                                     | 70621 T | BR MF AT             | 20          |
|                                                                                     |                                                     |       |             |    | Safety Cover Plate<br>for Single Phase<br>Socket                           | 70622 T | BR MF AT             | 20          |
|    | Earth Socket (Schuko Type)<br>16A - 250V            | 21131 | 10          |    | Cover Plate for Earth<br>Socket (Schuko Type)                              | 70631 T | BR MF AT<br>LR VD VM | 20          |
|                                                                                     |                                                     |       |             |    | Safety Cover Plate<br>for Earth Socket<br>(Schuko Type)                    | 70632 T | BR MF AT<br>LR VD VM | 20          |
|                                                                                     |                                                     |       |             |   | Safety Spring<br>Operated Cover<br>Plate for Earth Socket<br>(Schuko Type) | 70634 T | BR MF AT             | 20          |
|  | Ceramic Earth Socket<br>(French Type)<br>16A - 250V | 21471 | 10          |  | Safety Cover Plate<br>for Earth Socket<br>(French Type)                    | 70652 T | BR MF AT<br>LR VD VM | 20          |
|  | Ceramic Single Phase<br>Socket<br>16A - 250V        | 21481 | 10          |  | Cover Plate for<br>Single Phase<br>Socket                                  | 70621 T | BR MF AT             | 20          |
|                                                                                     |                                                     |       |             |  | Safety Cover Plate<br>for Single Phase<br>Socket                           | 70622 T | BR MF AT             | 20          |
|  | Ceramic Earth Socket<br>(Schuko Type)<br>16A - 250V | 21491 | 10          |  | Cover Plate for Earth<br>Socket (Schuko Type)                              | 70631 T | BR MF AT<br>LR VD VM | 20          |
|                                                                                     |                                                     |       |             |  | Safety Cover Plate<br>for Earth Socket<br>(Schuko Type)                    | 70632 T | BR MF AT<br>LR VD VM | 20          |
|                                                                                     |                                                     |       |             |  | Safety Spring<br>Operated Cover<br>Plate for Earth Socket<br>(Schuko Type) | 70634 T | BR MF AT             | 20          |

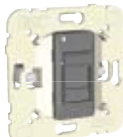
**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; LR – Orange; VD – Green; VM – Red.

| SOCKETS                                                                          |                                                                            |          | ROCKERS AND COVER PLATES |                                                                                   |                                                           |          |                      |    |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|----------|----------------------|----|
|                                                                                  | Ref.                                                                       | Box (Un) |                          | Ref.                                                                              | Colour                                                    | Box (Un) |                      |    |
|  | <div>NEW</div><br>Earth Socket<br>(Euro-USA Type)<br>15A - 127V/16A - 250V | 21140    | 10                       |  | Cover Plate for<br>Earth Socket<br>(Euro-USA Type)        | 70841 T  | BR MF AT<br>LR VD VM | 20 |
|                                                                                  |                                                                            |          |                          |  | Cover Plate for Safety<br>Earth Socket<br>(Euro-USA Type) | 70842 T  | BR MF AT<br>LR VD VM | 20 |

| TERMINAL BOXES, MUSIC SOCKET, PILOT LIGHTS AND ACCESSORIES                                                                                                                 |       |          | ROCKERS AND COVER PLATES                                                                                                |         |             |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------------------------------------------|---------|-------------|----------|
|                                                                                                                                                                            | Ref.  | Box (Un) |                                                                                                                         | Ref.    | Colour      | Box (Un) |
|  Three Terminal Box<br>3x2,5mm2 - 250V                                                    | 21173 | 10       |  Cover Plate for Terminal Boxes        | 70671 T | BR MF AT    | 20       |
|  Four Terminal Box<br>4x2,5mm2 - 250V                                                     | 21174 | 10       |                                                                                                                         |         |             |          |
|  Pilot Light<br>- To be used with Lamp ref. 81012.<br>(page 183)<br>- Max. 5W (E14) 250V | 21360 | 10       |  Transparent Cover for Pilot Light    | 70781 T | IC LR VD VM | 5        |
|  Stereo Music Socket<br>Connector DIN 41529                                             | 21221 | 10       |  Cover Plate for Stereo Music Socket | 70701 T | BR MF AT    | 5        |
|  Support for Blind Cover                                                                | 21222 | 10       |  Blind Cover Plate                   | 70677 T | BR MF AT    | 20       |

| DATA SOCKETS<br>Supplied with Connectors                                                                                                 |       |          | ROCKERS AND COVER PLATES                                                                                                         |         |          |          |
|------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|----------------------------------------------------------------------------------------------------------------------------------|---------|----------|----------|
|                                                                                                                                          | Ref.  | Box (Un) |                                                                                                                                  | Ref.    | Colour   | Box (Un) |
|  <b>NEW</b><br>Single RJ45 UTP Computer Socket Cat 5e | 21453 | 10       |  Cover Plate for Single RJ45 Computer Sockets | 70751 T | BR MF AT | 20       |
|  <b>NEW</b><br>Single RJ45 UTP Computer Socket Cat 6  | 21455 | 10       |                                                                                                                                  |         |          |          |
|  <b>NEW</b><br>Single RJ45 FTP Computer Socket Cat 5e | 21443 | 10       |                                                                                                                                  |         |          |          |
|  <b>NEW</b><br>Single RJ45 FTP Computer Socket Cat 6  | 21445 | 10       |                                                                                                                                  |         |          |          |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; IC – Colourless; LR – Orange; VD – Green; VM – Red.

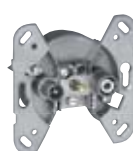
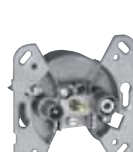
Wiring diagrams from page 187 to 199.

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

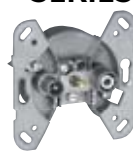
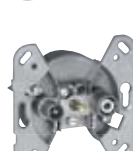
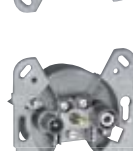
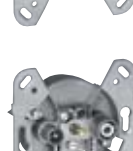
## RADIO, TELEVISION, SATELLITE AND DATA SOCKETS

## ROCKERS AND COVER PLATES

### STAR CONNECTION

|                                                                                  | Ref.                                                                                                                                                                                     | Box<br>(Un) |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|  | Equalized R - TV Socket<br>for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 1dB                                                                      | 21530 10    |
|  | Low Losses R-TV Socket<br>for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 2dB                                                                       | 21540 10    |
|  | R TV - SAT Socket for<br>Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 1,5dB<br>- 950 - 2400 MHz<br>- Attenuation ≤ 3dB<br>- Current Flow 600 mA (DC) | 21550 10    |
|  | R TV - DAT Socket for Star<br>Connection<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT                                                                                    | 21560 10    |

### SERIES CONNECTION

|                                                                                    |                                                                                                                                                                 |          |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|  | Equalized R - TV Socket<br>for Series Connection<br>(Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 5dB                        | 21531 10 |
|  | Equalized R - TV Socket<br>for Series Connection<br>(Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 9dB<br>- Flow ≤ 1.2dB     | 21532 10 |
|  | Low Losses R-TV Socket<br>for Series Connection<br>(Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 5dB                         | 21541 10 |
|  | Low losses R-TV Socket<br>for Series Connection<br>(Crossover Type)<br>- Connector Coaxial ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 9dB<br>- Flow ≤ 1dB        | 21542 10 |
|  | R TV- SAT Socket for Series<br>Connection (Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 5dB<br>- Current Flow 600 mA (DC)   | 21551 10 |
|  | R TV- SAT Socket for Series<br>Connection (Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 10dB<br>- Current Flow 600 mA (DC) | 21552 10 |



Cover Plate for  
R -TV Sockets

70685 T

BR MF AT

20



Cover Plate for  
R TV - SAT Sockets

70686 T

BR MF AT

20



Cover Plate for  
R TV - DAT Sockets

70687 T

BR MF AT

5



Cover Plate for  
R -TV Sockets

70685 T

BR MF AT

20



Cover Plate for  
R TV - SAT Sockets

70686 T

BR MF AT

20

#### Legend:

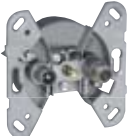
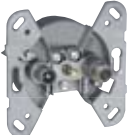
T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

## RADIO, TELEVISION, SATELLITE AND DATA SOCKETS

## ROCKERS AND COVER PLATES

|                                                                                                                                                                                                                | Ref.  | Box<br>(Un) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------|
|  <p>R TV- DAT Socket for Series Connection (Terminal Type)<br/>- Coaxial Connector ø 9,5 - R TV<br/>- Connector "F" - DAT</p>  | 21561 | 10          |
|  <p>R TV- DAT Socket for Series Connection (Crossover Type)<br/>- Coaxial Connector ø 9,5 - R TV<br/>- Connector "F" - DAT</p> | 21562 | 10          |



Cover Plate for  
R TV - DAT Sockets

| Ref.    | Colour   | Box<br>(Un) |
|---------|----------|-------------|
| 70687 T | BR MF AT | 5           |

## TELEPHONE SOCKETS

## ROCKERS AND COVER PLATES

| 50V---70V~                                                                                                                     | Ref.     | Colour   | Box<br>(Un) |
|--------------------------------------------------------------------------------------------------------------------------------|----------|----------|-------------|
|  <p>Telephone Socket (RITA)</p>               | 21251 S* | BR MF AT | 10          |
|  <p>Telephone Socket (4 Conductors)</p>      | 21252 S* | BR MF AT | 10          |
|  <p>Telephone Socket (6 Conductors)</p>     | 21253 S* | BR MF AT | 10          |
|  <p>GEL Telephone Socket (RITA)</p>         | 21254 S* | BR MF AT | 10          |
|  <p>GEL Telephone Socket (4 Conductors)</p> | 21255 S* | BR MF AT | 10          |
|  <p>GEL Telephone Socket (6 Conductors)</p> | 21256 S* | BR MF AT | 10          |



Cover Plate for  
Telephone Sockets

| Ref.    | Colour   | Box<br>(Un) |
|---------|----------|-------------|
| 70712 T | BR MF AT | 20          |

### 8 contacts

|                                                                                                                       |       |   |    |
|-----------------------------------------------------------------------------------------------------------------------|-------|---|----|
|  <p>T8 French Telephone Socket</p> | 21411 | - | 10 |
|-----------------------------------------------------------------------------------------------------------------------|-------|---|----|



Cover Plate for  
T8 French Telephone Socket

| Ref.    | Colour   | Box<br>(Un) |
|---------|----------|-------------|
| 70718 T | BR MF AT | 20          |

### Legend:

\* – Supplied Semi-assembled.

S – Semi-assembled; T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

## ACCESSORIES



Surface Mounting Box for Sirius 70 Series  
(To be used in installations with Trunkings of the 10 and 16 Series)

Ref.

Colour

Box  
(Un)

10975 A

BR MF

10



Cover for Mechanisms Protection

21971

-

40



Level and Mounting Accessory for MEC 21 Mechanisms

21989

-

2



Card for Card-system Switch

21999

-

20



Universal Cover Ring/Adaptor for 45x45 Modules  
(Accessory for 45x45 Series)

70881 T

BR MF AT

5



Relay for Blinds Control

- Power Source: 230V – 50Hz
- Breaking Capacity: 6A
- Electrical blockage.
- Connect locally to Venetian Double Push-buttons (Ref. 21283).
- For the centralized command of the installation, connect remotely to a Venetian Double Push-button (Ref. 21283) or to a General Blinds Control (Ref. 21311).

81511

-

1

• Wiring diagrams on page 195.



Automatic Relay for Blinds Control

- Power Source: 230V – 50Hz
- Breaking Capacity: 6A
- Electrical blockage.
- Connect locally to Double Push-buttons (Ref. 21156).
- For the centralized command of the installation, connect remotely to a Double Push-button (Ref. 21156) or to a General Blinds Control (Ref. 21311).

**NEW**

81512

-

1

• Wiring diagrams on page 194.



Infrared Remote Control Transmitter for Blinds Control

- 4 groups of programmable functions.
- It works with 2 AAA batteries, not included.

81901

-

1

### Legend:

A – Accessory; T – Rocker, Cover Plate or Frame.  
BR – White; MF – Ivory; AT – Anthracite.

## FRAMES - CLASSIC LINE



Single Frame

| Ref. | Colour | Box (Un) |
|------|--------|----------|
|------|--------|----------|

|         |          |         |
|---------|----------|---------|
| 70910 T | BR MF AT | 20<br>5 |
|---------|----------|---------|



Double Horizontal Frame

|         |          |         |
|---------|----------|---------|
| 70921 T | BR MF AT | 10<br>2 |
|---------|----------|---------|



Double Vertical Frame

|         |          |         |
|---------|----------|---------|
| 70922 T | BR MF AT | 10<br>2 |
|---------|----------|---------|



Triple Horizontal Frame

|         |          |         |
|---------|----------|---------|
| 70931 T | BR MF AT | 10<br>2 |
|---------|----------|---------|



Triple Vertical Frame

|         |          |         |
|---------|----------|---------|
| 70932 T | BR MF AT | 10<br>2 |
|---------|----------|---------|



Four-Gang Horizontal Frame

|         |          |   |
|---------|----------|---|
| 70941 T | BR MF AT | 2 |
|---------|----------|---|



Four-Gang Vertical Frame

|         |          |   |
|---------|----------|---|
| 70942 T | BR MF AT | 2 |
|---------|----------|---|

**Legend:**  
**T** – Rocker, Cover Plate or Frame.  
**BR** – White; **MF** – Ivory; **AT** – Anthracite.

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## FRAMES - CLASSIC LINE



IP44 Waterproof Plate

Ref.

Colour

Box  
(Un)

70961 T

BR MF AT

10



Monoblock Cover for Single Phase Socket

70901 T

BR MF AT

20



Monoblock Cover for Earth Socket  
(Schuko Type)

70902 T

BR MF AT

20



Monoblock Cover for Safety Earth Socket  
(Schuko Type)

70903 T

BR MF AT

20

### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite.

## FRAMES - AMBIENT LINE



Single Frame

Ref.

70910 T

Colour

BB MM BM BZ BA BV

Box  
(Un)

5



Double Horizontal Frame

70921 T

BB MM BM BZ BA BV

2



Double Vertical Frame

70922 T

BB MM BM BZ BA BV

2



Triple Horizontal Frame

70931 T

BB MM BM BZ BA BV

2



Triple Vertical Frame

70932 T

BB MM BM BZ BA BV

2

### Legend:

T – Rocker, Cover Plate or Frame.

BB – White/White; MM – Ivory/Ivory; BM – White/Ivory; BZ – White/Blue; BA – White/Yellow; BV – White/Green.



White / White



BB - White/  
White



MM - Ivory/  
Ivory



BM - White/  
Ivory



BZ - White/  
Blue



BA - White/  
Yellow



BV - White/  
Green

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| FRAMES - METAL LINE                                                                |                         |         |                   |          |
|------------------------------------------------------------------------------------|-------------------------|---------|-------------------|----------|
|                                                                                    |                         | Ref.    | Colour            | Box (Un) |
|   | Single Frame            | 70910 T | BI MI AI BO MO AO | 5        |
|   | Double Horizontal Frame | 70921 T | BI MI AI BO MO AO | 2        |
|   | Double Vertical Frame   | 70922 T | BI MI AI BO MO AO | 2        |
|   | Triple Horizontal Frame | 70931 T | BI MI AI BO MO AO | 2        |
|  | Triple Vertical Frame   | 70932 T | BI MI AI BO MO AO | 2        |

**Legend:**  
**T** – Rocker, Cover Plate or Frame.  
**BI** – White/Inox; **MI** – Ivory/Inox; **AI** – Anthracite/Inox; **BO** – White/Gold; **MO** – Ivory/Gold; **AO** – Anthracite/Gold.



Anthracite / Gold



**BI** - White/  
Inox



**MI** - Ivory/  
Inox



**AI** - Anthracite/  
Inox



**BO** - White/  
Gold

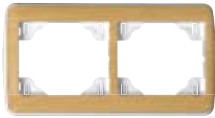
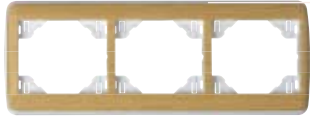


**MO** - Ivory/  
Gold



**AO** - Anthracite/  
Gold

## FRAMES - WOOD LINE

|                                                                                    |                         | Ref.    | Colour                              | Box (Un) |
|------------------------------------------------------------------------------------|-------------------------|---------|-------------------------------------|----------|
|   | Single Frame            | 70910 T | BF MA AF BC MC AC BG MG AG BN MN AN | 5        |
|   | Double Horizontal Frame | 70921 T | BF MA AF BC MC AC BG MG AG BN MN AN | 2        |
|   | Double Vertical Frame   | 70922 T | BF MA AF BC MC AC BG MG AG BN MN AN | 2        |
|   | Triple Horizontal Frame | 70931 T | BF MA AF BC MC AC BG MG AG BN MN AN | 2        |
|  | Triple Vertical Frame   | 70932 T | BF MA AF BC MC AC BG MG AG BN MN AN | 2        |

### Legend:

T – Rocker, Cover Plate or Frame.

**BF** – White/Beech wood; **MA** – Ivory/Beech wood; **AF** – Anthracite/Beech wood; **BC** – White/Cherry Tree; **MC** – Ivory/Cherry Tree; **AC** – Anthracite/Cherry Tree; **BG** – White/Mahogany; **MG** – Ivory/Mahogany; **AG** – Anthracite/Mahogany; **BN** – White/Walnut Tree; **MN** – Ivory/Walnut Tree; **AN** – Anthracite/Walnut Tree.



Ivory / Cherry Tree



**BF** - White/Beech wood



**MA** - Ivory/Beech wood



**AF** - Anthracite/Beech wood



**BG** - White/Mahogany



**MG** - Ivory/Mahogany



**AG** - Anthracite/Mahogany



**BC** - White/Cherry Tree



**MC** - Ivory/Cherry Tree



**AC** - Anthracite/Cherry Tree



**BN** - White/Walnut Tree



**MN** - Ivory/Walnut Tree



**AN** - Anthracite/Walnut Tree

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## SEMI - ASSEMBLED DEVICES (Supplied without Connectors)

|                                                                                                                   | Ref.        | Colour   | Box (Un) |
|-------------------------------------------------------------------------------------------------------------------|-------------|----------|----------|
|  Double RJ45 Computer Socket     | 70450 S (a) | BR MF AT | 10       |
|  ST Fibre Optics / F Type Socket | 70459 S (a) | BR MF AT | 10       |

## COMPLETE DEVICES

|                                                                                                                                                      | Ref.    | Colour   | Box (Un) |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|----------|
|  Monoblock Earth Socket (Schuko Type)<br>16A - 250V                 | 70135 C | BR MF AT | 10       |
|  Monoblock Safety Earth Socket (Schuko Type)<br>16A - 250V         | 70138 C | BR MF AT | 10       |
|  Monoblock Double Single Phase Socket<br>16A - 250V               | 70321 C | BR MF AT | 10       |
|  Monoblock Double Safety Single Phase Socket<br>16A - 250V        | 70322 C | BR MF AT | 10       |
|  Monoblock Double Earth Socket (Schuko Type)<br>16A - 250V        | 70331 C | BR MF AT | 10       |
|  Monoblock Double Safety Earth Socket (Schuko Type)<br>16A - 250V | 70332 C | BR MF AT | 10       |

### Legend:

**C** – Complete Device; **S** – Semi-assembled.

**BR** – White; **MF** – Ivory; **AT** – Anthracite.

**(a)** To obtain complete or semi-assembled devices in the AMBIENT, METAL or WOOD lines, change the frames of the CLASSIC line for the frame of the chosen line. Wiring diagrams from page 187 to 199.

To be used with DVI Series (page 154 to 159).

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

Voice and Data Sockets - Technical Information from page 218 to 220.

## COMPLETE DEVICES

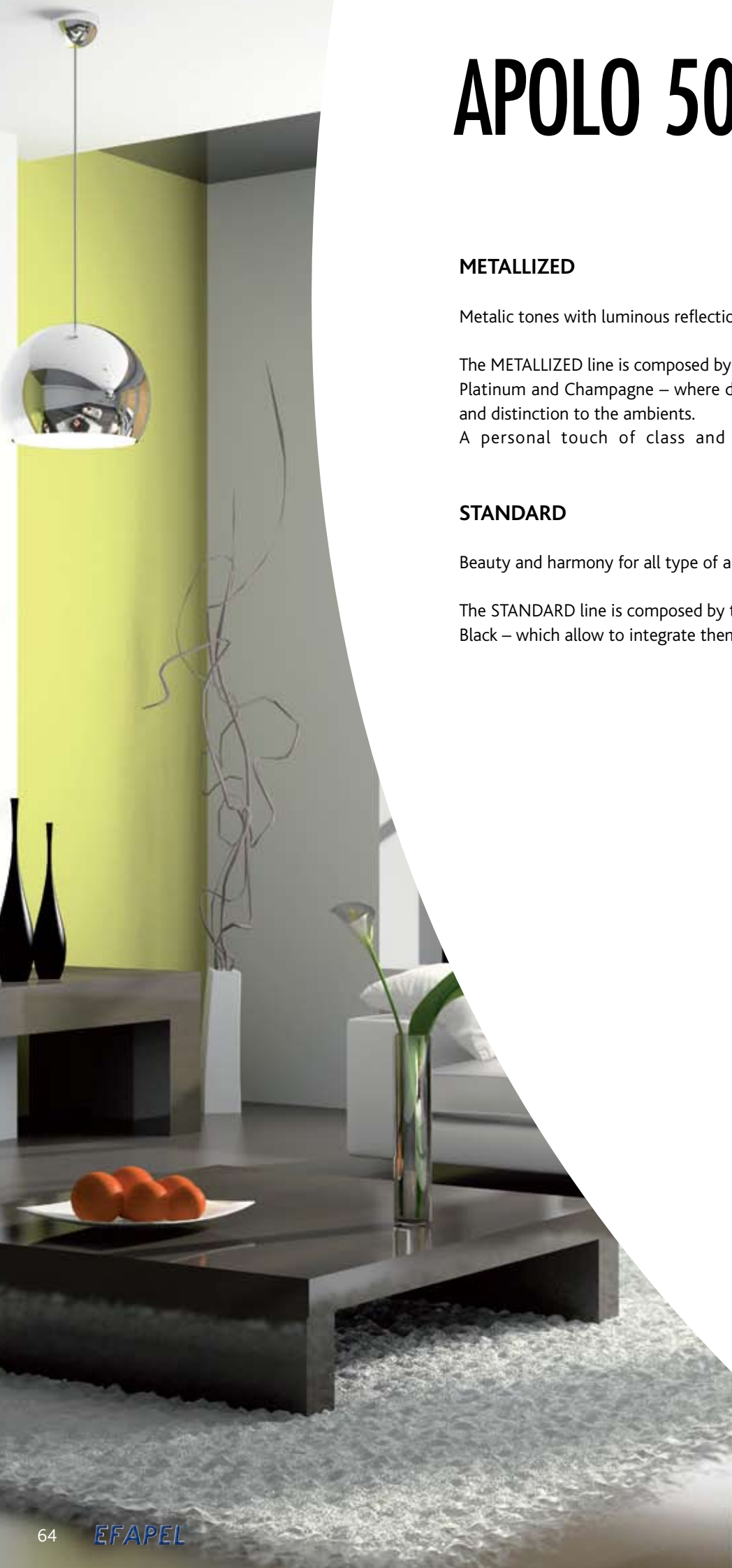
|                                                                                                   |                                                                                                                                                                                                              | Ref.    | Colour   | Box (Un) |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|----------|
| 50V---70V~<br>   | Telephone Socket (RITA)                                                                                                                                                                                      | 70251 C | BR MF AT | 10       |
| 50V---70V~<br>   | Telephone Socket (4 Conductors)                                                                                                                                                                              | 70252 C | BR MF AT | 10       |
| 50V---70V~<br>   | Telephone Socket (6 Conductors)                                                                                                                                                                              | 70253 C | BR MF AT | 10       |
| 50V---70V~<br>   | GEL Telephone Socket (RITA)                                                                                                                                                                                  | 70254 C | BR MF AT | 10       |
| 50V---70V~<br> | GEL Telephone Socket (4 Conductors)                                                                                                                                                                          | 70255 C | BR MF AT | 10       |
| 50V---70V~<br> | GEL Telephone Socket (6 Conductors)                                                                                                                                                                          | 70256 C | BR MF AT | 10       |
|                | Dimmer Two-way Switch of 500W<br>- 250V - 50Hz<br>- 40 - 500W - 230V incandescent and halogen lamps.<br>- 100 - 400W - 12/24V halogen lamps of low voltage connected through magnetic lighting transformers. | 70211 C | BR MF AT | 1        |
|                | Electronic Dimmer Two-way Switch of 320W<br>- 250V - 50Hz<br>- 5 - 320W - 12/24V halogen lamps and bulbs of low voltage connected through electronic lighting transformers.                                  | 70212 C | BR MF AT | 1        |
|                | Key-lock Push-button<br>10A - 250V                                                                                                                                                                           | 70351 C | BR MF AT | 1        |
|                | Key-lock Two-way Switch<br>10A - 250V                                                                                                                                                                        | 70352 C | BR MF AT | 1        |

### Legend:

C – Complete Device.

BR – White; MF – Ivory; AT – Anthracite.

Wiring diagrams from page 187 to 199.



# APOLO 5000 Series

## **METALLIZED**

Metalic tones with luminous reflections.

The METALLIZED line is composed by four metalic tones – Silver, Graphite, Platinum and Champagne – where due to their luminosity, gives beauty and distinction to the ambients.

A personal touch of class and distinction in your decoration.

## **STANDARD**

Beauty and harmony for all type of ambients.

The STANDARD line is composed by three base colours – White, Ivory and Black – which allow to integrate themselves in any ambient.

### METALLIZED



PR - Silver



GR - Graphite



PL - Platinum



CH - Champagne

### STANDARD



BR - White



MF - Ivory



PT - Black

- The **Apolo 5000 Series** has single frames and double, triple and four horizontal and vertical frames.
- The single and double rockers of the **Apolo 5000 Series** assures the **protection index of IP21** to the MEC 21 mechanisms.

| CONTROL DEVICES                                                                     |                                                          |       |             | ROCKERS AND COVER PLATES                                                            |                                                                     |         |                            |               |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------------------------|---------------|
|                                                                                     |                                                          | Ref.  | Box<br>(Un) |                                                                                     |                                                                     | Ref.    | Colour                     | Box<br>(Un)   |
|    | Single Pole Switch<br>10A - 250V                         | 21011 | 10          |    | Rocker for Switches                                                 | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Three Circuits Switch<br>16A - 250V                      | 21088 | 10          |    | Triple Rockers (Three)                                              | 50661 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Single Pole Switch with<br>Orienting Light<br>10A - 250V | 21012 | 10          |    | Rocker for Lighted<br>Switches                                      | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|   | Single Pole Switch with<br>Pilot Lamp<br>10A - 250V      | 21013 | 10          |   | Rocker for Lighted<br>Switches/Push-<br>buttons with Lamp<br>Symbol | 50797 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Two-pole Switch<br>10A - 250V                            | 21021 | 10          |  | Rocker for Switches                                                 | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |                                                          |       |             |  | Rocker for Two-pole<br>Switch                                       | 50608 T | BR MF PT<br>PR GR PL CH    | 5<br>5        |
|  | Two-pole Switch with<br>Pilot Lamp<br>10A - 250V         | 21023 | 10          |  | Rocker for Lighted<br>Switches                                      | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|  | Two-pole Switch with<br>Pilot Lamp 20A<br>20A - 250V     | 21024 | 10          |  | Rocker for Lighted<br>Switches/Push-<br>buttons with Lamp<br>Symbol | 50797 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                     |       |             | ROCKERS AND COVER PLATES                                                            |                                                                |         |                            |               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------|---------|----------------------------|---------------|
|                                                                                     |                                                                     | Ref.  | Box<br>(Un) |                                                                                     |                                                                | Ref.    | Colour                     | Box<br>(Un)   |
|    | Card-system Switch<br>10A - 250V<br>(For Card type ATM, Ref. 21999) | 21031 | 10          |    | Cover Plate for<br>Card-system<br>Switch                       | 50731 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|    | Intermediate Switch<br>10A - 250V                                   | 21051 | 10          |    | Rocker for Switches                                            | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Intermediate Switch with<br>Orienting Light<br>10A - 250V           | 21052 | 10          |    | Rocker for<br>Lighted Switches                                 | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|    | Two Circuits Switch<br>10A - 250V                                   | 21061 | 10          |    | Double Rockers<br>(Pair)                                       | 50611 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|   | Two Circuits Switch 20A<br>20A - 250V                               | 21065 | 10          |                                                                                     |                                                                |         |                            |               |
|  | Two-way Switch<br>10A - 250V                                        | 21071 | 10          |  | Rocker for Switches                                            | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|  | Two-way Switch with<br>Orienting Light<br>10A - 250V                | 21072 | 10          |  | Rocker for<br>Lighted Switches                                 | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|  | Two-way Switch with<br>Pilot Lamp<br>10A - 250V                     | 21073 | 10          |                                                                                     |                                                                |         |                            |               |
|  | Two-way Switch 20A<br>20A - 250V                                    | 21075 | 10          |  | Rocker for Switches                                            | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|  | Pull-cord Push-button<br>10A - 250V                                 | 21091 | 10          |  | Cover Plate for<br>Pull-cord<br>Push-button/<br>Two-way Switch | 50741 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Pull-cord Two-way Switch<br>10A - 250V                              | 21092 | 10          |                                                                                     |                                                                |         |                            |               |

## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                 |       |          | ROCKERS AND COVER PLATES                                                            |                                                                     |         |                            |               |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------------------------|---------------|
|                                                                                     |                                                                 | Ref.  | Box (Un) |                                                                                     |                                                                     | Ref.    | Colour                     | Box (Un)      |
|    | Double Two-way Switch<br>10A - 250V                             | 21101 | 10       |    | Double Rockers<br>(Pair)                                            | 50611 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Double Two-way<br>Switch 20A<br>20A - 250V                      | 21103 | 10       |                                                                                     |                                                                     |         |                            |               |
|   | Rocker Push-button<br>10A - 250V                                | 21151 | 10       |    | Rocker for Switches                                                 | 50601 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |                                                                 |       |          |    | Rocker for Switches<br>with Lock Symbol                             | 50604 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|                                                                                     |                                                                 |       |          |   | Rocker for Switches<br>with Bell Symbol                             | 50605 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|                                                                                     |                                                                 |       |          |  | Rocker for Switches<br>with Maid Symbol                             | 50606 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|                                                                                     |                                                                 |       |          |  | Rocker for Switches<br>with Lamp Symbol                             | 50607 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Rocker Push-button with<br>Orienting Light (250V)<br>10A - 250V | 21152 | 10       |  | Rocker for<br>Lighted Switches                                      | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |
|                                                                                     |                                                                 |       |          |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lock Symbol | 50794 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|                                                                                     |                                                                 |       |          |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Bell Symbol | 50795 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|                                                                                     |                                                                 |       |          |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Maid Symbol | 50796 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|                                                                                     |                                                                 |       |          |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lamp Symbol | 50797 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                |       |             | ROCKERS AND COVER PLATES                                                            |                                                                     |         |                            |                                                                                     |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|----------------------------|-------------------------------------------------------------------------------------|
|                                                                                     |                                                                                | Ref.  | Box<br>(Un) |                                                                                     |                                                                     | Ref.    | Colour                     | Box<br>(Un)                                                                         |
|    | Rocker Push-button<br>with Identification (250V)<br>10A - 250V                 | 21155 | 10          |    | Rocker for<br>Switches with<br>Identification Card                  | 50603 T | BR MF PT<br>PR GR PL CH    | 5<br>2                                                                              |
|    | Double Push-button<br>10A - 250V                                               | 21156 | 10          |    | Double Rockers (Pair)                                               | 50611 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2                                                                       |
|    | Rocker Push-button<br>and Two-way Switch<br>10A - 250V                         | 21159 | 10          |                                                                                     |                                                                     |         |                            |                                                                                     |
|  | Rocker Push-button with<br>Orienting Light (12V)<br>6A - 12V                   | 21162 | 10          |    | Rocker for<br>Lighted Switches                                      | 50602 T | BR MF PT<br>PR GR PL CH    | 20<br>2                                                                             |
|                                                                                     |                                                                                |       |             |   | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lock Symbol | 50794 T | BR MF PT<br>PR GR PL CH    | 5<br>2                                                                              |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Bell Symbol | 50795 T | BR MF PT<br>PR GR PL CH    | 5<br>2                                                                              |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Maid Symbol | 50796 T | BR MF PT<br>PR GR PL CH    | 5<br>2                                                                              |
|                                                                                     |                                                                                |       |             |  | Rocker for Lighted<br>Switches /<br>Push-button with<br>Lamp Symbol | 50797 T | BR MF PT<br>PR GR PL CH    | 5<br>2                                                                              |
|                                                                                     |                                                                                |       |             |  | Rocker Push-button<br>with Identification (12V)<br>6A - 12V         | 21165   | 10                         |  |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With electrical blockage.      | 21281 | 10          |  | Rockers for Venetian<br>Push-buttons (Pair)                         | 50612 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2                                                                       |
|  | Venetian Double<br>Push-button<br>10A - 250V<br>With normally closed contacts. | 21282 | 10          |                                                                                     |                                                                     |         |                            |                                                                                     |

## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                                       |       | ROCKERS AND COVER PLATES |                                                                                     |                                                           |         |                            |               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------|----------------------------|---------------|
|                                                                                     |                                                                                                                                                                                                       | Ref.  | Box<br>(Un)              |                                                                                     |                                                           | Ref.    | Colour                     | Box<br>(Un)   |
|    | Venetian Double Push-button<br>for multiple Point Blinds Control<br>10A - 250V<br>- With electrical blockage.<br>- Allows the control of the motor<br>from one or several points.                     | 21283 | 10                       |    | Rockers for Venetian<br>Push-buttons (Pair)               | 50612 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Venetian Switch<br>10A - 250V<br>With mechanical and electrical<br>blockage.                                                                                                                          | 21290 | 10                       |    | Rockers for Venetian<br>Switch (Pair)                     | 50613 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Venetian Switch with<br>Mechanical Blockage<br>10A - 250V<br>With mechanical and electrical<br>blockage.                                                                                              | 21291 | 10                       |                                                                                     |                                                           |         |                            |               |
|   | Venetian Switch with<br>Mechanical Blockage<br>10A - 250V<br>With mechanical and electrical<br>blockage.                                                                                              | 21292 | 10                       |                                                                                     |                                                           |         |                            |               |
|  | Rotary Two-way<br>Switch 16A<br>16A - 250V                                                                                                                                                            | 21301 | 10                       |  | Cover Plate for<br>Rotary Push-button /<br>Two-way Switch | 50761 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Rotary Switch 16A<br>16A - 250V                                                                                                                                                                       | 21302 | 10                       |  | Cover Plate for<br>Rotary Switch                          | 50762 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Rotary Venetian<br>Push-button 16A<br>16A - 250V                                                                                                                                                      | 21303 | 10                       |  | Cover Plate for<br>Rotary Push-button /<br>Two-way Switch | 50761 T | BR MF PT<br>PR GR PL CH    | 5<br>2        |
|  | Dimmer / Two-way Switch<br>of 500W<br>- 40-500W - 230V incandescent<br>and halogen lamps.<br>- 100-400W - 12/24V halogen lamps<br>of low voltage connected through<br>magnetic lighting transformers. | 21211 | 1                        |  | Cover Plate for<br>Dimmer Two-way<br>Switch               | 50721 T | BR MF PT<br>PR GR PL CH    | 2<br>1        |
|  | Electronic Dimmer / Two-way<br>Switch of 320W<br>5-320W - 12/24V halogen lamps and<br>bulbs of low voltage connected through<br>electronic lighting transformers.                                     | 21212 | 1                        |                                                                                     |                                                           |         |                            |               |

## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| CONTROL DEVICES                                                                     |                                                                                                                                                                                                                                                                                                                                        |                     | ROCKERS AND COVER PLATES |                                                                                     |                                                                                        |          |                         |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------|-------------------------|---|
|                                                                                     | Ref.                                                                                                                                                                                                                                                                                                                                   | Box (Un)            |                          | Ref.                                                                                | Colour                                                                                 | Box (Un) |                         |   |
|    | Key-lock Push-button<br>10A - 250V                                                                                                                                                                                                                                                                                                     | 21351               | 1                        |    | Cover Plate for<br>Key-lock Push-button/<br>Two-way Switch                             | 50351 T  | BR MF PT<br>PR GR PL CH | 1 |
|    | Key-lock Two-way Switch<br>10A - 250V                                                                                                                                                                                                                                                                                                  | 21352               | 1                        |                                                                                     |                                                                                        |          |                         |   |
|    | One Circuit Digital Clock<br>Switch<br>- Power Source: 230V ~ - 50Hz<br>- Breaking Capacity: 10A<br>- Output Type: ON, OFF and<br>IMPULSE<br>•Wiring diagrams on page 192.                                                                                                                                                             | <b>NEW</b><br>21046 | 1                        |    | Cover Plate for One<br>Circuit Digital Clock<br>Switch                                 | 50046 T  | BR MF PT<br>PR GR PL CH | 1 |
|   | Two Circuits Digital<br>Clock Switch<br>- Power Source: 230V ~ - 50Hz<br>- Breaking Capacity: 6A + 6A<br>- Output Type: ON, OFF and<br>IMPULSE<br>•Wiring diagrams on page 192.                                                                                                                                                        | <b>NEW</b><br>21047 | 1                        |                                                                                     |                                                                                        |          |                         |   |
|  | General Blinds Control<br>Module with Infrared<br>Remote Control<br>- Power Source: 230V ~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR<br>transmitter (Ref. 81901) or<br>locally by using push-buttons.<br>- Two programmable functions<br>(Up/Down)<br>- Function: "Standby"<br>•Wiring diagrams on page 193. | <b>NEW</b><br>21311 | 1                        |  | Cover Plate for<br>General Blinds<br>Control Module with<br>Infrared Remote<br>Control | 50311 T  | BR MF PT<br>PR GR PL CH | 1 |
|  | Local Blinds Control<br>Module with Infrared<br>Remote Control<br>- Power Source: 230V ~ - 50Hz<br>- Breaking Capacity: 6A<br>- Remote control through an IR<br>transmitter (Ref. 81901) or<br>locally by using push-buttons.<br>- Function: "Standby"<br>•Wiring diagrams on page 193.                                                | <b>NEW</b><br>21312 | 1                        |                                                                                     |                                                                                        |          |                         |   |
|  | Motion Detector of<br>1000W<br>- Power Source: 230V ~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°                                                                                                                                                                                            | <b>NEW</b><br>21401 | 1                        |  | Cover Plate for<br>Motion Detector                                                     | 50401 T  | BR MF PT<br>PR GR PL CH | 1 |
|  | Motion Detector of 400W<br>- Power Source: 230V ~ - 50Hz<br>- Sensibility Regulation<br>- Distance: 8 meters<br>- Detection Angle: 160°                                                                                                                                                                                                | <b>NEW</b><br>21402 | 1                        |                                                                                     |                                                                                        |          |                         |   |

•Wiring diagrams on page 191.

## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

| SOCKETS                                                                             |       |          | ROCKERS AND COVER PLATES                                                            |         |                                        |               |
|-------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|---------|----------------------------------------|---------------|
|                                                                                     | Ref.  | Box (Un) |                                                                                     | Ref.    | Colour                                 | Box (Un)      |
|    | 21111 | 10       |    | 50651 T | BR MF PT<br>LR VD<br>PR GR PL CH       | 20<br>2       |
|                                                                                     |       |          |    | 50652 T | BR MF PT<br>LR VD VM<br>PR GR PL CH    | 20<br>10      |
|    | 21121 | 10       |    | 50621 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |
|                                                                                     |       |          |    | 50622 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |
|   | 21131 | 10       |    | 50631 T | BR MF PT<br>LR VD VM<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |       |          |   | 50632 T | BR MF PT<br>LR VD VM<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |       |          |  | 50634 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |
|  | 21471 | 10       |  | 50651 T | BR MF PT<br>LR VD<br>PR GR PL CH       | 20<br>2       |
|                                                                                     |       |          |  | 50652 T | BR MF PT<br>LR VD VM<br>PR GR PL CH    | 20<br>10      |
|  | 21481 | 10       |  | 50621 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |
|                                                                                     |       |          |  | 50622 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |
|  | 21491 | 10       |  | 50631 T | BR MF PT<br>LR VD VM<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |       |          |  | 50632 T | BR MF PT<br>LR VD VM<br>PR<br>GR PL CH | 20<br>10<br>2 |
|                                                                                     |       |          |  | 50634 T | BR MF PT<br>PR GR PL CH                | 20<br>2       |

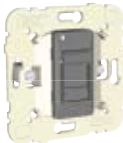
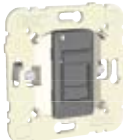
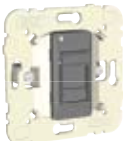
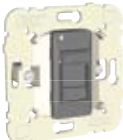
**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne; LR – Orange; VD – Green; VM – Red.

| SOCKETS                                                                           |                                                                                      |       | ROCKERS AND COVER PLATES |                                                                                   |                                                           |         |                      |               |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|---------|----------------------|---------------|
|                                                                                   |                                                                                      | Ref.  | Box<br>(Un)              |                                                                                   |                                                           | Ref.    | Colour               | Box<br>(Un)   |
|  | <div>NEW</div> <div>Earth Socket<br/>(Euro-USA Type)<br/>15A - 127V/16A - 250V</div> | 21140 | 10                       |  | Cover Plate for<br>Earth Socket<br>(Euro-USA Type)        | 50841 T | BR MF PT<br>PR       | 20            |
|                                                                                   |                                                                                      |       |                          |                                                                                   |                                                           |         | GR PL CH<br>LR VD VM | 10<br>2<br>20 |
|                                                                                   |                                                                                      |       |                          |  | Cover Plate for Safety<br>Earth Socket<br>(Euro-USA Type) | 50842 T | BR MF PT<br>PR       | 20            |
|                                                                                   |                                                                                      |       |                          |                                                                                   |                                                           |         | GR PL CH<br>LR VD VM | 10<br>2<br>20 |

| TERMINAL BOXES, MUSIC SOCKET, PILOT LIGHTS AND ACCESSORIES                          |                                                                                         |       |          | ROCKERS AND COVER PLATES                                                            |                                           |         |                         |          |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|-------------------------------------------|---------|-------------------------|----------|
|                                                                                     |                                                                                         | Ref.  | Box (Un) |                                                                                     |                                           | Ref.    | Colour                  | Box (Un) |
|    | Three Terminal Box<br>3x2,5mm2 - 250V                                                   | 21173 | 10       |    | Cover Plate for<br>Terminal Boxes         | 50671 T | BR MF PT<br>PR GR PL CH | 20<br>2  |
|    | Four Terminal Box<br>4x2,5mm2 - 250V                                                    | 21174 | 10       |                                                                                     |                                           |         |                         |          |
|   | Pilot Light<br>- To be used with Lamp ref. 81012.<br>(page 183)<br>- Max. 5W (E14) 250V | 21360 | 10       |   | Transparent Cover<br>for Pilot Light      | 50781 T | IC LR VD VM             | 5        |
|  | Stereo Music Socket<br>Connector DIN 41529                                              | 21221 | 10       |  | Cover Plate for<br>Stereo Music<br>Socket | 50701 T | BR MF PT<br>PR GR PL CH | 5<br>2   |
|  | Support for Blind Cover                                                                 | 21222 | 10       |  | Blind Cover Plate                         | 50677 T | BR MF PT<br>PR GR PL CH | 20<br>2  |

| DATA SOCKETS<br>Supplied with Connectors                                            |                                                         |       |             | ROCKERS AND COVER PLATES                                                            |                                                    |         |                         |             |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-------|-------------|-------------------------------------------------------------------------------------|----------------------------------------------------|---------|-------------------------|-------------|
|                                                                                     |                                                         | Ref   | Box<br>(Un) |                                                                                     |                                                    | Ref.    | Colour                  | Box<br>(Un) |
|  | <b>NEW</b><br>Single RJ45 UTP Computer<br>Socket Cat 5e | 21453 | 10          |  | Cover Plate for<br>Single RJ45<br>Computer Sockets | 50751 T | BR MF PT<br>PR GR PL CH | 20<br>2     |
|  | <b>NEW</b><br>Single RJ45 UTP Computer<br>Socket Cat 6  | 21455 | 10          |                                                                                     |                                                    |         |                         |             |
|  | <b>NEW</b><br>Single RJ45 FTP Computer<br>Socket Cat 5e | 21443 | 10          |                                                                                     |                                                    |         |                         |             |
|  | <b>NEW</b><br>Single RJ45 FTP Computer<br>Socket Cat 6  | 21445 | 10          |                                                                                     |                                                    |         |                         |             |

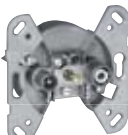
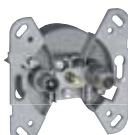
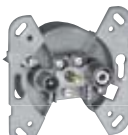
## Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne; IC – Colourless; LR – Orange; VD – Green; VM – Red.

Wiring diagrams from page 187 to 199.

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

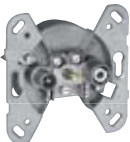
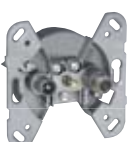
| RADIO, TELEVISION, SATELLITE AND DATA SOCKETS                                                                                                                                                                                                                                                                                                               |       |          | ROCKERS AND COVER PLATES                                                                                                    |         |                         |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|-----------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|---------------|
| STAR CONNECTION                                                                                                                                                                                                                                                                                                                                             | Ref.  | Box (Un) |                                                                                                                             | Ref.    | Colour                  | Box (Un)      |
|  <p>Equalized R - TV Socket for Star Connection</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 1dB</li> </ul>                                                                                        | 21530 | 10       |  <p>Cover Plate for R -TV Sockets</p>      | 50685 T | BR MF PT<br>PR GR PL CH | 20<br>10<br>2 |
|  <p>Low Losses R-TV Socket for Star Connection</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 2dB</li> </ul>                                                                                         | 21540 | 10       |                                                                                                                             |         |                         |               |
|  <p>R TV - SAT Socket for Star Connection</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 1,5dB</li> <li>- 950 - 2400 MHz</li> <li>- Attenuation ≤ 3dB</li> <li>- Current Flow 600 mA (DC)</li> </ul> | 21550 | 10       |  <p>Cover Plate for R TV - SAT Sockets</p> | 50686 T | BR MF PT<br>PR GR PL CH | 20<br>2       |
|  <p>R TV - DAT Socket for Star Connection</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5 - R TV</li> <li>- Connector "F" - DAT</li> </ul>                                                                                                            | 21560 | 10       |  <p>Cover Plate for R TV - DAT Sockets</p> | 50687 T | BR MF PT<br>PR GR PL CH | 5<br>2        |
| SERIES CONNECTION                                                                                                                                                                                                                                                                                                                                           |       |          |                                                                                                                             |         |                         |               |
|  <p>Equalized R - TV Socket for Series Connection (Terminal Type)</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 5dB</li> </ul>                                                                    | 21531 | 10       |  <p>Cover Plate for R -TV Sockets</p>    | 50685 T | BR MF PT<br>PR GR PL CH | 20<br>10<br>2 |
|  <p>Equalized R - TV Socket for Series Connection (Crossover Type)</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 9dB</li> <li>- Flow ≤ 1.2dB</li> </ul>                                           | 21532 | 10       |                                                                                                                             |         |                         |               |
|  <p>Low Losses R-TV Socket for Series Connection (Terminal Type)</p> <ul style="list-style-type: none"> <li>- Coaxial Connector ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 5dB</li> </ul>                                                                     | 21541 | 10       |                                                                                                                             |         |                         |               |
|  <p>Low losses R-TV Socket for Series Connection (Crossover Type)</p> <ul style="list-style-type: none"> <li>- Connector Coaxial ø 9,5</li> <li>- 4 - 862 MHz</li> <li>- Attenuation ≤ 9dB</li> <li>- Flow ≤ 1dB</li> </ul>                                              | 21542 | 10       |                                                                                                                             |         |                         |               |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

| RADIO, TELEVISION, SATELLITE AND DATA SOCKETS                                    |                                                                                                                                                              |          |    | ROCKERS AND COVER PLATES                                                          |                                    |         |                                 |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|-----------------------------------------------------------------------------------|------------------------------------|---------|---------------------------------|
|                                                                                  | Ref.                                                                                                                                                         | Box (Un) |    |                                                                                   | Ref.                               | Colour  | Box (Un)                        |
|  | R TV- SAT Socket for Series Connection (Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 5dB<br>- Current Flow 600 mA (DC)   | 21551    | 10 |                                                                                   |                                    |         |                                 |
|  | R TV- SAT Socket for Series Connection (Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 2400 MHz<br>- Attenuation ≤ 10dB<br>- Current Flow 600 mA (DC) | 21552    | 10 |  | Cover Plate for R TV - SAT Sockets | 50686 T | BR MF PT<br>PR GR PL CH 20<br>2 |
|  | R TV- DAT Socket for Series Connection (Terminal Type)<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT                                          | 21561    | 10 |                                                                                   |                                    |         |                                 |
|  | R TV- DAT Socket for Series Connection (Crossover Type)<br>- Coaxial Connector ø 9,5 - R TV<br>- Connector "F" - DAT                                         | 21562    | 10 |  | Cover Plate for R TV - DAT Sockets | 50687 T | BR MF PT<br>PR GR PL CH 5<br>2  |

| TELEPHONE SOCKETS                                                                   |                                     |          |                   | ROCKERS AND COVER PLATES                                                            |                                            |         |                                 |
|-------------------------------------------------------------------------------------|-------------------------------------|----------|-------------------|-------------------------------------------------------------------------------------|--------------------------------------------|---------|---------------------------------|
| 50V --- 70V~                                                                        | Ref.                                | Colour   | Box (Un)          |                                                                                     | Ref.                                       | Colour  | Box (Un)                        |
|  | Telephone Socket (RITA)             | 21251 S* | BR CZ<br>MF PT 10 |                                                                                     |                                            |         |                                 |
|  | Telephone Socket (4 Conductors)     | 21252 S* | BR CZ<br>MF PT 10 |                                                                                     |                                            |         |                                 |
|  | Telephone Socket (6 Conductors)     | 21253 S* | BR CZ<br>MF PT 10 |  | Cover Plate for Telephone Sockets          | 50712 T | BR MF PT<br>PR GR PL CH 20<br>2 |
|  | GEL Telephone Socket (RITA)         | 21254 S* | BR CZ<br>MF PT 10 |                                                                                     |                                            |         |                                 |
|  | GEL Telephone Socket (4 Conductors) | 21255 S* | BR CZ<br>MF PT 10 |                                                                                     |                                            |         |                                 |
|  | GEL Telephone Socket (6 Conductors) | 21256 S* | BR CZ<br>MF PT 10 |                                                                                     |                                            |         |                                 |
| 8 contacts                                                                          |                                     |          |                   |                                                                                     |                                            |         |                                 |
|  | T8 French Telephone Socket          | 21411    | - 10              |  | Cover Plate for T8 French Telephone Socket | 50718 T | BR MF PT<br>PR GR PL CH 20<br>2 |

## Legend:

\* - Supplied Semi-assembled.

S - Semi-assembled; T - Rocker, Cover Plate or Frame.

BR - White; MF - Ivory; PT - Black; PR - Silver; GR - Graphite; PL - Platinum; CH - Champagne; CZ - Grey.

For the Cover Plates of the METALLIZED Line, please use the mechanisms in the following colours:

- PR (Silver) - CZ (Grey);
- GR (Graphite) - CZ (Grey);
- PL (Platinum) - MF (Ivory);
- CH (Champagne) - MF (Ivory).

Radio, Television, Satellite and Data Sockets - Technical Information from page 214 to 217.

# Apolo 5000 Series

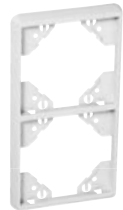
| ACCESSORIES                                                                         |                                                                                                                                                                                                                                                                                                                                                 |         |                         |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
|                                                                                     |                                                                                                                                                                                                                                                                                                                                                 | Ref.    | Colour                  | Box (Un) |
|    | Surface Mounting Box for Apolo 5000 Series<br>(To be used in installations with Trunkings of the 10 and 16 Series)                                                                                                                                                                                                                              | 10981 A | BR MF                   | 10       |
|    | Cover for Mechanisms Protection                                                                                                                                                                                                                                                                                                                 | 21971   | -                       | 40       |
|    | Level and Mounting Accessory for MEC 21 Mechanisms                                                                                                                                                                                                                                                                                              | 21989   | -                       | 2        |
|   | Card for Card-system Switch                                                                                                                                                                                                                                                                                                                     | 21999   | -                       | 20       |
|  | Universal Cover Ring/Adaptor for 45x45 Modules<br>(Accessory for 45x45 Series)                                                                                                                                                                                                                                                                  | 50881 T | BR MF PT<br>PR GR PL CH | 5<br>2   |
|  | Relay for Blinds Control<br>- Power Source: 230V – 50Hz<br>- Breaking Capacity: 6A<br>- Electrical blockage.<br>- Connect locally to Venetian Double Push-buttons (Ref. 21283).<br>For the centralized command of the installation, connect remotely to a Venetian Double Push-button (Ref. 21283) or to a General Blinds Control (Ref. 21311). | 81511   | -                       | 1        |
| • Wiring diagrams on page 195.                                                      |                                                                                                                                                                                                                                                                                                                                                 |         |                         |          |
|  | Automatic Relay for Blinds Control<br>- Power Source: 230V – 50Hz<br>- Breaking Capacity: 6A<br>- Electrical blockage.<br>- Connect locally to Double Push-buttons (Ref. 21156).<br>For the centralized command of the installation, connect remotely to a Double Push-button (Ref. 21156) or to a General Blinds Control (Ref. 21311).         | 81512   | -                       | 1        |
| • Wiring diagrams on page 194.                                                      |                                                                                                                                                                                                                                                                                                                                                 |         |                         |          |
|  | Infrared Remote Control Transmitter for Blinds Control<br>- 4 groups of programmable functions.<br>- It works with 2 AAA batteries, not included.                                                                                                                                                                                               | 81901   | -                       | 1        |

## Legend:

A – Accessorie; T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

## FRAMES



|                                         | Ref.    | Colour                     | Box (Un)      |
|-----------------------------------------|---------|----------------------------|---------------|
| Single Frame                            | 50910 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>5 |
| Double Horizontal Frame                 | 50921 T | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| Double Vertical Frame                   | 50922 T | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| Triple Horizontal Frame                 | 50931 T | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| Triple Vertical Frame                   | 50932 T | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| Four-Gang Horizontal Frame              | 50941 T | BR MF PT<br>PR GR PL CH    | 2             |
| Four-Gang Vertical Frame                | 50942 T | BR MF PT<br>PR GR PL CH    | 2             |
| IP44 Waterproof Plate                   | 50961 T | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| Monoblock Cover for Single Phase Socket | 50901 T | BR MF PT<br>PR GR PL CH    | 20<br>2       |

### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

# Apolo 5000 Series

| FRAMES                                                                              |                                                           |         |                            |               |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------|----------------------------|---------------|
|                                                                                     |                                                           | Ref.    | Colour                     | Box (Un)      |
|    | Monoblock Cover for Earth Socket (Schuko Type)            | 50902 T | BR MF PT<br>PR<br>GR PL CH | 20<br>10<br>2 |
|    | Monoblock Cover for Safety Earth Socket (Schuko Type)     | 50903 T | BR MF PT<br>PR GR PL CH    | 20<br>10      |
| SEMI - ASSEMBLED DEVICES (Supplied without Connectors)                              |                                                           |         |                            |               |
|                                                                                     |                                                           | Ref.    | Colour                     | Box (Un)      |
|    | Double RJ45 Computer Socket                               | 50450 S | BR MF PT<br>PR GR PL CH    | 10<br>2       |
|    | ST Fibre Optics / F Type Socket                           | 50459 S | BR MF PT<br>PR GR PL CH    | 10<br>2       |
| COMPLETE DEVICES                                                                    |                                                           |         |                            |               |
|                                                                                     |                                                           | Ref.    | Colour                     | Box (Un)      |
|  | Monoblock Earth Socket (Schuko Type)<br>16A - 250V        | 50135 C | BR MF PT<br>PR GR PL CH    | 10            |
|  | Monoblock Safety Earth Socket (Schuko Type)<br>16A - 250V | 50138 C | BR MF PT<br>PR GR PL CH    | 10            |
|  | Telephone Socket (RITA)                                   | 50251 C | BR MF PT<br>PR GR PL CH    | 10<br>1       |
|  | Telephone Socket (4 Conductors)                           | 50252 C | BR MF PT<br>CH GR PL PR    | 10<br>1       |
|  | Telephone Socket (6 Conductors)                           | 50253 C | BR MF PT<br>PR GR PL CH    | 10<br>1       |
|  | GEL Telephone Socket (RITA)                               | 50254 C | BR MF PT<br>PR GR PL CH    | 10<br>1       |

## Legend:

C – Complete Device; S – Semi-assembled; T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.

To be used with DVI Series (page 154 to 159).

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

## COMPLETE DEVICES

|                  |                                                                                                                                                                                                              | Ref.    | Colour                  | Box (Un) |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
| 50V --- 70V~<br> | GEL Telephone Socket (4 Conductors)                                                                                                                                                                          | 50255 C | BR MF PT<br>PR GR PL CH | 10<br>1  |
| 50V --- 70V~<br> | GEL Telephone Socket (6 Conductors)                                                                                                                                                                          | 50256 C | BR MF PT<br>PR GR PL CH | 10<br>1  |
|                  | Earth Socket (British type)                                                                                                                                                                                  | 50183 C | BR MF PT<br>PR GR PL CH | 10<br>1  |
|                  | Monoblock Double Single Phase Socket<br>16A - 250V                                                                                                                                                           | 50321 C | BR MF PT<br>PR GR PL CH | 10<br>2  |
|                  | Monoblock Double Safty Single Phase Safety Socket<br>16A - 250V                                                                                                                                              | 50322 C | BR MF PT<br>PR GR PL CH | 10<br>2  |
|                  | Monoblock Double Earth Socket (Schuko type)<br>16A - 250V                                                                                                                                                    | 50331 C | BR MF PT<br>PR GR PL CH | 10<br>2  |
|                  | Monoblock Double Safety Earth Socket (Schuko type)<br>16A - 250V                                                                                                                                             | 50332 C | BR MF PT<br>PR GR PL CH | 10<br>2  |
|                  | Double Earth Socket (British type)                                                                                                                                                                           | 50343 C | BR MF PT<br>PR GR PL CH | 5<br>1   |
|                  | Dimmer Two-way Switch of 500W<br>- 250V - 50Hz<br>- 40 - 500W - 230V incandescent and halogen lamps.<br>- 100 - 400W - 12/24V halogen lamps of low voltage connected through magnetic lighting transformers. | 50211 C | BR MF PT<br>PR GR PL CH | 1        |
|                  | Electronic Dimmer Two-way Switch of 320W<br>- 250V - 50Hz<br>- 5 - 320W - 12/24V halogen lamps and bulbs of low voltage connected through electronic lighting transformers.                                  | 50212 C | BR MF PT<br>PR GR PL CH | 1        |

### Legend:

C – Complete Device.

BR – White; MF – Ivory; PT – Black; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 187 to 199.



# Jazz

*Light* series

NEW

At home, at the office, at public places, the company of music and news provides moments of comfort and welfare.

The **Jazz Light Series** has a wide range of elements for the installations of Surrounding Sound in buildings, offices and shopping areas.

**With its new Modular Sound Central Units, Sound Control Units and Power Supplies it is possible to simplify the installation and make easy to use the Surrounding Sound system.**

Thus, the **Jazz Light** Sound System of EFAPEL lets you hear your selected music comfortably into any reliance on your house and control it according to your needs:

- **Listen to the music you wish:** You can tune directly to your **favourite radio station**, or if you prefer, you can connect to the auxiliary input another source or program of music (Mobile phone, MP3 player, computer, television). In this way, you can enjoy with the best sound your selection of favourite music, the film or the live concert given by the television, and so on.

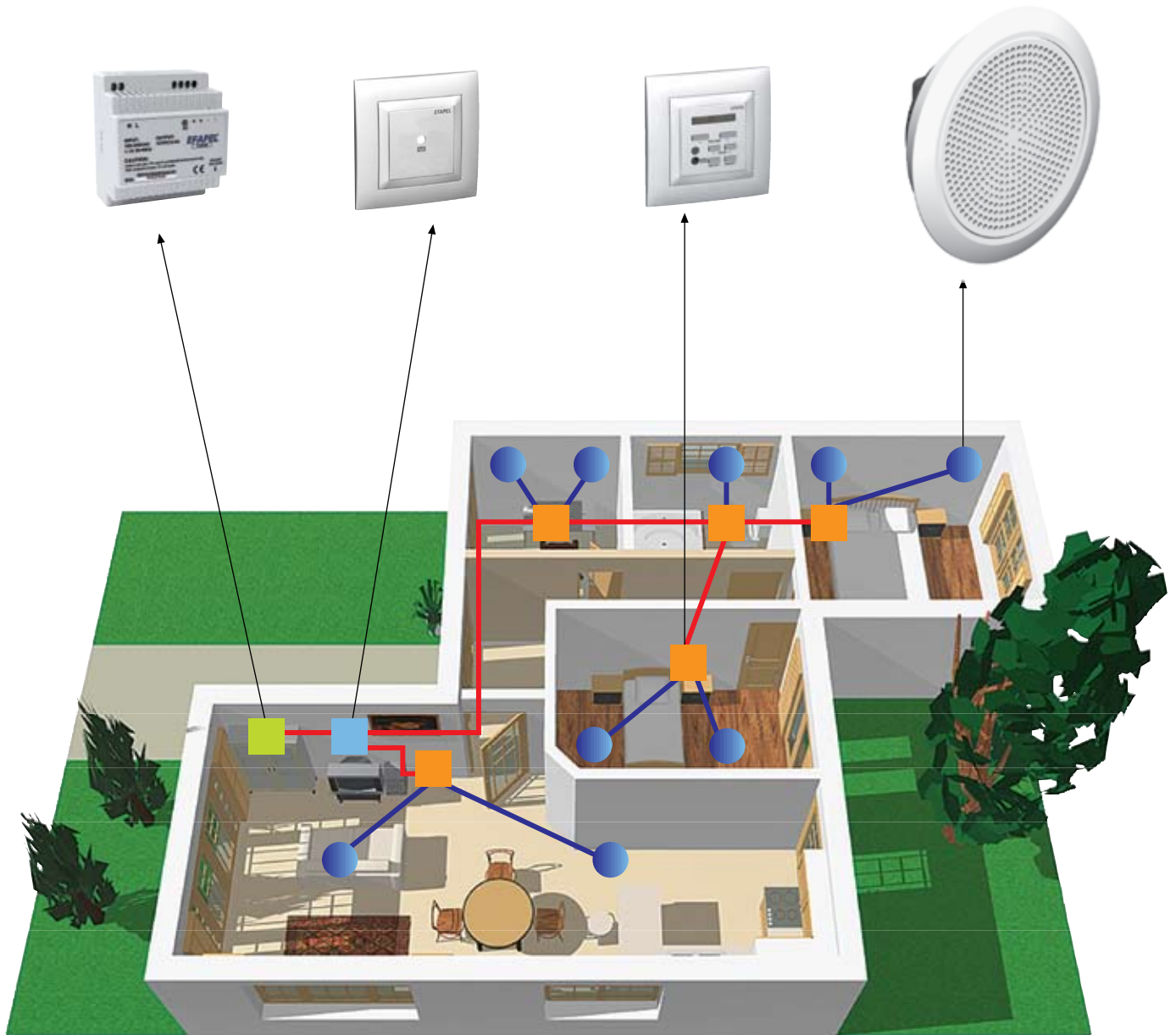
- **Live the music where and how you want:** Feel the pleasure of the good music, a film or a concert in your living-room and with the volume of sound that you really like.

The products of the new **Jazz Light Series** are available in all the finishing of the LOGUS 90, Sirius 70, Apolo 5000 and QUADRO 45 Series, offering a wide range of possibilities for decorating and customizing your space.

# FINDING SOLUTIONS...

...easy and simple installation

## Example of the installation in a house



 POWER SUPPLY

 MODULAR SOUND CENTRAL UNIT

 SOUND CONTROL UNIT

 LOUDSPEAKER

## SELECTION GUIDE OF INSTALLATION

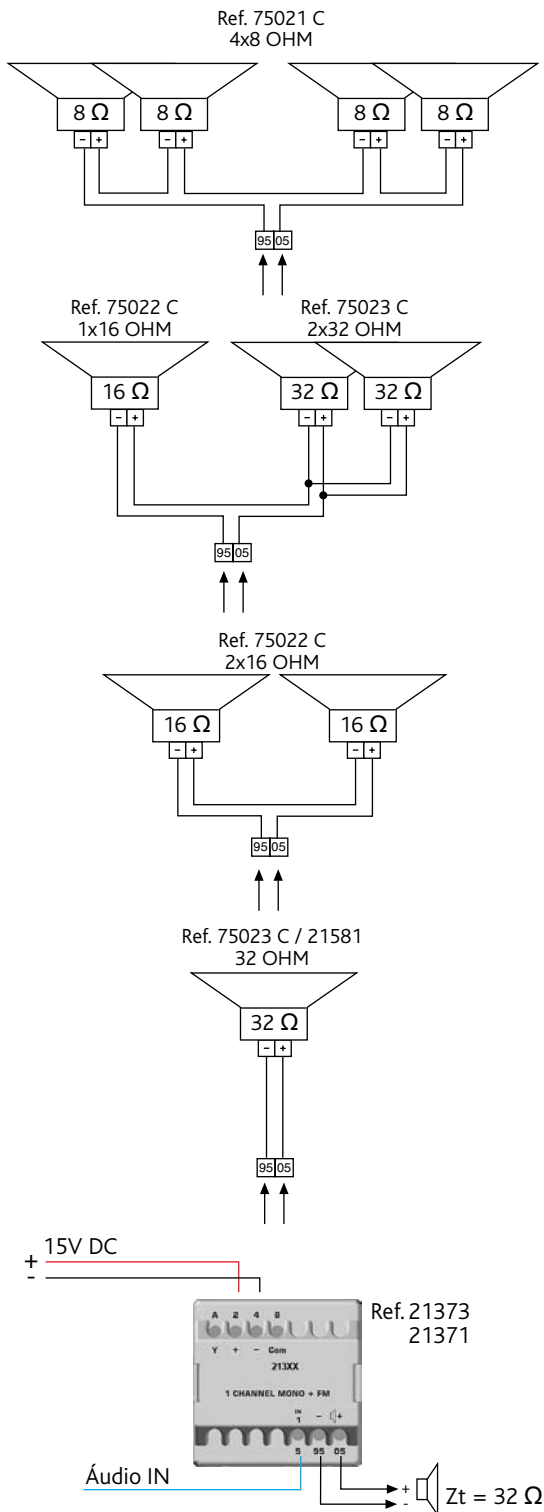
|                                               | POWER SUPPLY                                                                                                                                                                                             |                                                                   |                                                   |                                           |                                                                           |                                   |                                                                                                        |                                                                                     |                                                                             |                                                  |                                                                                                                   |                                    |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------|
|                                               | Power Supply suitable to the number of Sound Control Units<br>(Ref. 21380 - 1 Sound Control Unit; Ref. 75053 - 4 Stereo Sound Control Units/8 mono; Ref. 75052 - 10 Stereo Sound Control Units /20 mono) |                                                                   |                                                   |                                           |                                                                           |                                   |                                                                                                        |                                                                                     |                                                                             |                                                  |                                                                                                                   |                                    |
|                                               | 1 CHANNEL INSTALLATION                                                                                                                                                                                   |                                                                   |                                                   |                                           |                                                                           |                                   | 4 CHANNELS INSTALLATION                                                                                |                                                                                     |                                                                             |                                                  |                                                                                                                   |                                    |
|                                               | 1 Stereo Channel Modular Sound Central Unit<br>(Ref. 21391)                                                                                                                                              |                                                                   |                                                   |                                           | 1 Stereo Channel Modular Sound Central Unit with FM Tuner<br>(Ref. 21392) |                                   | 1 Stereo Channel Modular Sound Central Unit + 3 Auxiliary Stereo Inputs Module<br>(Ref. 21391 + 21393) |                                                                                     |                                                                             |                                                  | 1 Stereo Channel Modular S. Central Unit with FM Tuner + 3 Auxiliary Stereo Inputs Module<br>(Ref. 21392 + 21393) |                                    |
|                                               | STEREO                                                                                                                                                                                                   |                                                                   |                                                   | MONO                                      | STEREO                                                                    | MONO                              | STEREO                                                                                                 |                                                                                     |                                                                             | MONO                                             | STEREO                                                                                                            | MONO                               |
| Sound Control Unit                            | 1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and IR                                                                                                                                    | 1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock | 1 Stereo Channel Sound Control Unit with FM Tuner | 1 Mono Channel Sound Control Unit with FM | 1 Stereo Channel Sound Control Unit                                       | 1 Mono Channel Sound Control Unit | 1 Stereo Ch. Sound C. Unit with FM Tuner, Alarm Clock and IR + 4 Stereo Ch. Selector M.                | 1 Stereo Ch. Sound C. Unit with FM Tuner and Alarm Clock + 4 Stereo Ch. Selector M. | 1 Stereo Ch. Sound C. Unit with FM Tuner + 4 Stereo Channel Selector Module | 4 Mono Channels Sound Control Unit with FM Tuner | 1 Stereo Ch. Sound Control Unit + 4 Stereo Channel Selector Module                                                | 4 Mono Channels Sound Control Unit |
| Reference                                     | 21370                                                                                                                                                                                                    | 21379                                                             | 21377                                             | 21373                                     | 21372                                                                     | 21371                             | 21370 + 21385                                                                                          | 21379 + 21385                                                                       | 21377 + 21385                                                               | 21378                                            | 21372 + 21385                                                                                                     | 21374                              |
| Function                                      |                                                                                                                                                                                                          |                                                                   |                                                   |                                           |                                                                           |                                   |                                                                                                        |                                                                                     |                                                                             |                                                  |                                                                                                                   |                                    |
| Independent FM Tunner.                        | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         |                                                                           |                                   | x                                                                                                      | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Up and Down automatic Scan.                   | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         |                                                                           |                                   | x                                                                                                      | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Manual Scan.                                  | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         |                                                                           |                                   | x                                                                                                      | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Memory of the last selected radio station.    | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         |                                                                           |                                   | x                                                                                                      | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Visualisation of the radio station.           | x                                                                                                                                                                                                        | x                                                                 |                                                   |                                           |                                                                           |                                   | x                                                                                                      | x                                                                                   |                                                                             |                                                  |                                                                                                                   |                                    |
| Auxiliary audio input.<br>(CD or MP3 players) | x                                                                                                                                                                                                        | x                                                                 | x                                                 |                                           | x                                                                         |                                   | x                                                                                                      | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Headphones output.                            |                                                                                                                                                                                                          | x                                                                 | x                                                 |                                           | x                                                                         |                                   |                                                                                                        | x                                                                                   | x                                                                           |                                                  |                                                                                                                   | x                                  |
| Minimum impedance of 32 OHM.                  | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Volume digital control with 30 positions.     | x                                                                                                                                                                                                        | x                                                                 |                                                   |                                           |                                                                           |                                   | x                                                                                                      | x                                                                                   |                                                                             |                                                  |                                                                                                                   |                                    |
| Individual volume.                            | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Volume memory.                                | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| General ON/OFF from the Central Control Unit. | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Digital clock with hour in the display.       | x                                                                                                                                                                                                        | x                                                                 |                                                   |                                           |                                                                           |                                   | x                                                                                                      | x                                                                                   |                                                                             |                                                  |                                                                                                                   |                                    |
| Alarm clock.                                  | x                                                                                                                                                                                                        | x                                                                 |                                                   |                                           |                                                                           |                                   | x                                                                                                      | x                                                                                   |                                                                             |                                                  |                                                                                                                   |                                    |
| Timer until 90 minutes.                       | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Finishings of LOGUS 90 Series.                | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Finishings of Sirius 70 Series.               | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Finishings of Apolo 5000 Series.              | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Finishings of QUADRO 45 Series.               | x                                                                                                                                                                                                        | x                                                                 | x                                                 | x                                         | x                                                                         | x                                 | x                                                                                                      | x                                                                                   | x                                                                           | x                                                | x                                                                                                                 | x                                  |
| Infrared Remote Control.                      | x                                                                                                                                                                                                        |                                                                   |                                                   |                                           |                                                                           |                                   | x                                                                                                      |                                                                                     |                                                                             |                                                  |                                                                                                                   |                                    |

For non centralized installation (without Modular Sound Central Unit), please follow the highlight columns.

## SELECTION GUIDE OF LOUDSPEAKERS

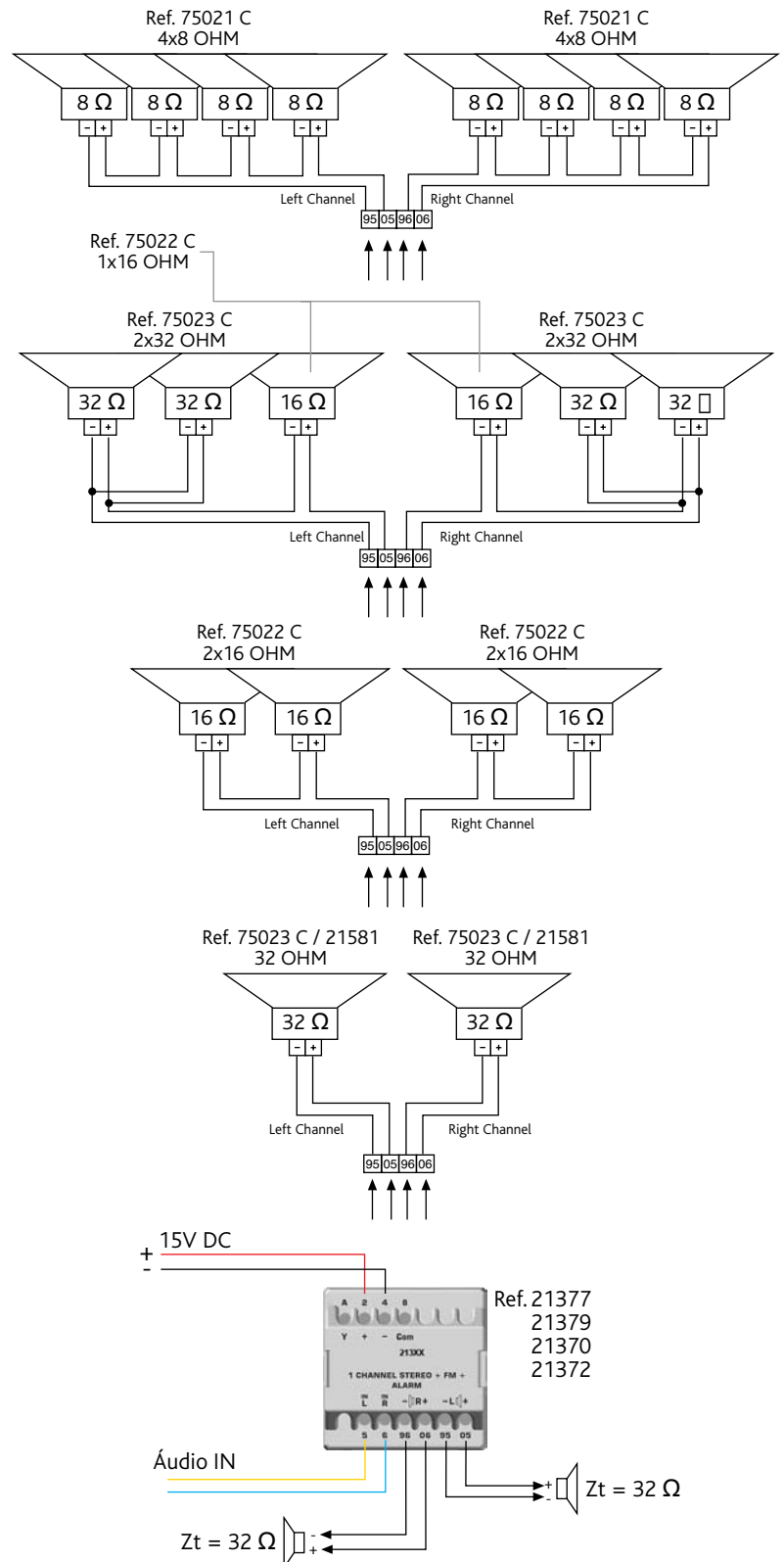
### MONO INSTALLATION

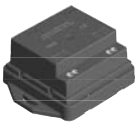
The total impedance of the serial connection must be equal to 32 OHM



### STEREO INSTALLATION

The total impedance of the serial connection per channel must be equal to 32 OHM



| POWER SUPPLIES                                                                                                                                                                                                                                                                                                                                                                                                           |       |          | COVER PLATES                                                                                                                 |         |                      |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|------------------------------------------------------------------------------------------------------------------------------|---------|----------------------|----------|
|                                                                                                                                                                                                                                                                                                                                                                                                                          | Ref.  | Box (Un) |                                                                                                                              | Ref.    | Colour               | Box (Un) |
|  <p><b>Power Supply Module</b><br/>230V~/15Vdc - 5W</p> <ul style="list-style-type: none"> <li>- Input: 230V - 50Hz.</li> <li>- Output: 15V - 5W.</li> <li>- Capacity to supply 1 Mono or Stereo Sound Control Unit.</li> </ul>                                                                                                         | 21380 | 1        |  <p>Cover Plate for Power Supply Module</p> | 90670 T | BR MF GE PE AL IS    | 1        |
|                                                                                                                                                                                                                                                                                                                                                                                                                          |       |          |  <p>Cover Plate for Power Supply Module</p> | 70670 T | BR MF AT             | 1        |
|                                                                                                                                                                                                                                                                                                                                                                                                                          |       |          |  <p>Cover Plate for Power Supply Module</p> | 50670 T | BR MF PT PR GR PL CH | 1        |
|  <p><b>Power Supply 230V~/15Vdc - 30W for DIN Rail Mounting</b></p> <ul style="list-style-type: none"> <li>- Input: 100 to 230V - 50Hz.</li> <li>- Output: 15V - 30W.</li> <li>- Capacity to supply 10 Stereo Sound Control Units or 20 Mono Sound Control Units.</li> </ul>                                                           |       |          |                                                                                                                              | 75052   | -                    | 1        |
|  <p><b>Power Supply 230V~/15Vdc - 12W for Installation in Hollow Ceilings</b></p> <ul style="list-style-type: none"> <li>- Input: 230V - 50Hz.</li> <li>- Output: 15V - 12W.</li> <li>- Possible to mount on the 5" Loudspeaker.</li> <li>- Capacity to supply 4 Stereo Sound Control Units or 8 Mono Sound Control Units.</li> </ul> |       |          |                                                                                                                              | 75053   | -                    | 1        |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

Wiring diagrams from page 204 to 209.

## MODULAR SOUND CENTRAL UNITS

## COVER PLATES

|                                                                                                                                                      | Ref.  | Box (Un) |                                                                                                                                                                      | Ref.    | Colour               | Box (Un) |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------|----------|
|  <p>1 Stereo Channel Modular Sound Central Unit</p>                 | 21391 | 1        |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit</p>                 | 90851 T | BR MF GE PE AL IS    | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit</p>                 | 70851 T | BR MF AT             | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit</p>                 | 50851 T | BR MF PT PR GR PL CH | 1        |
|  <p>1 Stereo Channel Modular Sound Central Unit with FM Tuner</p> | 21392 | 1        |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit with FM Tuner</p>  | 90852 T | BR MF GE PE AL IS    | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit with FM Tuner</p> | 70852 T | BR MF AT             | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 1 Stereo Channel Modular Sound Central Unit with FM Tuner</p> | 50852 T | BR MF PT PR GR PL CH | 1        |
|  <p>3 Stereo Channel Auxiliary Input Module</p>                   | 21393 | 1        |  <p>Cover Plate for 3 Stereo Channel Auxiliary Input Module</p>                   | 90853 T | BR MF GE PE AL IS    | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 3 Stereo Channel Auxiliary Input Module</p>                   | 70853 T | BR MF AT             | 1        |
|                                                                                                                                                      |       |          |  <p>Cover Plate for 3 Stereo Channel Auxiliary Input Module</p>                   | 50853 T | BR MF PT PR GR PL CH | 1        |

### Legend:

T – Rocker, Cover Plate or Frame.

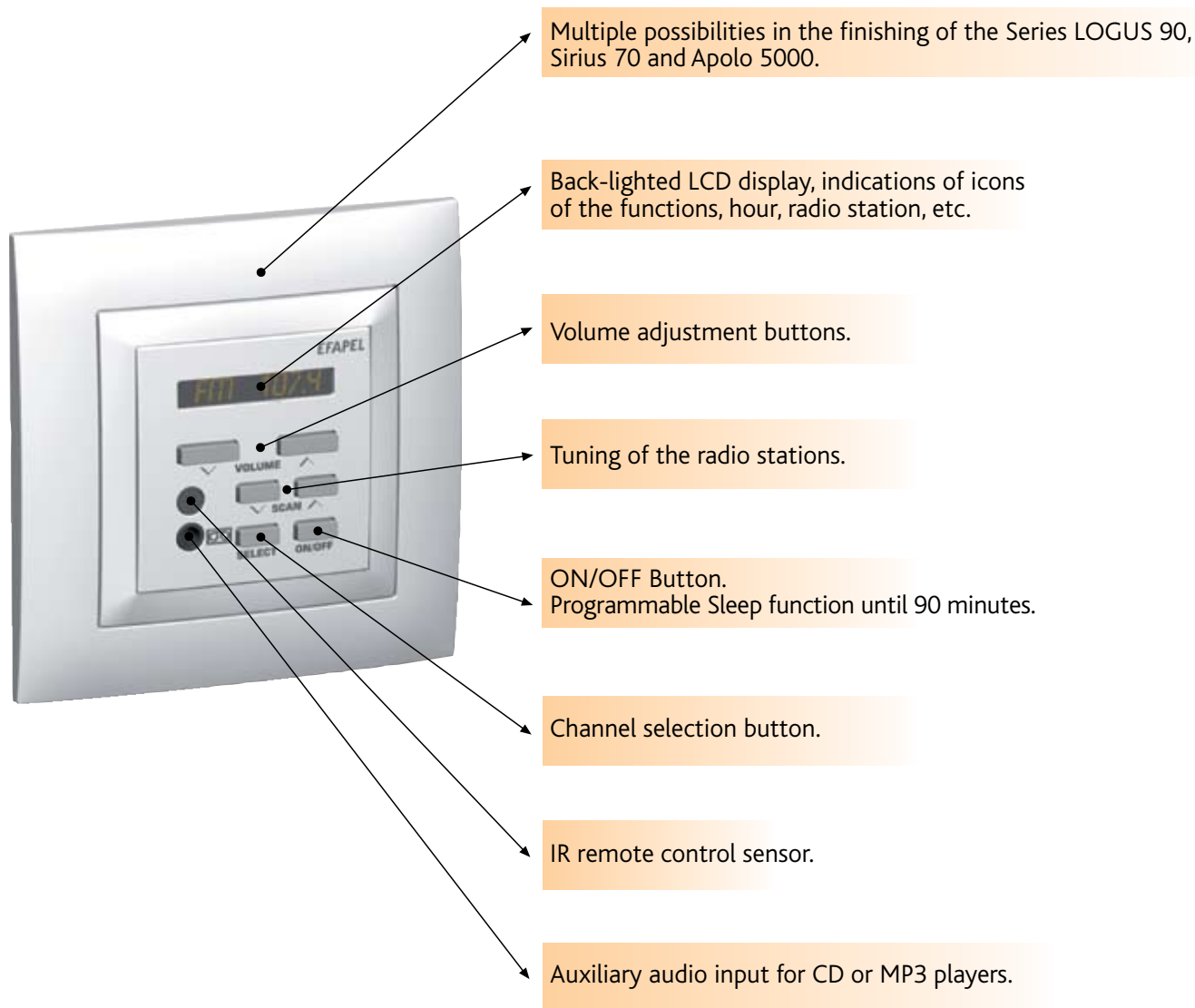
BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).

Wiring diagrams from page 204 to 209.

### Main Characteristics:

1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control



| FM SOUND CONTROL UNITS                                                                                                                                                              |       |          | COVER PLATES                                                                                                                                                                                        |         |                         |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
|                                                                                                                                                                                     | Ref.  | Box (Un) |                                                                                                                                                                                                     | Ref.    | Colour                  | Box (Un) |
|  <p>1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control</p> | 21370 | 1        |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control</p> | 90715 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control</p> | 70715 T | BR MF AT                | 2        |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control</p> | 50715 T | BR MF PT<br>PR GR PL CH | 2<br>1   |
|  <p>1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock</p>                        | 21379 | 1        |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock</p>                         | 90709 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock</p>                        | 70709 T | BR MF AT                | 2        |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock</p>                        | 50709 T | BR MF PT<br>PR GR PL CH | 2<br>1   |
|  <p>1 Stereo Channel Sound Control Unit with FM Tuner</p>                                        | 21377 | 1        |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner</p>                                        | 90707 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner</p>                                        | 70707 T | BR MF AT                | 2        |
|                                                                                                                                                                                     |       |          |  <p>Cover Plate for 1 Stereo Channel Sound Control Unit with FM Tuner</p>                                        | 50707 T | BR MF PT<br>PR GR PL CH | 2<br>1   |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).

Wiring diagrams from page 204 to 209.

| FM SOUND CONTROL UNITS                                                                                                                      |       |          | COVER PLATES                                                                                                                                                |         |                         |          |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
|                                                                                                                                             | Ref.  | Box (Un) |                                                                                                                                                             | Ref.    | Colour                  | Box (Un) |
|  <p>1 Mono Channel Sound Control Unit with FM Tuner</p>    | 21373 | 1        |  <p>Cover Plate for 1 Mono Channel Sound Control Unit with FM Tuner</p>    | 90703 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                             |       |          |  <p>Cover Plate for 1 Mono Channel Sound Control Unit with FM Tuner</p>    | 70703 T | BR MF AT                | 2        |
|                                                                                                                                             |       |          |  <p>Cover Plate for 1 Mono Channel Sound Control Unit with FM Tuner</p>    | 50703 T | BR MF PT<br>PR GR PL CH | 2<br>1   |
|  <p>4 Mono Channels Sound Control Unit with FM Tuner</p> | 21378 | 1        |  <p>Cover Plate for 4 Mono Channels Sound Control Unit with FM Tuner</p>  | 90708 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                             |       |          |  <p>Cover Plate for 4 Mono Channels Sound Control Unit with FM Tuner</p> | 70708 T | BR MF AT                | 2        |
|                                                                                                                                             |       |          |  <p>Cover Plate for 4 Mono Channels Sound Control Unit with FM Tuner</p> | 50708 T | BR MF PT<br>PR GR PL CH | 2<br>1   |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).

Wiring diagrams from page 204 to 209.

| SOUND CONTROL UNITS                                                                |       |          | COVER PLATES                                                                        |         |                      |          |
|------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|---------|----------------------|----------|
|                                                                                    | Ref.  | Box (Un) |                                                                                     | Ref.    | Colour               | Box (Un) |
|    | 21372 | 1        |    | 90702 T | BR MF GE PE AL IS    | 2<br>1   |
|                                                                                    |       |          |    | 70702 T | BR MF AT             | 2        |
|                                                                                    |       |          |    | 50702 T | BR MF PT PR GR PL CH | 2<br>1   |
|  | 21371 | 1        |   | 90700 T | BR MF GE PE AL IS    | 2<br>1   |
|                                                                                    |       |          |  | 70700 T | BR MF AT             | 2        |
|                                                                                    |       |          |  | 50700 T | BR MF PT PR GR PL CH | 2<br>1   |
|  | 21374 | 1        |  | 90704 T | BR MF GE PE AL IS    | 2<br>1   |
|                                                                                    |       |          |  | 70704 T | BR MF AT             | 2        |
|                                                                                    |       |          |  | 50704 T | BR MF PT PR GR PL CH | 2<br>1   |

#### Legend:

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).

Wiring diagrams from page 204 to 209.

| COMPLEMENTARY SOUND CONTROL UNITS                                                                                                                                                                                                                                                 |       |          | COVER PLATES                                                                                                                               |         |                         |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------|----------|
|                                                                                                                                                                                                                                                                                   | Ref.  | Box (Un) |                                                                                                                                            | Ref.    | Colour                  | Box (Un) |
|  <p><b>4 Stereo Channels Selector Module</b><br/>(To be installed with the 1 Stereo Channel Sound Control Unit in Modular Sound Central Units with 3 Stereo Channel Auxiliary Input Module.)</p> | 21385 | 1        |  <p>Cover Plate for 4 Stereo Channels Selector Module</p> | 90705 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                                                                                                                                                                   |       |          |  <p>Cover Plate for 4 Stereo Channels Selector Module</p> | 70705 T | BR MF AT                | 2        |
|                                                                                                                                                                                                                                                                                   |       |          |  <p>Cover Plate for 4 Stereo Channels Selector Module</p> | 50705 T | BR MF PT<br>PR GR PL CH | 2<br>1   |
|  <p><b>Digital Volume Control Module</b></p>                                                                                                                                                   | 21386 | 1        |  <p>Cover Plate for Digital Volume Control Module</p>    | 90706 T | BR MF<br>GE PE AL IS    | 2<br>1   |
|                                                                                                                                                                                                                                                                                   |       |          |  <p>Cover Plate for Digital Volume Control Module</p>   | 70706 T | BR MF AT                | 2        |
|                                                                                                                                                                                                                                                                                   |       |          |  <p>Cover Plate for Digital Volume Control Module</p>   | 50706 T | BR MF PT<br>PR GR PL CH | 2<br>1   |

**Legend:**

T – Rocker, Cover Plate or Frame.

BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.

To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).

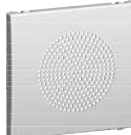
Wiring diagrams from page 204 to 209.

LOUDSPEAKERS



Characteristics:

**Two Dimensions:** 2" and 5";  
**Maximum Power:** 2"-10W, 5"-30W;  
**Frequency Response:** 450 to 5000Hz (2"), 70 to 15000Hz (5").

| FLUSH MOUNTING LOUDSPEAKERS OF 2"                                                                             |       |          | COVER PLATES                                                                        |                                          |         |                      |          |
|---------------------------------------------------------------------------------------------------------------|-------|----------|-------------------------------------------------------------------------------------|------------------------------------------|---------|----------------------|----------|
|                                                                                                               | Ref.  | Box (Un) |                                                                                     |                                          | Ref.    | Colour               | Box (Un) |
|  Loudspeaker of 2"- 32 OHM | 21581 | 1        |  | Cover Plate for Loudspeaker of 2" 32 OHM | 90710 T | BR MF GE PE AL IS    | 2 1      |
|                                                                                                               |       |          |  | Cover Plate for Loudspeaker of 2" 32 OHM | 70710 T | BR MF AT             | 2        |
|                                                                                                               |       |          |  | Cover Plate for Loudspeaker of 2" 32 OHM | 50710 T | BR MF PT PR GR PL CH | 2 1      |

**Legend:**  
T – Rocker, Cover Plate or Frame.  
BR – White; MF – Ivory; AT – Anthracite; PT – Black; GE – Ice; PE – Pearl; AL – Aluminium; IS – Gray; PR – Silver; GR – Graphite; PL – Platinum; CH – Champagne.  
The total impedance of the Loudspeakers connected to one Sound Control Unit must be 32 OHM.  
To choose the proper frames, please consult the LOGUS 90 Series (page 36 to 38), the Sirius 70 Series (page 57 to 61) and the Apolo 5000 Series (page 77).  
Wiring diagrams from page 204 to 209.

## FLUSH MOUNTING LOUDSPEAKERS OF 5"



Loudspeaker of 5" - 32 OHM for Ceiling Mounting

| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75023 C | BR MF  | 1        |



Loudspeaker of 5" - 16 OHM for Ceiling Mounting

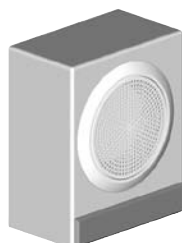
| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75022 C | BR MF  | 1        |



Loudspeaker of 5" - 8 OHM for Ceiling Mounting

| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75021 C | BR MF  | 1        |

## SURFACE MOUNTING LOUDSPEAKERS OF 5"



Acoustic Box with a Loudspeaker of 5" - 32 OHM

| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75026 C | BR     | 1        |



Acoustic Box with a Loudspeaker of 5" - 16 OHM

| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75025 C | BR     | 1        |



Acoustic Box with a Loudspeaker of 5" - 8 OHM

| Ref.    | Colour | Box (Un) |
|---------|--------|----------|
| 75024 C | BR     | 1        |

### Legend:

C – Complete Device.

BR – White; MF – Ivory.

Dimensions (mm): L=210, H=255, D=120

Wiring diagrams from page 204 to 209.

## ACCESSORIES



### Stereo / Mono Amplifier

- Output Power: Stereo: 5W + 5W (4 OHM); Mono: 8W (8 OHM)
- Alimentation: 16Vcc
- Function: Stand by
- Possible to mount on the Loudspeaker of 5".
- Amplifies the audio signal coming from a Sound Control Unit allowing connecting from 8 to 16 Loudspeakers to a Mono Sound Control Unit and from 10 to 16 Loudspeakers to a Stereo Sound Control Unit.

Wiring diagrams from page 208 and 209.

| Ref. | Colour | Box (Un) |
|------|--------|----------|
|------|--------|----------|

|       |   |   |
|-------|---|---|
| 75032 | - | 1 |
|-------|---|---|



### Flush Mounting Ceiling Box for Loudspeakers of 5"

Dimensions (mm):  $\varnothing=165$ , P=64

|       |   |    |
|-------|---|----|
| 75983 | - | 10 |
|-------|---|----|



### Flush Mounting Deep Ceiling Box for Loudspeakers of 5" and Stereo/Mono Amplifiers

Dimensions (mm):  $\varnothing=165$ , P=92

|       |   |    |
|-------|---|----|
| 75984 | - | 10 |
|-------|---|----|



### Lid to Pre-installation for Loudspeakers of 5"

Dimensions (mm):  $\varnothing=173$

|         |    |   |
|---------|----|---|
| 75999 A | BR | 2 |
|---------|----|---|

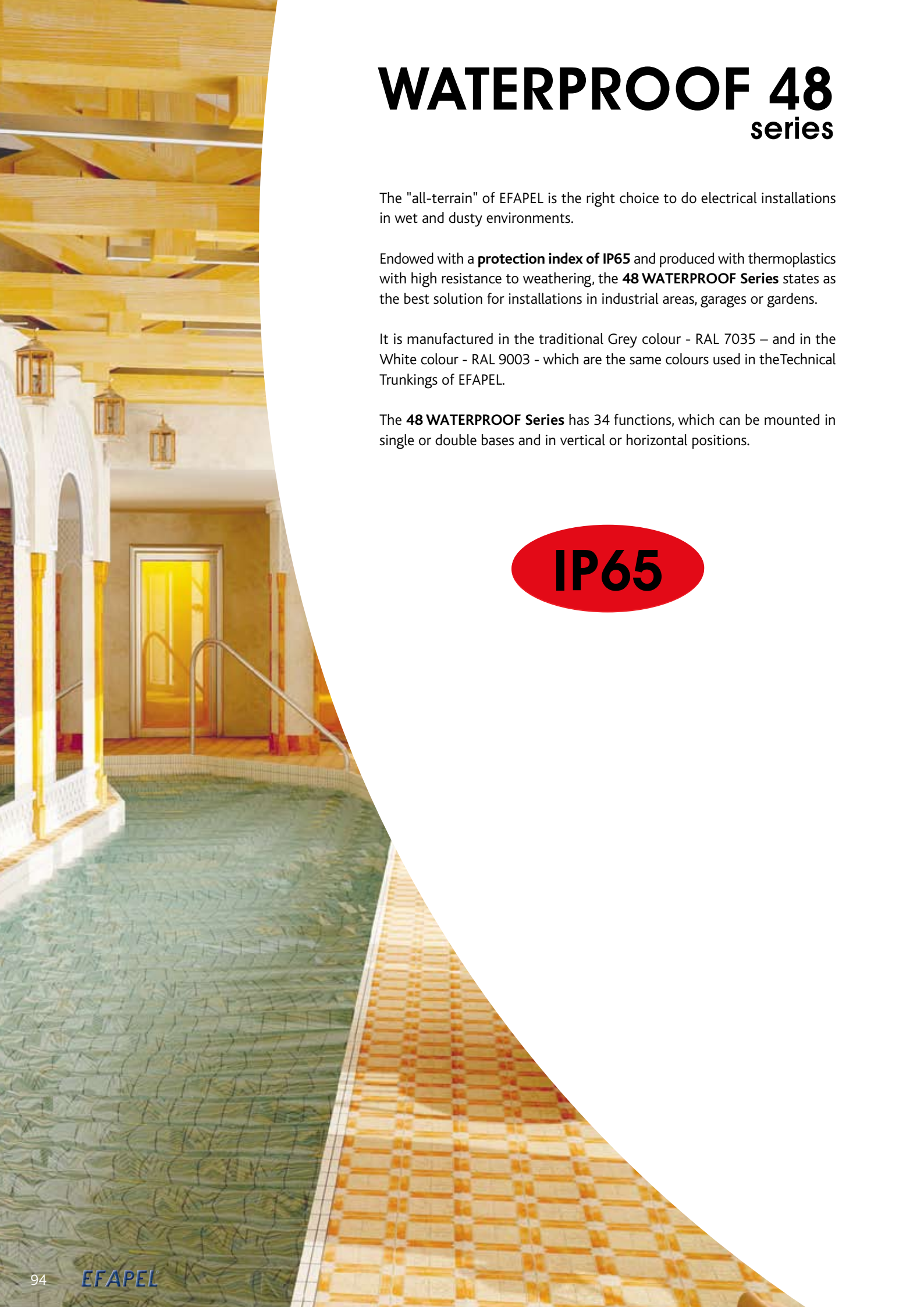


### Infrared Remote Control Transmitter for Sound System

For FM Sound Control Unit - Ref. 21370

|       |   |   |
|-------|---|---|
| 75985 | - | 1 |
|-------|---|---|

**Legend:**  
A – Accessory.  
BR – White;



# WATERPROOF 48 series

The "all-terrain" of EFAPEL is the right choice to do electrical installations in wet and dusty environments.

Endowed with a **protection index of IP65** and produced with thermoplastics with high resistance to weathering, the **48 WATERPROOF Series** states as the best solution for installations in industrial areas, garages or gardens.

It is manufactured in the traditional Grey colour - RAL 7035 – and in the White colour - RAL 9003 - which are the same colours used in the Technical Trunkings of EFAPEL.

The **48 WATERPROOF Series** has 34 functions, which can be mounted in single or double bases and in vertical or horizontal positions.

**IP65**



**BR** - White



**CZ** - Grey



**NEW**

All the control devices (Single switches, Two-way switches, etc.) were designed and are manufactured for a rated current of 16A.

# WATERPROOF 48 series

IP65

## CONTROL DEVICES

|                                                                                     |                                                        | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|--------------------------------------------------------|---------|--------|----------|
|    | Single Pole Switch<br>16A - 250V                       | 48011 C | CZ BR  | 10       |
|    | Single Pole Switch with Orienting Light<br>16A - 250V  | 48012 C | CZ BR  | 10       |
|    | Single Pole Switch with Pilot Lamp<br>16A - 250V       | 48013 C | CZ BR  | 10       |
|    | Two-pole Switch<br>16A - 250V                          | 48021 C | CZ BR  | 10       |
|    | Two-pole Switch with Pilot Lamp<br>16A - 250V          | 48023 C | CZ BR  | 10       |
|   | Intermediate Switch<br>16A - 250V                      | 48051 C | CZ BR  | 10       |
|  | Intermediate Switch with Orienting Light<br>16A - 250V | 48052 C | CZ BR  | 10       |
|  | Two Circuits Switch<br>16A - 250V                      | 48061 C | CZ BR  | 10       |
|  | Two-way Switch<br>16A - 250V                           | 48071 C | CZ BR  | 10       |
|  | Two-way Switch with Orienting Light<br>16A - 250V      | 48072 C | CZ BR  | 10       |
|  | Two-way Switch with Pilot Lamp<br>16A - 250V           | 48073 C | CZ BR  | 10       |
|  | Double Two-way Switch<br>16A - 250V                    | 48101 C | CZ BR  | 10       |
|  | Rocker Push-button<br>16A - 250V                       | 48151 C | CZ BR  | 10       |

### Legend:

C – Complete Device.

CZ – Grey; BR – White.

Wiring diagrams on pages 202 and 203.

## CONTROL DEVICES

|                                                                                    |                                                                                                                                                                             | Ref.    | Colour | Box<br>(Un) |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|-------------|
|   | Rocker Push-button with Orienting Light (250V)<br>16A - 250V                                                                                                                | 48152 C | CZ BR  | 10          |
|   | Rocker Push-button with Orienting Light (12V)<br>16A - 250V                                                                                                                 | 48162 C | CZ BR  | 10          |
|   | Venetian Double Push-button<br>16A - 250V<br>With electrical blockage.                                                                                                      | 48281 C | CZ BR  | 10          |
|   | Venetian Double Push-button for multiple Point Blinds Control<br>16A - 250V<br>- With electrical blockage.<br>- Allows the control of the motor from one or several points. | 48283 C | CZ BR  | 10          |
|   | Venetian Switch<br>16A - 250V<br>With mechanical and electrical blockage.                                                                                                   | 48290 C | CZ BR  | 10          |
|  | Venetian Switch with Mechanical Blockage<br>16A - 250V<br>With mechanical and electrical blockage.                                                                          | 48291 C | CZ BR  | 10          |

## SOCKETS

|                                                                                     |                                                 | Ref.                  | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------|--------|-------------|
|  | Safety Earth Socket (French Type)<br>16A - 250V | 48112 C               | CZ BR  | 10          |
|  | Safety Single Phase Socket<br>16A - 250V        | 48122 C               | CZ BR  | 10          |
|  | Earth Socket (Schuko Type)<br>16A - 250V        | 48131 C               | CZ BR  | 10          |
|  | Safety Earth Socket (Schuko Type)<br>16A - 250V | <b>NEW</b><br>48132 C | CZ BR  | 10          |

**Legend:**
**C** – Complete Device.

**CZ** – Grey; **BR** – White.

Wiring diagrams on pages 202 and 203.

# WATERPROOF 48 series

**IP65**

## SOCKETS

|                                                                                     |                                                                                            | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------|--------|----------|
|    | Safety Ceramic Earth Socket (French Type)<br>16A - 250V                                    | 48472 C | CZ BR  | 10       |
|    | Safety Ceramic Single Phase Socket<br>16A - 250V                                           | 48482 C | CZ BR  | 10       |
|    | Ceramic Earth Socket (Schuko Type)<br>16A - 250V                                           | 48491 C | CZ BR  | 10       |
|   | Two-way Switch + Earth Socket (Schuko type) in a Double Vertical Base<br>16A - 250V        | 48861 C | CZ BR  | 5        |
|  | Two-way Switch + Safety Earth Socket (Schuko type) in a Double Vertical Base<br>16A - 250V | 48866 C | CZ BR  | 5        |
|  | Two Earth Sockets (Schuko type) in a Double Horizontal Base<br>16A - 250V                  | 48862 C | CZ BR  | 5        |
|  | Two Safety Earth Sockets (Schuko type) in a Double Horizontal Base<br>16A - 250V           | 48865 C | CZ BR  | 5        |

### Legend:

C – Complete Device.

CZ – Grey; BR – White.

Wiring diagrams on pages 202 and 203.

## OTHER PRODUCTS



Transparent Pilot Light (High Height)  
Max. 5W / 250V (E14)  
To be used with Lamp ref. 81011 (page 183).

Ref.

Colour

Box  
(Un)

48361 C

ZI ZR ZV ZM  
BI BJ BV BM

2



Transparent Pilot Light (Low Height)  
Max. 5W / 250V (E14)  
To be used with Lamp ref. 81012 (page 183).

48362 C

ZI ZR ZV ZM  
BI BJ BV BM

2



Interface for Telephone Bell  
From 0,045A to 1,3A 230V.

48461 C

CZ BR

5



Box for Push-button Devices of ø22 mm  
The Protection Degree of the Box for Equipments ø22 (IP65) is guaranteed only  
when using control and signalling devices whose Protection Degree is not lower.

48992 A

CZ BR

10



Single Base

NEW

48990 A

CZ BR

5



Double Horizontal Base

NEW

48994 A

CZ BR

5



Double Vertical Base

NEW

48995 A

CZ BR

5

## Legend:

A – Accessory; C – Complete Device.

CZ – Grey; BR – White.

Pilot Lights: ZI – Grey/Colourless; ZR – Grey/Orange; ZV – Grey/Green; ZM – Grey/Red; BI – White/Colourless; BJ – White/Orange; BV – White/Green; BM – White/Red.



Transparent Pilot Light (High Height)



Transparent Pilot Light (Low Height)

# 2600 Series

The **2600 Series** is characterized by its ease assembly and it is ideal for carrying out surface mounting electrical installations in works of remodelling of houses.

Simple and discreet, it is the right choice for rustic environments.

The **Series 2600** has 17 functions.



MF - Ivory



## CONTROL DEVICES

|                                                                                     |                                                             | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------|---------|--------|----------|
|    | Single Pole Switch<br>10A - 250V                            | 26011 C | MF     | 10       |
|    | Two-Pole Switch<br>10A - 250V                               | 26021 C | MF     | 10       |
|    | Intermediate Switch<br>10A - 250V                           | 26051 C | MF     | 10       |
|    | Two Circuits Switch<br>10A - 250V                           | 26061 C | MF     | 10       |
|    | Two-way Switch<br>10A - 250V                                | 26071 C | MF     | 10       |
|    | Double Two-way Switch<br>10A - 250V                         | 26101 C | MF     | 10       |
|    | Push-button Switch<br>10A - 250V                            | 26157 C | MF     | 10       |
|   | Push-button Switch with Orienting Light (250V)<br>2A - 250V | 26158 C | MF     | 10       |
|  | Push-button Switch with Orienting Light (12V)<br>6A - 12V   | 26168 C | MF     | 10       |

## SOCKETS

|                                                                                     |                                                         | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|---------|--------|----------|
|  | Single Phase Socket<br>16A - 250V                       | 26121 C | MF     | 10       |
|  | Safety Single Phase Socket<br>16A - 250V                | 26122 C | MF     | 10       |
|  | Earth Socket (Schuko type)<br>16A - 250V                | 26131 C | MF     | 10       |
|  | Safety Earth Socket (Schuko type)<br>16A - 250V         | 26132 C | MF     | 10       |
|  | Ceramic Single Phase Socket<br>16A - 250V               | 26481 C | MF     | 10       |
|  | Safety Ceramic Single Phase Socket<br>16A - 250V        | 26482 C | MF     | 10       |
|  | Ceramic Earth Socket (Schuko type)<br>16A - 250V        | 26491 C | MF     | 10       |
|  | Safety Ceramic Earth Socket (Schuko type)<br>16A - 250V | 26492 C | MF     | 10       |

### Legend:

C – Complete Device.

MF – Ivory.

The 2600 Series must be used with "patère" in insulating material.  
Wiring Diagrams on page 200 and 201.

# 3700 Series

The **3700 Series** is distinguished by its discreet design and functionality.

With a wide range of functions (40 functions), it is the practical option for the professional or institutional environments such as offices, schools and services, where is required functionality and versatility.

Made in the White colour - RAL 9003 – it can also be applied together with the 10 Series of Cable-trunkings for electrical installations and telecommunications and in surface mounting electrical installations.



BR - White



# 3700 Series

## CONTROL DEVICES

|                                                                                     |                                                                           | Ref.    | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|--------|-------------|
|    | Single Pole Switch<br>10A - 250V                                          | 37011 C | BR     | 10          |
|    | Single Pole Switch with Orienting Light<br>10A - 250V                     | 37012 C | BR     | 10          |
|    | Single Pole Switch with Pilot Lamp<br>10A - 250V                          | 37013 C | BR     | 10          |
|    | Intermediate Switch<br>10A - 250V                                         | 37051 C | BR     | 10          |
|    | Two Circuits Switch<br>10A - 250V                                         | 37061 C | BR     | 10          |
|    | Two-way Switch<br>10A - 250V                                              | 37071 C | BR     | 10          |
|   | Two-way Switch with Orienting Light<br>10A - 250V                         | 37072 C | BR     | 10          |
|  | Two-way Switch with Pilot Lamp<br>10A - 250V                              | 37073 C | BR     | 10          |
|  | Double Two-way Switch<br>10A - 250V                                       | 37101 C | BR     | 10          |
|  | Rocker Push-button Switch<br>10A - 250V                                   | 37151 C | BR     | 10          |
|  | Rocker Push-button Switch with Orienting Light<br>10A - 250V              | 37152 C | BR     | 10          |
|  | Push-button Switch<br>2A - 250V                                           | 37157 C | BR     | 10          |
|  | Push-button Switch with Orienting Light (250V)<br>2A - 250V               | 37158 C | BR     | 10          |
|  | Push-button Switch with Orienting Light (12V)<br>6A - 12V                 | 37168 C | BR     | 10          |
|  | Venetian Double Push-button<br>10A - 250V<br>With electrical blockage.    | 37281 C | BR     | 10          |
|  | Venetian Switch<br>10A - 250V<br>With mechanical and electrical blockage. | 37290 C | BR     | 10          |

### Legend:

C – Complete Device.

BR – White.

Wiring Diagrams on page 200 and 201.

# 3700 Series

| SOCKETS                                                                             |                                                 |         |          |             |
|-------------------------------------------------------------------------------------|-------------------------------------------------|---------|----------|-------------|
|                                                                                     |                                                 | Ref.    | Colour   | Box<br>(Un) |
|    | Earth Socket (French Type)<br>16A - 250V        | 37111 C | BR       | 10          |
|    | Safety Earth Socket (French Type)<br>16A - 250V | 37112 C | BR       | 10          |
|    | Single Phase Socket<br>16A - 250V               | 37121 C | BR       | 10          |
|    | Safety Single Phase Socket<br>16A - 250V        | 37122 C | BR       | 10          |
|  | Earth Socket (Schuko Type)<br>16A - 250V        | 37131 C | BR LR VM | 10          |
|  | Safety Earth Socket (Schuko Type)<br>16A - 250V | 37132 C | BR LR VM | 10          |

| TERMINAL BOX                                                                        |                                     |         |        |          |
|-------------------------------------------------------------------------------------|-------------------------------------|---------|--------|----------|
|                                                                                     |                                     | Ref.    | Colour | Box (Un) |
|  | Terminal Box<br>Without Connectors. | 37170 C | BR     | 10       |
|  | Junction Box<br>4 x 2,5mm2.         | 37201 C | BR     | 10       |

**Legend:**  
 C – Complete Device.  
 BR – White; LR – Orange; VM – Red.

# 3700 Series

## TELEPHONE SOCKETS

|                                                                                    |                                     | Ref.    | Colour | Box<br>(Un) |
|------------------------------------------------------------------------------------|-------------------------------------|---------|--------|-------------|
| 50V---70V~                                                                         |                                     |         |        |             |
|   | Telephone Socket (RITA)             | 37251 C | BR     | 10          |
|   | Telephone Socket (4 Conductors)     | 37252 C | BR     | 10          |
|   | Telephone Socket (6 Conductors)     | 37253 C | BR     | 10          |
|   | GEL Telephone Socket (4 Conductors) | 37255 C | BR     | 10          |
| 8 contacts                                                                         |                                     |         |        |             |
|  | T8 French Telephone Socket          | 37411 C | BR     | 10          |

## VOICE AND DATA SOCKETS

|                                                                                     |                                        | Ref.    | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|----------------------------------------|---------|--------|-------------|
|  | Single RJ45 Computer Socket Cat 5e UTP | 37453 C | BR     | 10          |
|  | Single RJ45 Computer Socket Cat 6 UTP  | 37455 C | BR     | 10          |
|  | Single RJ45 Computer Socket Cat 5e FTP | 37443 C | BR     | 10          |
|  | Single RJ45 Computer Socket Cat 6 FTP  | 37445 C | BR     | 10          |
|  | Single Fibre Computer ST Type Socket   | 37457 C | BR     | 10          |

### Legend:

C – Complete Device.

BR – White.

Voice and Data Sockets - Technical Information from page 218 to 220.

# 3700 Series

## RADIO, TELEVISION AND SATELLITE SOCKETS

|  |                                                                                                                                                                                                                                    | Ref.    | Colour | Box (Un) |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|----------|
|  | <b>Equalized R - TV Socket for Star Connection (Terminal Type)</b><br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 0,5dB                                                                                          | 37531 C | BR     | 10       |
|  | <b>Equalized R - TV Socket for Series Connection (Crossover Type)</b><br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 6dB<br>- Flow ≤ 2dB                                                                         | 37532 C | BR     | 10       |
|  | <b>R TV - SAT Socket for Star Connection</b><br>- Coaxial Connector ø 9,5<br>- 4 - 470 MHz<br>- Attenuation ≤ 1dB<br>- 470 - 822 MHz<br>- Attenuation ≤ 2dB<br>- 822 - 862 MHz<br>- Attenuation ≤ 6dB<br>- Current Flow 500mA (DC) | 37550 C | BR     | 10       |
|  | <b>Coaxial F Computer Socket</b>                                                                                                                                                                                                   | 37431 C | BR     | 1        |

## MUSIC SOCKETS AND PILOT LIGHTS

|  |                                                                                           | Ref.    | Colour      | Box (Un) |
|--|-------------------------------------------------------------------------------------------|---------|-------------|----------|
|  | <b>Stereo Music Socket</b><br>Connector DIN 41529                                         | 37221 C | BR          | 10       |
|  | <b>Pilot Light</b><br>To be used with Lamp ref. 81012 (pag. 183).<br>Máx. 5W / 250V (E14) | 37360 C | BI BJ BV BM | 2        |

### Legend:

**A** – Accessory; **C** – Complete Device.

**BR** – White; **BI** – White/Colourless; **BJ** – White/Orange; **BV** – White/Green; **BM** – White/Red.  
 Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

# 3700 Series

## ADAPTER TO 10 SERIES TRUNKINGS

|                                                                                     |                                                   | Ref.    | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|---------------------------------------------------|---------|--------|-------------|
|    | Adapter for 3700 Series for 12x7 Trunking         | 10017 A | BR     | 20          |
|    | Adapter for 3700 Series for 16x7 Trunking         | 10027 A | BR     | 20          |
|    | Adapter for 3700 Series for 20x12,5 Trunking      | 10037 A | BR     | 20          |
|   | Adapter for 3700 Series for 32x16 Trunking        | 10047 A | BR     | 20          |
|  | Adapter for 3700 Series for 40x12,5 Trunking      | 10057 A | BR     | 20          |
|  | Adapter for 3700 Series for 40x16 Trunking        | 10067 A | BR     | 10          |
|  | Adapter for 3700 Series for 60x16 Trunking        | 10077 A | BR     | 10          |
|  | Adapter for 3700 Series for 110x20 Skirt Trunking | 10107 A | BR     | 4           |
|  | Adapter for 3700 Series for 75x20 Trunking        | 10147 A | BR     | 10          |

### Legend:

**A** – Accessory.  
**BR** – White.

See 10 Series - Cable-trunkings for Electrical Installations and Telecommunications - Miniature Cable-trunkings (from page 128 to 131) and Skirt Cable-trunkings (pages 132 and 133).

# QUADRO 45 series

A Professional Solution for Professionals.

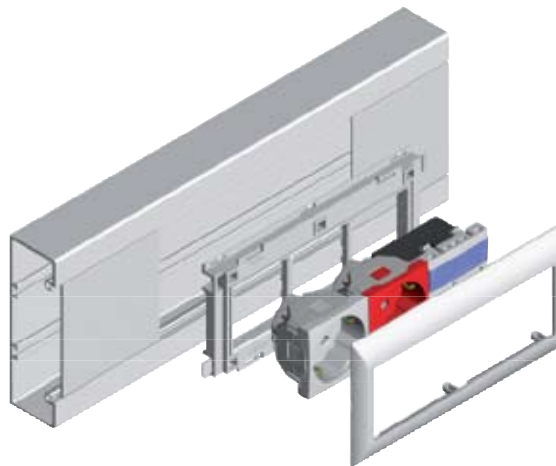
The **QUADRO 45 Series** is a simple and practical option for the installation of electrical products in Technical Trunkings.

The Series has a range of products on the square format of 45x45mm and its various adapters allow their easy installation in the cable-trunkings of the 10 and 16 Series of EFAPEL.

It highlights the Pre-cabled Double and Triple Socket Blocks which makes easy and reduces the assembly time.

The **QUADRO 45 Series** also has Side and Frontal Adapters (singles, doubles and triples).

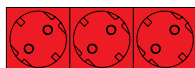
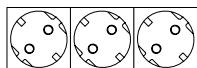
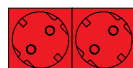
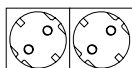
Example of the Assembly Sequence



**NEW**

## Pre-cabled Double and Triple Sockets

### •Semi-assembled Sockets



### •Assembled Sockets

**Complete Product = Sockets + Adapter for Trunkings**



#### Main Characteristics:

- Available with and without electrical shock protection ("child protection");
- Available in 2 colours (White and Red) for an easy identification of special circuits;
- Available with our without adapters for cable-trunkings with covers of 60mm (L60) and 75mm (L75) width;
- Possible to mount in horizontal and vertical position in the Double and Triple versions;
- Pre-cabled with connections in both ends for save time during the installation;
- Cables with standard colours for an easy identification of the circuits;
- Outlets tilted 45° for the insertion of plugs with cables at 90° allowing a better organization of the cables in the vertical mounting of the sockets;
- Connections of cables with screw terminals: Allows the use of rigid and flexible cables.

## SOCKETS

|                                                                                     |                                                                                                              | Ref.                  | Colour      | Box (Un) |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------|-------------|----------|
|    | Earth Socket (Schuko Type)<br>16A - 250V                                                                     | 45131 S               | BR LR VD VM | 10       |
|    | Safety Earth Socket (Schuko Type)<br>16A - 250V                                                              | 45132 S               | BR LR VD VM | 10       |
|    | Earth Socket (Schuko Type) with Blockage<br>16A - 250V<br>With electrical shock protection.                  | 45136 S               | VM          | 10       |
|    | Earth Socket (Schuko Type) with Blockage and Signal Light<br>16A - 250V<br>With electrical shock protection. | 45137 S               | VM          | 10       |
|    | Earth Socket (French Type)<br>16A - 250V                                                                     | 45111 S               | BR LR VD VM | 10       |
|    | Safety Earth Socket (French Type)<br>16A - 250V                                                              | 45112 S               | BR LR VD VM | 10       |
|   | Earth Socket (French Type) with Blockage<br>16A - 250V<br>With electrical shock protection.                  | 45116 S               | VM          | 10       |
|  | Earth Socket (French Type) with Blockage and Signal Light<br>16A - 250V<br>With electrical shock protection. | 45117 S               | VM          | 10       |
|  | Earth Socket (Euro-USA Type)<br>15A - 127V/16A - 250V                                                        | <b>NEW</b><br>45140 S | BR VM       | 10       |
|  | Safety Earth Socket (Euro-USA Type)<br>15A - 127V/16A - 250V                                                 | <b>NEW</b><br>45142 S | BR VM       | 10       |

## PRE-CABLED DOUBLE AND TRIPLE SOCKETS

|                                                                                    |                                                               | Ref.                  | Colour | Box (Un) |
|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------|--------|----------|
|  | Block of Two Earth Sockets (Schuko Type)<br>16A - 250V        | <b>NEW</b><br>45190 S | BR VM  | 10       |
|  | Block of Two Safety Earth Sockets (Schuko Type)<br>16A - 250V | <b>NEW</b><br>45192 S | BR VM  | 10       |
|  | Block of Two Earth Sockets (French Type)<br>16A - 250V        | <b>NEW</b><br>45191 S | BR VM  | 10       |
|  | Block of Two Safety Earth Sockets (French Type)<br>16A - 250V | <b>NEW</b><br>45193 S | BR VM  | 10       |

Legend:  
S – Semi-assembled.  
BR – White; LR – Orange; VD – Green; VM – Red.

## PRE-CABLED DOUBLE AND TRIPLE SOCKETS



Block of Three Earth Sockets (Schuko Type)  
16A - 250V

**NEW**

45194 S

Colour

BR VM

Box  
(Un)

10

Block of Three Safety Earth Sockets (Schuko Type)  
16A - 250V

**NEW**

45196 S

BR VM

10

Block of Three Earth Sockets (French Type)  
16A - 250V

**NEW**

45195 S

BR VM

10

Block of Three Safety Earth Sockets (French Type)  
16A - 250V

**NEW**

45197 S

BR VM

10

## MONOBLOCK SOCKETS FOR TRUNKINGS WITH COVERS OF 60mm (L60) AND 75mm (L75) WIDTH



Monoblock Earth Socket (Schuko Type)  
with Adapter for Trunkings with Covers of 60-75mm width  
16A - 250V

**NEW**

45135 C

BR VM

10

Monoblock Safety Earth Socket (Schuko Type)  
with Adapter for Trunkings with Covers of 60-75mm width  
16A - 250V

**NEW**

45138 C

BR VM

10

Monoblock Earth Socket (French Type)  
with Adapter for Trunkings with Covers of 60-75mm width  
16A - 250V

**NEW**

45115 C

BR VM

10

Monoblock Safety Earth Socket (French Type)  
with Adapter for Trunkings with Covers of 60-75mm width  
16A - 250V

**NEW**

45118 C

BR VM

10

## MONOBLOCK SOCKETS FOR TRUNKINGS WITH COVERS OF 60mm (L60) WIDTH



Block of Two Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45270 C

BR VM

10

Block of Two Safety Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45273 C

BR VM

10

Block of Two Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45272 C

BR VM

10

Block of Two Safety Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45274 C

BR VM

10

### Legend:

C – Complete Device; S – Semi-assembled.

BR – White; VM – Red.

Trunkings with Covers of L60 and L75mm width on pages 136-137 and 142-143.

## MONOBLOCK SOCKETS FOR TRUNKINGS WITH COVERS OF 60mm (L60) WIDTH



Block of Three Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45275 C

Ref. Colour

BR VM

Box  
(Un)

10

Block of Three Safety Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45277 C

BR VM

10

Block of Three Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45276 C

BR VM

10

Block of Three Safety Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 60mm width  
16A - 250V

**NEW**

45278 C

BR VM

10

## MONOBLOCK SOCKETS FOR TRUNKINGS WITH COVERS OF 75mm (L75) WIDTH



Block of Two Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45260 C

Ref. Colour

BR VM

Box  
(Un)

10

Block of Two Safety Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45262 C

BR VM

10

Block of Two Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45261 C

BR VM

10

Block of Two Safety Earth Sockets (French Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45263 C

BR VM

10

Block of Two Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45264 C

BR VM

10

Block of Two Safety Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45266 C

BR VM

10

Block of Three Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45265 C

BR VM

10

Block of Three Safety Earth Sockets (Schuko Type)  
with Adapters for Trunkings with Covers of 75mm width  
16A - 250V

**NEW**

45267 C

BR VM

10

### Legend:

C – Complete Device; S – Semi-assembled.

BR – White; VM – Red.

Trunkings with Covers of L60 and L75mm width on pages 136-137 and 142-143.

## VOICE AND DATA SOCKETS

|                                                                                   |                                              | Ref.    | Colour | Box<br>(Un) |
|-----------------------------------------------------------------------------------|----------------------------------------------|---------|--------|-------------|
|  | Module with 1 RJ11 Category 3 Connector      | 45972 S | BR     | 5           |
|  | Module with 1 ST Fibre Optic Connector       | 45974 S | BR     | 5           |
|  | Module with 1 RJ45 Category 5e UTP Connector | 45975 S | BR     | 5           |
|  | Module with 1 RJ45 Category 6 UTP Connector  | 45978 S | BR     | 5           |
|  | Module with 1 RJ45 Category 5e FTP Connector | 45985 S | BR     | 5           |
|  | Module with 1 RJ45 Category 6 FTP Connector  | 45988 S | BR     | 5           |

## ACCESSORIES FOR VOICE AND DATA SOCKETS

|                                                                                                                                                                               | Ref.           | Colour | Box (Un) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|----------|
| <br>Mask Module<br>(Without connectors)<br>Single Face Plate for ST Fibre Optic Connectors | 45970 S        | BR     | 5        |
| <br>Module for Two RJ Connectors<br>(Without connectors)<br>One F Type Coaxial Connector   | 45971 S        | BR     | 10       |
| <br>Module for One RJ Connector<br>(Without connectors)<br>One F Type Coaxial Connector    | NEW<br>45976 S | BR     | 10       |
| <br>Module for One RJ45 Connector<br>(Without connectors)<br>One F Type Coaxial Connector  | 45977 S        | BR     | 20       |
| <br>Module with One Coaxial Type F Connector                                               | 45979 S        | BR     | 5        |

### Legend:

S – Semi-assembled.

BR – White.

Voice and Data Sockets - Technical Information from page 218 to 220.

DVI Series RJ45 Connectors - Wiring Diagrams on page 199.

## RADIO, TELEVISION AND SATELLITE SOCKETS

|                                                                                   |                                                                                                                                                                                                | Ref.    | Colour | Box (Un) |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|----------|
|  | Equalized R - TV Socket for Series Connection (Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 0,5dB                                                           | 45531 S | BR     | 10       |
|  | Equalized R - TV Socket for Series Connection (Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 6dB                                                            | 45532 S | BR     | 10       |
|  | R TV - SAT Socket for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 470 MHz<br>- Attenuation ≤ 1dB<br>- 470 - 822 MHz<br>- Attenuation ≤ 2dB<br>- 822 - 862 MHz<br>- Attenuation ≤ 6dB | 45550 S | BR     | 10       |

## BLINDS CONTROL MODULES WITH INFRARED REMOTE CONTROL

|                                                                                     |                                                                       | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------|--------|----------|
|    | General Blinds Control Module with Infrared Remote Control <b>NEW</b> | 45311 S | BR     | 1        |
|   | Local Blinds Control Module with Infrared Remote Control <b>NEW</b>   | 45312 S | BR     | 1        |
|  | Infrared Remote Control Transmitter For Blinds Control                | 81901   | -      | 1        |

## ELECTRONIC CONTROLS

|                                                                                     |                                              | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|----------------------------------------------|---------|--------|----------|
|  | One Circuit Digital Clock Switch <b>NEW</b>  | 45046 S | BR     | 1        |
|  | Two Circuits Digital Clock Switch <b>NEW</b> | 45047 S | BR     | 1        |
|  | Motion Detector of 1000 W <b>NEW</b>         | 45401 S | BR     | 1        |
|  | Motion Detector of 400W <b>NEW</b>           | 45402 S | BR     | 1        |

## POWER SUPPLIES

|                                                                                     |                                                                                                            | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------|--------|----------|
|  | Power Supply Module 230V~/15Vdc - 5W<br>Capacity to supply 1 Mono or Stéreo Sound Control Unit. <b>NEW</b> | 45380 S | BR     | 1        |

### Legend:

S - Semi-assembled.

BR - White.

Blinds Control Modules with Infrared Remote Control - Wiring diagrams from page 191 to 192.

Radio, Television, Satellite and Data Sockets - Technical Information from page 214 to 217.

Power Supplies, Modular Sound Central Units and Sound Control Units - Wiring diagrams from page 204 to 209.

Consult the Selection Guide of Installation of the Jazz Light Series on page 82.

## MODULAR SOUND CENTRAL UNITS

|                                                                                   |                                                           |            | Ref.    | Colour | Box (Un) |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------|------------|---------|--------|----------|
|  | 1 Stereo Channel Modular Sound Central Unit               | <b>NEW</b> | 45391 S | BR     | 1        |
|  | 1 Stereo Channel Modular Sound Central Unit with FM Tuner | <b>NEW</b> | 45392 S | BR     | 1        |
|  | 3 Stereo Channels Auxiliary Input Module                  | <b>NEW</b> | 45393 S | BR     | 1        |

## SOUND CONTROL UNITS

|                                                                                     |                                                                                            |            | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------|---------|--------|----------|
|    | 1 Stereo Channel Sound Control Unit with FM Tuner, Alarm Clock and Infrared Remote Control | <b>NEW</b> | 45370 S | BR     | 1        |
|    | 1 Stereo Channel Sound Control Unit with FM Tuner and Alarm Clock                          | <b>NEW</b> | 45379 S | BR     | 1        |
|   | 1 Stereo Channel Sound Control Unit with FM Tuner                                          | <b>NEW</b> | 45377 S | BR     | 1        |
|  | 1 Mono Channel Sound Control Unit with FM Tuner                                            | <b>NEW</b> | 45373 S | BR     | 1        |
|  | 4 Mono Channels Sound Control Unit with FM Tuner                                           | <b>NEW</b> | 45378 S | BR     | 1        |
|  | 1 Stereo Channel Sound Control Unit                                                        | <b>NEW</b> | 45372 S | BR     | 1        |
|  | 1 Mono Channel Sound Control Unit                                                          | <b>NEW</b> | 45371 S | BR     | 1        |
|  | 4 Mono Channels Sound Control Unit                                                         | <b>NEW</b> | 45374 S | BR     | 1        |

## COMPLEMENTARY SOUND CONTROL UNITS

|                                                                                     |                                   |            | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-----------------------------------|------------|---------|--------|----------|
|  | 4 Stereo Channels Selector Module | <b>NEW</b> | 45385 S | BR     | 1        |
|  | Digital Volume Control Module     | <b>NEW</b> | 45386 S | BR     | 1        |

### Legend:

S – Semi-assembled; BR – White.

Dimensions: 45x45

Power Supplies, Modular Sound Central Units and Sound Control Units - Wiring diagrams from page 204 to 209.  
Consult the Selection Guide of Installation of the Jazz Light Series on page 82.

## OTHER ACCESSORIES



Adapter for 45x45 Modules to Electrical Panels

Ref.

45990 A

Colour

BR

Box  
(Un)

10



Blocking Pin for 45x45 Series Sockets

45991

-

25

## FRONTAL ADAPTERS



Single Adapter for 45x45 Modules to Trunkings with Covers of 60-75mm width

10986 A

BR

20



Double Adapter for 45x45 Modules to Trunkings with Covers of 60mm width

10951 A

BR

10



Double Adapter for 45x45 Modules to Trunkings with Covers of 75mm width

10952 A

BR

10



Triple Adapter for 45x45 Modules to Trunkings with Covers of 60mm width

10953 A

BR

10



Triple Adapter for 45x45 Modules to Trunkings with Covers of 75 mm width

10954 A

BR

10



Frontal Adapter for 45x45 Modules to 60x16 Trunking

10988 A

BR

10



Frontal Adapter for 45x45 Modules to 75x20 Trunking

10989 A

BR

10

### Legend:

A – Accessory.

BR – White.

Consult the Selection Table for Frontal Adapters on page 118.

## LATERAL ADAPTERS

|                                                                                     |                                                       | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|---------|--------|----------|
|    | Lateral Adapter for 45x45 Modules to 12x7 Trunking    | 10961 A | BR     | 10       |
|    | Lateral Adapter for 45x45 Modules to 16x10 Trunking   | 10962 A | BR     | 10       |
|    | Lateral Adapter for 45x45 Modules to 20x12,5 Trunking | 10963 A | BR     | 10       |
|    | Lateral Adapter for 45x45 Modules to 32x16 Trunking   | 10964 A | BR     | 10       |
|   | Lateral Adapter for 45x45 Modules to 40x12,5 Trunking | 10965 A | BR     | 10       |
|  | Lateral Adapter for 45x45 Modules to 40x16 Trunking   | 10966 A | BR     | 10       |
|  | Lateral Adapter for 45x45 Modules to 60x16 Trunking   | 10967 A | BR     | 10       |
|  | Lateral Adapter for 45x45 Modules to 75x20 Trunking   | 10968 A | BR     | 10       |

### Legend:

A – Accessory.

BR – White.

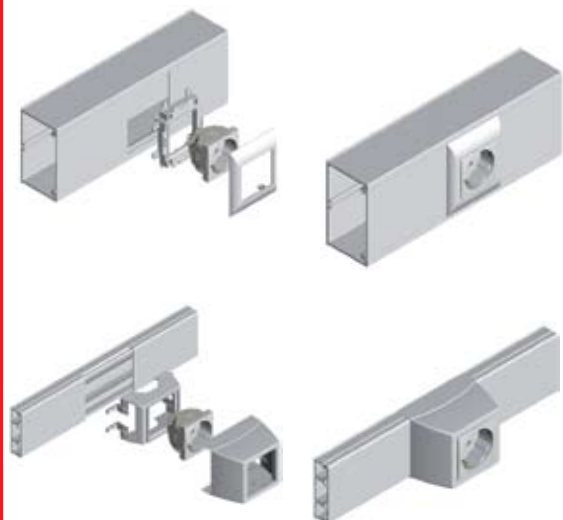
Consult the Selection Table for Lateral Adapters on page 119.

## ADAPTERS FOR TRUNKINGS

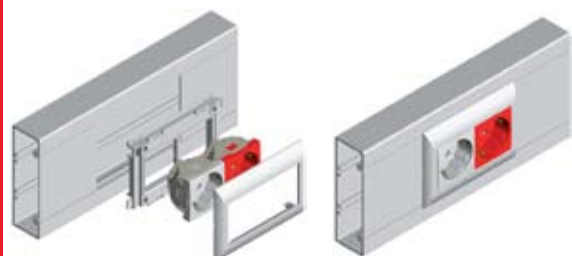
The QUADRO 45 Series has a complete range of adapters for the installation of any 45x45 devices in the trunkings of the 10 and 16 Series of EFAPEL.

### FRONTAL ADAPTERS

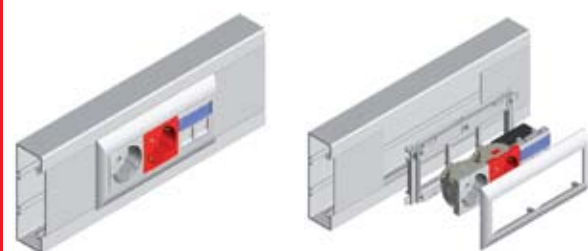
Selection Table for Frontal Adapters



| Trunkings |                                 | SINGLE Adapter |
|-----------|---------------------------------|----------------|
| 10080 CBR | 110x34 Trunking                 | 10986 ABR      |
| 10090 CBR | 110x34 Trunking                 |                |
| 16010 CBR | 75x50 Modular Trunking          |                |
| 16020 CBR | 90x50 Modular Trunking          |                |
| 16030 CBR | 155x50 Modular Trunking         |                |
| 16040 CBR | 185x50 Modular Trunking         |                |
| 16050 CBR | 90x65 Modular Trunking          |                |
| 16060 CBR | 185x65 Modular Trunking         | 10988 ABR      |
| 10070 CBR | 60x16 Trunking                  |                |
| 10170 CBR | 60x16 Trunking without division | 10989 ABR      |
| 10140 CBR | 75x20 Trunking                  |                |



| Trunkings |                         | DOUBLE Adapter |
|-----------|-------------------------|----------------|
| 16010 CBR | 75x50 Modular Trunking  | 10951 ABR      |
| 16030 CBR | 155x50 Modular Trunking |                |
| 10080 CBR | 110x34 Trunking         | 10952 ABR      |
| 10090 CBR | 110x50 Trunking         |                |
| 16020 CBR | 90x50 Modular Trunking  |                |
| 16040 CBR | 185x50 Modular Trunking |                |
| 16050 CBR | 90x65 Modular Trunking  |                |
| 16060 CBR | 185x65 Modular Trunking |                |

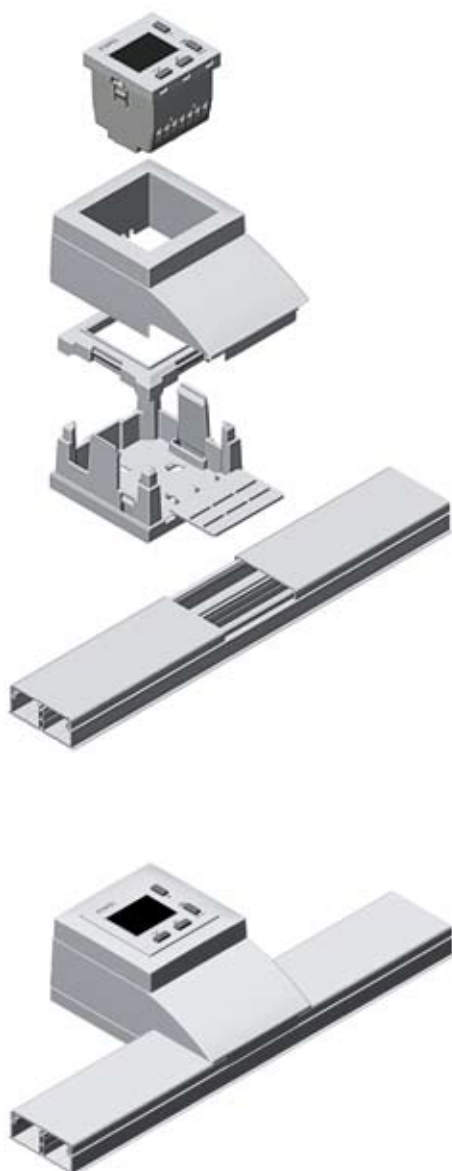


| Trunkings |                         | TRIPLE Adapter |
|-----------|-------------------------|----------------|
| 16010 CBR | 75x50 Modular Trunking  | 10953 ABR      |
| 16030 CBR | 155x50 Modular Trunking |                |
| 10080 CBR | 110x34 Trunking         | 10954 ABR      |
| 10090 CBR | 110x50 Trunking         |                |
| 16020 CBR | 90x50 Modular Trunking  |                |
| 16040 CBR | 185x50 Modular Trunking |                |
| 16050 CBR | 90x65 Modular Trunking  |                |
| 16060 CBR | 185x65 Modular Trunking |                |

## LATERAL ADAPTERS

Selection Table for Lateral Adapters

| Trunkings |                                                     | Adapter   |
|-----------|-----------------------------------------------------|-----------|
| 10010 CBR | 12x7 Trunking                                       | 10961 ABR |
| 10010 FBR | 12x7 Trunking with Adhesive Tape                    |           |
| 10020 CBR | 16x10 Trunking                                      | 10962 ABR |
| 10020 FBR | 16x10 Trunking with Adhesive Tape                   |           |
| 10030 CBR | 20x12,5 Trunking                                    | 10963 ABR |
| 10030 FBR | 20x12,5 Trunking with Adhesive Tape                 |           |
| 10040 CBR | 32x16 Trunking                                      | 10964 ABR |
| 10040 FBR | 32x16 Trunking with Adhesive Tape                   |           |
| 10050 CBR | 40x12,5 Trunking                                    | 10965 ABR |
| 10050 FBR | 40x12,5 Trunking with Adhesive Tape                 |           |
| 10150 CBR | 40x12,5 Trunking with Adhesive Tape                 |           |
| 10150 FBR | 40x12,5 Trunking without divider with Adhesive Tape |           |
| 10060 CBR | 40x16 Trunking                                      | 10966 ABR |
| 10060 FBR | 40x16 Trunking with Adhesive Tape                   |           |
| 10160 CBR | 40x16 Trunking without divider                      |           |
| 10160 FBR | 40x16 Trunking without divider with Adhesive Tape   |           |
| 10070 CBR | 60x16 Trunking                                      | 10967 ABR |
| 10170 CBR | 60x16 Trunking without divider                      |           |
| 10140 CBR | 75x20 Trunking                                      | 10968 ABR |



# 47 Series

The **47 Series** provides a harmonic solution for a wide variety of uses in houses, offices, schools, laboratories and public buildings.

It has 38 functions and can be used together with the system of cable-trunkings of EFAPEL 10 Series.

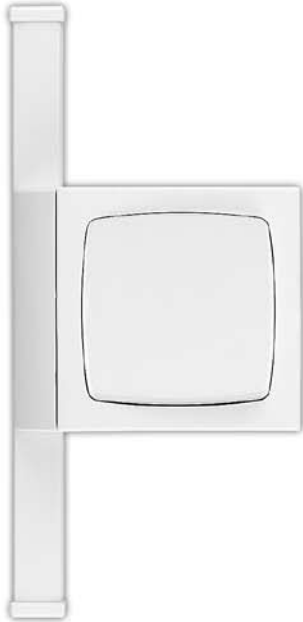
The **47 Series** has accessories that allow the horizontal, vertical and lateral mounting besides the cable-trunkings, ensuring a simple solution with a good finishing.

Like the Technical Trunkings, it is produced in the White colour - RAL 9003.

Example of the Assembly Sequence



## A Versatile Solution



Vertical Mounting



Horizontal Mounting



Lateral Mounting



Over the Cable-Trunking Mounting

# 47 Series

## CONTROL DEVICES (Supplied semi-assembled with Frame and Rocker)

|                                                                                     |                                                                           | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|--------|----------|
|    | Single Pole Switch<br>10A - 250V                                          | 47011 S | BR     | 10       |
|    | Single Pole Switch with Orienting Light<br>10A - 250V                     | 47012 S | BR     | 10       |
|    | Single Pole Switch with Pilot Lamp<br>10A - 250V                          | 47013 S | BR     | 10       |
|    | Intermediate Switch<br>10A - 250V                                         | 47051 S | BR     | 10       |
|    | Intermediate Switch with Orienting Light<br>10A - 250V                    | 47052 S | BR     | 10       |
|   | Two Circuits Switch<br>10A - 250V                                         | 47061 S | BR     | 10       |
|  | Two-way Switch<br>10A - 250V                                              | 47071 S | BR     | 10       |
|  | Two-way Switch with Orienting Light<br>10A - 250V                         | 47072 S | BR     | 10       |
|  | Two-way Switch with Pilot Lamp<br>10A - 250V                              | 47073 S | BR     | 10       |
|  | Double Two-way Switch<br>10A - 250V                                       | 47101 S | BR     | 10       |
|  | Rocker Push-button<br>10A - 250V                                          | 47151 S | BR     | 10       |
|  | Rocker Push-button with Orienting Light (250V)<br>10A - 250V              | 47152 S | BR     | 10       |
|  | Rocker Push-button with Identification (250V)<br>10A - 250V               | 47155 S | BR     | 10       |
|  | Venetian Double Push-button<br>10A - 250V<br>With electrical blockage.    | 47281 S | BR     | 10       |
|  | Venetian Switch<br>10A - 250V<br>With mechanical and electrical blockage. | 47290 S | BR     | 10       |

**Legend:**  
**S** – Semi-assembled; **BR** – White.  
 Wiring diagrams on pages 200 and 201.

## SOCKETS (Supplied semi-assembled with Frame)

|                                                                                   |                                                 | Ref.    | Colour   | Box (Un) |
|-----------------------------------------------------------------------------------|-------------------------------------------------|---------|----------|----------|
|  | Safety Earth Socket (French Type)<br>16A - 250V | 47112 S | BR       | 10       |
|  | Single Phase Socket<br>16A - 250V               | 47121 S | BR       | 10       |
|  | Safety Single Phase Socket<br>16A - 250V        | 47122 S | BR       | 10       |
|  | Earth Socket (Schuko Type)<br>16A - 250V        | 47131 S | BR LR VM | 10       |
|  | Safety Earth Socket (Schuko Type)<br>16A - 250V | 47132 S | BR LR VM | 10       |

## TERMINAL BOXES (Supplied semi-assembled with Frame)

|                                                                                     |                                     | Ref.    | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-------------------------------------|---------|--------|----------|
|  | Terminal Box<br>Without Connectors. | 47170 S | BR     | 10       |
|  | Junction Box<br>4 x 2,5mm2.         | 47201 S | BR     | 10       |

## TELEPHONE SOCKETS (Supplied semi-assembled with Frame)

|                                                                                                   |                                 | Ref.    | Colour | Box (Un) |
|---------------------------------------------------------------------------------------------------|---------------------------------|---------|--------|----------|
| 50V---70V~<br> | Telephone Socket (RITA)         | 47251 S | BR     | 10       |
|                | Telephone Socket (4 Conductors) | 47252 S | BR     | 10       |
|                | Telephone Socket (6 Conductors) | 47253 S | BR     | 10       |
| 8 contacts<br> | T8 French Telephone Socket      | 47411 S | BR     | 10       |

**Legend:**  
S – Semi-assembled.  
BR – White; LR – Orange; VM – Red.

# 47 Series

## VOICE AND DATA SOCKETS (Supplied semi-assembled with Frame)

|                                                                                                                          | Ref.    | Colour | Box (Un) |
|--------------------------------------------------------------------------------------------------------------------------|---------|--------|----------|
|  Single RJ45 Computer Socket Cat 5e UTP | 47453 S | BR     | 1        |
|  Single RJ45 Computer Socket Cat 6 UTP  | 47455 S | BR     | 1        |
|  Single RJ45 Computer Socket Cat 5e FTP | 47443 S | BR     | 1        |
|  Single RJ45 Computer Socket Cat 6 FTP  | 47445 S | BR     | 1        |
|  Single Fibre Computer ST Type Socket   | 47457 S | BR     | 1        |

## RADIO, TELEVISION AND SATELLITE SOCKETS (Supplied semi-assembled with Frame)

|                                                                                                                                                                                                                                                                                                                 | Ref.    | Colour | Box (Un) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------|----------|
|  Equalized R-TV Socket for Star Connection (Terminal Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 0,5dB                                                                                            | 47531 S | BR     | 10       |
|  Equalized R-TV Socket for Serial Connection (Crossover Type)<br>- Coaxial Connector ø 9,5<br>- 4 - 862 MHz<br>- Attenuation ≤ 6dB                                                                                           | 47532 S | BR     | 10       |
|  R TV - SAT Socket for Star Connection<br>- Coaxial Connector ø 9,5<br>- 4 - 470 MHz<br>- Attenuation ≤ 1dB<br>- 470 - 822 MHz<br>- Attenuation ≤ 2dB<br>- 822 - 862 MHz<br>- Attenuation ≤ 6dB<br>- Current Flow 500mA (DC) | 47550 S | BR     | 10       |
|  Coaxial F Computer Socket                                                                                                                                                                                                   | 47431 S | BR     | 1        |

## MUSIC SOCKET AND PILOT LIGHTS (Supplied semi-assembled with Frame)

|                                                                                                                                                                             | Ref.    | Colour      | Box (Un) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|----------|
|  Stereo Music Socket<br>Connector DIN 41529                                              | 47221 S | BR          | 10       |
|  Pilot Light<br>- To be used with Lamp ref. 81012 (page 183).<br>- Max. 5 W / 250V (E14) | 47360 S | BI BJ BM BV | 2        |

### Legend:

S – Semi-assembled.

BR – White; BI – White/Colourless; BJ – White/Orange; BV – White/Green; BM – White/Red.

RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

Voice and Data Sockets - Technical Informations from page 218 to 220.

Radio, Television, Satellite and Data Sockets – Technical Information from page 214 to 217.

## ACCESSORIES FOR SURFACE MOUNTING



Flush Mounting Box 60x60mm

| Ref. | Colour | Box (Un) |
|------|--------|----------|
|------|--------|----------|

|         |    |    |
|---------|----|----|
| 47993 A | BR | 10 |
|---------|----|----|

## ADAPTERS FOR 10 SERIES TRUNKINGS

(For Lateral mounting)



Adapter of 47 Series for 12x7 Trunking

| Ref. | Colour | Box (Un) |
|------|--------|----------|
|------|--------|----------|

|         |    |    |
|---------|----|----|
| 10018 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 16x10 Trunking

|         |    |    |
|---------|----|----|
| 10028 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 20x12,5 Trunking

|         |    |    |
|---------|----|----|
| 10038 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 32x16 Trunking

|         |    |    |
|---------|----|----|
| 10048 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 40x12,5 Trunking

|         |    |    |
|---------|----|----|
| 10058 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 40x16 Trunking

|         |    |    |
|---------|----|----|
| 10068 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 60x16 Trunking

|         |    |    |
|---------|----|----|
| 10078 A | BR | 10 |
|---------|----|----|



Adapter of 47 Series for 75x20 Trunking

|         |    |    |
|---------|----|----|
| 10148 A | BR | 10 |
|---------|----|----|

(For Frontal mounting)



Frontal Adapter of 47 Series for 60x16 Trunking

|         |    |    |
|---------|----|----|
| 10079 A | BR | 10 |
|---------|----|----|



Frontal Adapter of 47 Series for 75x20 Trunking

|         |    |    |
|---------|----|----|
| 10149 A | BR | 10 |
|---------|----|----|

### Legend:

A – Accessorie.

BR – White.

See 10 Series - Cable-trunkings for Electrical Installations and Telecommunications - Miniature Cable-trunkings (from page 128 to 131) and Skirt Cable-trunkings (pages 132 and 133).

# 10 Series

## Cable-trunkings for Electrical Installations and Telecommunications

The **10 Series** of cable-trunkings of EFAPEL is a versatile and practical solution for surface mounting electrical installations and telecommunication installations, where it is necessary to have a maximum flexibility and easy assembly at home or in professional or institutional applications (schools, offices, services, etc. ).

The **10 Series** is composed by:

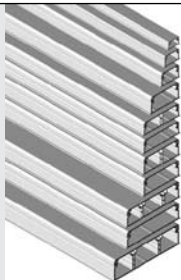
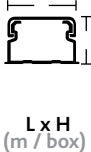
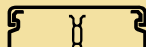
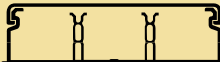
- Miniature Cable-trunkings
- Skirt Cable-trunkings
- Floor Cable-trunkings
- Distribution Cable-trunkings

In addition, all these cable-trunkings allow the installation of products of the LOGUS 90, Sirius 70, Apolo 5000, 3700, 47 and QUADRO 45 Series.



# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

**Miniature Cable-trunkings** dimensions: 12x7 / 16x10 / 20x12,5 / 32x16 / 40x12,5 / 40x16 / 60x16 / 75x20

| Trunkings                                     |           |                                                                                     |                                                                                   | Accessories                                                                        |                                                                                     |                                                                                     |                                                                                     |  |
|-----------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Designation                                   | Ref.      |                                                                                     |                                                                                   | Description – Reference – (Box/Units)                                              |                                                                                     |                                                                                     |                                                                                     |  |
|                                               |           |    |  | Derivation                                                                         | Inside Angle                                                                        | Plane Angle                                                                         | Joint                                                                               |  |
| 12x7 Trunking                                 | 10010 CBR |    | 12x7<br>(120 m)                                                                   |  |  |  |  |  |
| 12x7 Adhesive Trunking                        | 10010 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 16x10 Trunking                                | 10020 CBR |    | 16x10<br>(120 m)                                                                  |  |  |  |  |  |
| 16x10 Adhesive Trunking                       | 10020 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 20x12,5 Trunking                              | 10030 CBR |    | 20x12,5<br>(120 m)                                                                |  |  |  |  |  |
| 20x12,5 Adhesive Trunking                     | 10030 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 32x16 Trunking                                | 10040 CBR |  | 32x16<br>(60 m)                                                                   |  |  |  |  |  |
| 32x16 Adhesive Trunking                       | 10040 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 40x12,5 Trunking                              | 10050 CBR |  | 40x12,5<br>(60 m)                                                                 |  |  |  |  |  |
| 40x12,5 Adhesive Trunking                     | 10050 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 40x12,5 Trunking without Divider              | 10150 CBR |  | 40x12,5<br>(60 m)                                                                 |  |  |  |  |  |
| 40x12,5 Adhesive Trunking without Divider     | 10150 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 40x16 Trunking                                | 10060 CBR |  | 40x16<br>(50 m)                                                                   |  |  |  |  |  |
| 40x16 Adhesive Trunking                       | 10060 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 40x16 Trunking without Divider                | 10160 CBR |  | 40x16<br>(50 m)                                                                   |  |  |  |  |  |
| Calha 40x16 Adhesive Trunking without Divider | 10160 FBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 60x16 Trunking                                | 10070 CBR |  | 60x16<br>(50 m)                                                                   |  |  |  |  |  |
| 60x16 Trunking without Dividers               | 10170 CBR |                                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |
| 75x20 Trunking                                | 10140 CBR |  | 75x20<br>(32 m)                                                                   |  |  |  |  |  |

## Legend:

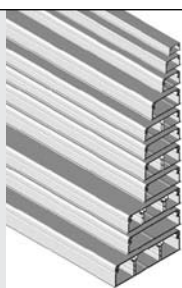
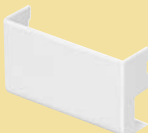
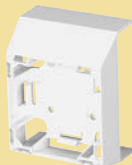
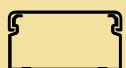
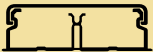
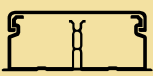
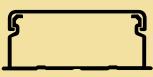
ABR – White Accessory; CBR – White Complete Product; DBR – White Data Accessory Cat. 6 ; FBR – White Complete Product with Adhesive Tape.

White Colour RAL 9003  
According to NF C 68 - 104 Standard  
With Adhesive Tape

|  | Top<br> | Outside Angle<br> | Derivation Cat 6<br> | Inside Angle Cat 6<br> | Plane Angle Cat 6<br> | Outside Angle Cat 6<br> | Reduction 75x20 Trunking to 40x12,5 trunking of Cat 6<br> | Junction Box 80x80x20<br> | Junction Box 80x80x30<br> | Junction Box 110x110x50<br> |
|--|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|  | 10015 ABR<br>(20 un)                                                                     | 10016 ABR<br>(20 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10025 ABR<br>(20 un)                                                                     | 10026 ABR<br>(20 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10035 ABR<br>(20 un)                                                                     | 10036 ABR<br>(20 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10045 ABR<br>(20 un)                                                                     | 10046 ABR<br>(20 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10055 ABR<br>(20 un)                                                                     | 10056 ABR<br>(20 un)                                                                               | 10051 DBR<br>(20 un)                                                                                  | 10052 DBR<br>(20 un)                                                                                    | 10053 DBR<br>(20 un)                                                                                   | 10056 DBR<br>(20 un)                                                                                     | 10977 DBR<br>(20 m)                                                                                                                         | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10065 ABR<br>(10 un)                                                                     | 10066 ABR<br>(10 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10075 ABR<br>(10 un)                                                                     | 10076 ABR<br>(10 un)                                                                               | ----                                                                                                  | ----                                                                                                    | ----                                                                                                   | ----                                                                                                     | ----                                                                                                                                        | 10991 ABR<br>(10 un)                                                                                         | 10998 ABR<br>(10 un)                                                                                         | 10993 ABR<br>(10 un)                                                                                           |
|  | 10145 ABR<br>(10 un)                                                                     | 10146 ABR<br>(10 un)                                                                               | 10141 DBR<br>(10 un)                                                                                  | 10142 DBR<br>(10 un)                                                                                    | 10143 DBR<br>(10 un)                                                                                   | 10146 DBR<br>(10 un)                                                                                     | 10977 DBR<br>(20 m)                                                                                                                         | ----                                                                                                         | ----                                                                                                         | 10993 ABR<br>(10 un)                                                                                           |

# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

## Miniature Cable-trunkings (continuation)

| Trunkings                                 |           |                                                                                     |                                                                                                         | Accessories                                                                                                |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
|-------------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|
|                                           |           |                                                                                     |                                                                                                         | Description – Reference – (Box/Units)                                                                      |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
|                                           |           |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| Designation                               | Ref.      |    | <br>L x H<br>(m / box) | <br>37 Series<br>Adapter | <br>47 Series<br>Adapter | <br>47 Series<br>Frontal Adapter |  |  |  |  |  |  |
| 12x7 Trunking                             | 10010 CBR |    | 12x7<br>(120 m)                                                                                         | 10017 ABR<br>(20 un)                                                                                       | 10018 ABR<br>(10 un)                                                                                        | ----                                                                                                                |  |  |  |  |  |  |
| 12x7 Adhesive Trunking                    | 10010 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 16x10 Trunking                            | 10020 CBR |    | 16x10<br>(120 m)                                                                                        | 10027 ABR<br>(20 un)                                                                                       | 10028 ABR<br>(10 un)                                                                                        | ----                                                                                                                |  |  |  |  |  |  |
| 16x10 Adhesive Trunking                   | 10020 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 20x12,5 Trunking                          | 10030 CBR |    | 20x12,5<br>(120 m)                                                                                      | 10037 ABR<br>(20 un)                                                                                       | 10038 ABR<br>(10 un)                                                                                        | ----                                                                                                                |  |  |  |  |  |  |
| 20x12,5 Adhesive Trunking                 | 10030 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 32x16 Trunking                            | 10040 CBR |  | 32x16<br>(60 m)                                                                                         | 10047 ABR<br>(20 un)                                                                                       | 10048 ABR<br>(10 un)                                                                                        | ----                                                                                                                |  |  |  |  |  |  |
| 32x16 Adhesive Trunking                   | 10040 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x12,5 Trunking                          | 10050 CBR |  | 40x12,5<br>(60 m)                                                                                       | 10057 ABR<br>(20 un)                                                                                       | 10058 ABR<br>(10 un)                                                                                        | ----                                                                                                                |  |  |  |  |  |  |
| 40x12,5 Adhesive Trunking                 | 10050 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x12,5 Trunking without Divider          | 10150 CBR |  |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x12,5 Adhesive Trunking without Divider | 10150 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x16 Trunking                            | 10060 CBR |  | 40x16<br>(50 m)                                                                                         | 10067 ABR<br>(10 un)                                                                                       | 10068 ABR<br>(10 un)                                                                                        | -----                                                                                                               |  |  |  |  |  |  |
| 40x16 Adhesive Trunking                   | 10060 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x16 Trunking without Divider            | 10160 CBR |  |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 40x16 Adhesive Trunking without Divider   | 10160 FBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             |                                                                                                                     |  |  |  |  |  |  |
| 60x16 Trunking                            | 10070 CBR |  | 60x16<br>(50 m)                                                                                         | 10077 ABR<br>(10 un)                                                                                       | 10078 ABR<br>(10 un)                                                                                        | 10079 ABR<br>(10 un)                                                                                                |  |  |  |  |  |  |
| 60x16 Trunking without Dividers           | 10170 CBR |                                                                                     |                                                                                                         |                                                                                                            |                                                                                                             | -----                                                                                                               |  |  |  |  |  |  |
| 75x20 Trunking                            | 10140 CBR |  | 75x20<br>(32 m)                                                                                         | 10147 ABR<br>(10 un)                                                                                       | 10148 ABR<br>(10 un)                                                                                        | 10149 ABR<br>(10 un)                                                                                                |  |  |  |  |  |  |

### Legend:

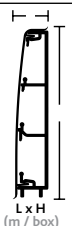
ABR – White Accessory; AMF – Ivory Accessory; CBR – White Complete Product; FBR – White Complete Product with Adhesive Tape.

**White Colour RAL 9003**  
**According to NF C 68 - 104 Standard**  
**With Adhesive Tape**

|  | 45x45 Series<br>Frontal<br>Adapter                                                | 45x45 Series<br>Lateral<br>Adapter                                                | LOGUS 90 Series<br>Surface<br>Mounting Box                                        | Sirius 70 Series<br>Surface<br>Mounting Box                                       | Apolo 5000 Series<br>Surface<br>Mounting Box                                        | Surface<br>Mounting Box for<br>Italian/American<br>Type Mechanisms                  |
|--|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |
|  | ----                                                                              | <b>10961 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              | <b>10962 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              | <b>10963 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              | <b>10964 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              | <b>10965 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              | <b>10966 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | <b>10988 ABR</b><br>(10 un)                                                       | <b>10967 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |
|  | ----                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|  | <b>10989 ABR</b><br>(10 un)                                                       | <b>10968 ABR</b><br>(10 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                     | <b>10972 ABR</b><br>(5 un)                                                          |

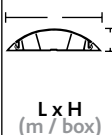
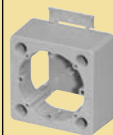
# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

## Skirt Cable-trunkings dimensions: 110x20

| Trunkings       |           |                                                                                   |                                                                                   | Accessories Description – Reference – (Box/Unit)                                                |                                                                                                            |                                                                                              |                                                                                                 |                                                                                                  |                                                                                                               |
|-----------------|-----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Designation     | Ref.      |  |  | Derivation<br> | Variable Inside Angle<br> | Joint<br> | Left Top<br> | Right Top<br> | Variable Outside Angle<br> |
| 110X20 Trunking | 10100 CBR |  | 110x20<br>(20 m)                                                                  | 10101 ABR<br>(4 un)                                                                             | 10102 ABR<br>(4 un)                                                                                        | 10104 ABR<br>(4 un)                                                                          | 10105 ABR<br>(4 un)                                                                             | 10108 ABR<br>(4 un)                                                                              | 10106 ABR<br>(4 un)                                                                                           |



## Floor Cable-trunkings dimensions: 50x12 / 75x17

| Trunkings      |           |                                                                                     |                                                                                     | Accessories Description – Reference – (Box/Unit)                                                   |                                                                                              |                                                                                                      |                                                                                                                                               |                                                                                                                                             |                                                                                                                                              |                                                                                                                           |
|----------------|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Designation    | Ref.      |  |  | Plane Angle<br> | Joint<br> | Top/ Adapter<br> | Adapter for 50X12 Floor Trunking to 40x12,5 Trunking<br> | Adapter for 75X17 Floor Trunking to 60x16 Trunking<br> | Surface Mounting Box Apolo 5000 for Floor Trunkings<br> | Junction Box for Floor Trunkings<br> |
| 50x12 Trunking | 10110 CCZ |  | 50x12<br>(20 m)                                                                     | 10113 ACZ<br>(10 un)                                                                               | 10114 ACZ<br>(10 un)                                                                         | 10115 ACZ<br>(10 un)                                                                                 | 10117 ACZ<br>(10 un)                                                                                                                          | -                                                                                                                                           | 10997 ACZ<br>(10 un)                                                                                                                         | 10999 ACZ<br>(10 un)                                                                                                      |
| 75x17 Trunking | 10120 CCZ |  | 75x17<br>(20 m)                                                                     | 10123 ACZ<br>(10 un)                                                                               | 10124 ACZ<br>(10 un)                                                                         | 10125 ACZ<br>(10 un)                                                                                 | -                                                                                                                                             | 10127 ACZ<br>(10 un)                                                                                                                        | 10997 ACZ<br>(10 un)                                                                                                                         | 10999 ACZ<br>(10 un)                                                                                                      |

### Legend:

ABR – White Accessory; AMF – Ivory Accessory; CBR – White Complete Product; ACZ – Grey Accessory; CCZ – Grey Complete Product.

**White Colour RAL 9003**  
**According to NF C 68 - 104 Standard**  
**Supplied with Protection Film**

| Adapter                                                                           | Clip for Cable Support                                                            | LOGUS 90 Series Surface Mounting Box                                              | Sirius 70 Series Surface Mounting Box                                             | Apolo 5000 Series Surface Mounting Box                                            | Surface Mounting Box for Italian/American Type Mechanisms                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| <b>10107 ABR</b><br>(4 un)                                                        | <b>10109 ABR</b><br>(50 un)                                                       | <b>10976 ABR</b><br><b>10976 AMF</b><br>(10 un)                                   | <b>10975 ABR</b><br><b>10975 AMF</b><br>(10 un)                                   | <b>10981 ABR</b><br><b>10981 AMF</b><br>(10 un)                                   | <b>10972 ABR</b><br>(5 un)                                                        |



**Grey Colour RAL 7035**  
**Supplied with Protection Film**



# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

## Miniature Cable-trunkings - Selection of Trunkings

### Trunkings

| Designation                               | Ref.      |  | Trunkings Characteristics |          |                      |                       | Isolated Cables Capacity |                             |                |                |                |
|-------------------------------------------|-----------|--|---------------------------|----------|----------------------|-----------------------|--------------------------|-----------------------------|----------------|----------------|----------------|
|                                           |           |  | Internal Dimensions       | Length   | Internal Section (S) | Available Section(Su) | Max. ø Available         | Max. Nr. Conductors H07 V-U |                |                |                |
|                                           |           |  | (mm)                      | (m)      | (mm²)                | (S:1.4) (mm²)         | (mm)                     | 1.5mm²                      | 2.5mm²         | 4mm²           | 6mm²           |
| 12x7 Trunking                             | 10010 CBR |  | 10x5                      | 2.10 (a) | 61.2                 | 44                    | 5                        | 5                           | 4              | 3              | 2              |
| 12x7 Adhesive Trunking                    | 10010 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 16x10 Trunking                            | 10020 CBR |  | 14x8                      | 2.10 (a) | 121                  | 86                    | 8                        | 11                          | 7              | 6              | 4              |
| 16x10 Adhesive Trunking                   | 10020 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 20x12,5 Trunking                          | 10030 CBR |  | 18x10                     | 2.10 (a) | 182.1                | 130                   | 10                       | 16                          | 11             | 9              | 6              |
| 20x12,5 Adhesive Trunking                 | 10030 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 32x16 Trunking                            | 10040 CBR |  | 30x14                     | 2.10 (a) | 401                  | 286                   | 14                       | 36                          | 25             | 20             | 15             |
| 32x16 Adhesive Trunking                   | 10040 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 40x12,5 Trunking                          | 10050 CBR |  | 38x9                      | 2.10 (a) | 179<br>179           | 128<br>128            | 9<br>9                   | 16<br>16                    | 11<br>11       | 9<br>9         | 6<br>6         |
| 40x12,5 Adhesive Trunking                 | 10050 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 40x12,5 Trunking without Divider          | 10150 CBR |  |                           |          | 394.8                | 282                   | 9                        | 36                          | 24             | 19             | 14             |
| 40x12,5 Adhesive Trunking without Divider | 10150 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 40x16 Trunking                            | 10060 CBR |  | 38x14                     | 2.10 (a) | 232<br>232           | 166<br>166            | 14<br>14                 | 21<br>21                    | 14<br>14       | 11<br>11       | 8<br>8         |
| 40x16 Adhesive Trunking                   | 10060 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 40x16 Trunking without Divider            | 10160 CBR |  |                           |          | 514.7                | 368                   | 14                       | 47                          | 32             | 25             | 19             |
| 40x16 Adhesive Trunking without Divider   | 10160 FBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 60x16 Trunking                            | 10070 CBR |  | 57x14                     | 2.10 (a) | 228<br>246<br>228    | 163<br>176<br>163     | 14<br>14<br>14           | 20<br>22<br>20              | 14<br>15<br>14 | 11<br>12<br>11 | 8<br>9<br>8    |
| 60x16 Trunking without Dividers           | 10170 CBR |  |                           |          |                      |                       |                          |                             |                |                |                |
| 75x20 Trunking                            | 10140 CBR |  | 72x18                     | 2.10 (a) | 325<br>463<br>325    | 232<br>331<br>232     | 17<br>17<br>17           | 29<br>42<br>29              | 20<br>28<br>20 | 16<br>23<br>16 | 12<br>17<br>12 |

#### Legend:

CBR – White Complete Product; FBR – White Complete Product with Adhesive Tape.

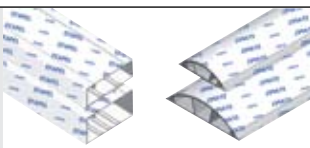
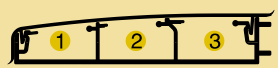
(a) – Invoiced in units of 2 meters.

Technical Characteristics of Trunkings and Accessories on page 223.

Tables of Cables and Criteria for Trunkings Selection on page 222.

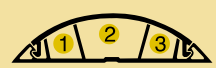
## Skirt Cable-trunkings - Selection of Trunkings

### Trunkings

| Designation           | Ref.      |  | Trunkings Characteristics |        |                               |                            | Isolated Cables Capacity |                             |                    |                  |                  |
|-----------------------|-----------|-----------------------------------------------------------------------------------|---------------------------|--------|-------------------------------|----------------------------|--------------------------|-----------------------------|--------------------|------------------|------------------|
|                       |           |                                                                                   | Internal Dimensions       | Length | Internal Section (S)          | Available Section(Su)      | Max. ø Available         | Max. Nr. Conductors H07 V-U |                    |                  |                  |
|                       |           |                                                                                   | (mm)                      | (m)    | (mm <sup>2</sup> )            | (S:1.4) (mm <sup>2</sup> ) | (mm)                     | 1.5mm <sup>2</sup>          | 2.5mm <sup>2</sup> | 4mm <sup>2</sup> | 6mm <sup>2</sup> |
| 110x20 Skirt Trunking | 10100 CBR |  | 104x17                    | 2.00   | ① 330.7<br>② 420.7<br>③ 436.9 | 236<br>301<br>312          | 14<br>16<br>17           | 30<br>38<br>40              | 20<br>26<br>27     | 16<br>21<br>21   | 12<br>15<br>16   |

## Floor Cable-trunkings - Selection of Trunkings

### Trunkings

| Designation          | Ref. <sup>a</sup> |    | Trunkings Characteristics |        |                               |                            | Isolated Cables Capacity |                             |                    |                  |                  |
|----------------------|-------------------|-------------------------------------------------------------------------------------|---------------------------|--------|-------------------------------|----------------------------|--------------------------|-----------------------------|--------------------|------------------|------------------|
|                      |                   |                                                                                     | Internal Dimensions       | Length | Internal Section (S)          | Available Section(Su)      | Max. ø Available         | Max. Nr. Conductors H07 V-U |                    |                  |                  |
|                      |                   |                                                                                     | (mm)                      | (m)    | (mm <sup>2</sup> )            | (S:1.4) (mm <sup>2</sup> ) | (mm)                     | 1.5mm <sup>2</sup>          | 2.5mm <sup>2</sup> | 4mm <sup>2</sup> | 6mm <sup>2</sup> |
| 50x12 Floor Trunking | 10110 CCZ         |   | 30x9                      | 2.00   | ① 47<br>② 148<br>③ 47         | 34<br>106<br>34            | 6<br>9<br>6              | 4<br>13<br>4                | 3<br>9<br>3        | 2<br>7<br>2      | 1<br>5<br>1      |
| 75x17 Floor Trunking | 10120 CCZ         |  | 60x14                     | 2.00   | ① 198.8<br>② 238.5<br>③ 198.8 | 142<br>170<br>142          | 11<br>14<br>11           | 18<br>21<br>18              | 12<br>14<br>12     | 10<br>11<br>10   | 7<br>8<br>7      |

#### Legend:

CCZ – Grey Complete Product.

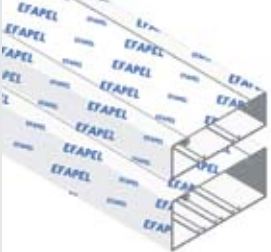
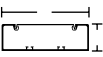
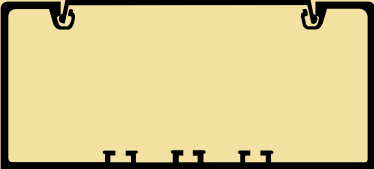
Technical Characteristics of Trunkings and Accessories on page 223.

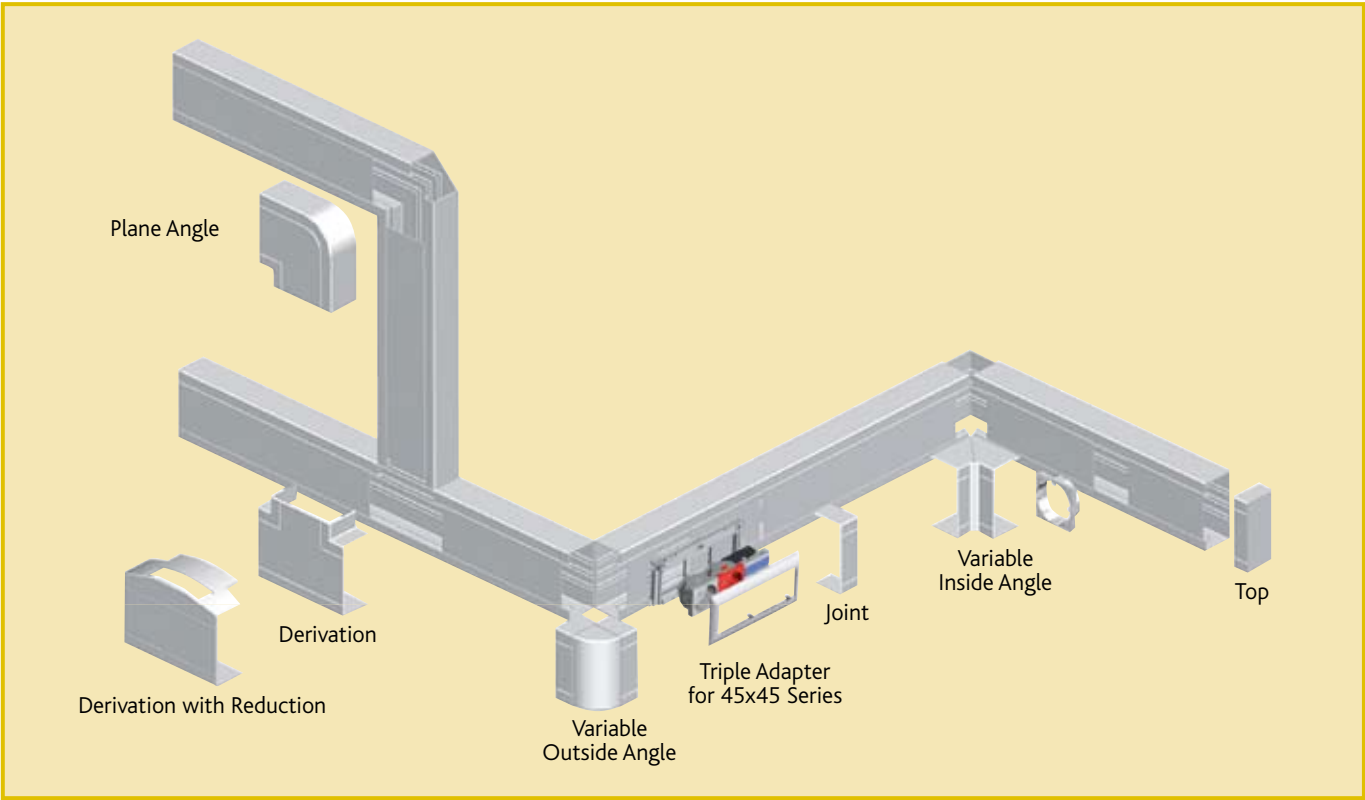
Tables of Cables and Criteria for Trunkings Selection on page 222.

# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

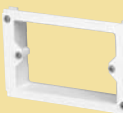
## Distribution Cable-trunkings dimensions: 110x34 / 110x50

### Trunkings with Covers of 75mm (L75) Width

| Trunkings with Covers of 75mm (L75) Width      |           |                                                                                    |                                                                                   | Accessories Description – Reference – (Box/Unit) |                       |                     |                     |                     |  |
|------------------------------------------------|-----------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------|-----------------------|---------------------|---------------------|---------------------|--|
| Designation                                    | Ref.      |   |  | Derivation                                       | Variable Inside Angle | Plane Angle         | Joint               | Top                 |  |
| 110X34 Trunking<br>-Cover - L75<br><b>IK08</b> | 10080 CBR |   | 110x34<br>(20 m)                                                                  | 10081 ABR<br>(4 un)                              | 10082 ABR<br>(4 un)   | 10083 ABR<br>(4 un) | 10084 ABR<br>(4 un) | 10085 ABR<br>(4 un) |  |
| 110X50 Trunking<br>-Cover - L75<br><b>IK08</b> | 10090 CBR |  | 110x50<br>(20 m)                                                                  | 10091 ABR<br>(4 un)                              | 10092 ABR<br>(4 un)   | 10093 ABR<br>(4 un) | 10094 ABR<br>(4 un) | 10095 ABR<br>(4 un) |  |



**White Colour RAL 9003**  
**According to NF C 68 - 104 Standard**  
**Supplied with Protection Film**

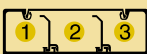
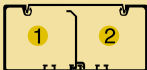
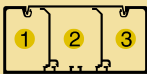
|  | Variable<br>Outside<br>Angle                                                      | Derivation<br>with Reduction                                                      | Divider                                                                           | Flush Mounting<br>Box                                                             | Semi-Flush<br>Mounting Box                                                        | Flush Mounting<br>Box for<br>Italian/American<br>Type Mechanisms                  | Clip for<br>Cable Support                                                          | Single Adapter<br>for Modules of<br>45x45 Series<br>Trunkings<br>with Covers of<br>60-75mm width | Double Adapter<br>for Modules of<br>45x45 Series<br>Trunkings<br>with Covers of<br>75mm width | Triple Adapter<br>for Modules of<br>45x45 Series<br>Trunkings<br>with Covers of<br>75mm width |
|--|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |               |            |            |
|  | <b>10086 ABR</b><br>(4 un)                                                        | <b>10088 ABR</b><br>(4 un)                                                        | <b>10089 ABR</b><br>(20 m)                                                        | <b>10984 ABR</b><br>(10 un)                                                       | <b>10985 ABR</b><br>(10 un)                                                       | <b>10971 ABR</b><br>(10 un)                                                       | <b>10987 ABR</b><br>(50 un)                                                        | <b>10986 ABR</b><br>(20 un)                                                                      | <b>10952 ABR</b><br>(10 un)                                                                   | <b>10954 ABR</b><br>(10 un)                                                                   |
|  | <b>10096 ABR</b><br>(4 un)                                                        | <b>10098 ABR</b><br>(4 un)                                                        | <b>10099 ABR</b><br>(20 m)                                                        | <b>10984 ABR</b><br>(10 un)                                                       | <b>10985 ABR</b><br>(10 un)                                                       | <b>10971 ABR</b><br>(10 un)                                                       | <b>10987 ABR</b><br>(50 un)                                                        | <b>10986 ABR</b><br>(20 un)                                                                      | <b>10952 ABR</b><br>(10 un)                                                                   | <b>10954 ABR</b><br>(10 un)                                                                   |



# 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

## Distribution Cable-trunkings - Selection of Trunkings

### Trunkings with Covers of 75mm (L75) Width

| Designation                                  | Ref.      |                                                                                     | Trunkings Characteristics |        |                            |                        | Isolated Cables Capacity |                             |                 |                |                |
|----------------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------|--------|----------------------------|------------------------|--------------------------|-----------------------------|-----------------|----------------|----------------|
|                                              |           |                                                                                     | Internal Dimensions       | Length | Internal Section (S)       | Available Section (Su) | Max. ø Available         | Max. Nr. Conductors H07 V-U |                 |                |                |
|                                              |           |                                                                                     | (mm)                      | (m)    | (mm²)                      | (S:1.4) (mm²)          | (mm)                     | 1.5mm²                      | 2.5mm²          | 4mm²           | 6mm²           |
| 110x34 Trunking without Divider              | 10080 CBR |    | 106x30                    | 2.00   | 3111.2                     | 2222                   | 28                       | 283                         | 192             | 154            | 115            |
| 110x34 Trunking with 2 Dividers              |           |    |                           |        | ① 896<br>② 1148<br>③ 896   | 640<br>820<br>640      | 24<br>27<br>24           | 81<br>104<br>81             | 55<br>71<br>55  | 44<br>57<br>44 | 33<br>42<br>33 |
| 110x34 Trunking with Flush Mounting Box      |           |    |                           |        | 1311.2 (b)                 | 937                    |                          | 119                         | 81              | 65             | 48             |
| 110x34 Trunking with Semi-Flush Mounting Box |           |  |                           |        | 1888.2 (b)                 | 1349                   |                          | 172                         | 116             | 93             | 69             |
| 110x50 Trunking without Divider              | 10090 CBR |  | 106x46                    | 2.00   | 4766.4                     | 3405                   | 43                       | 434                         | 294             | 235            | 176            |
| 110x50 Trunking with 1 Divider               |           |  |                           |        | ① 2348<br>② 2310           | 1677<br>1650           | 41<br>41                 | 214<br>210                  | 145<br>142      | 116<br>114     | 86<br>85       |
| 110x50 Trunking with 2 Dividers              |           |  |                           |        | ① 1391<br>② 1765<br>③ 1391 | 994<br>1261<br>994     | 31<br>38<br>31           | 126<br>161<br>126           | 86<br>109<br>86 | 69<br>87<br>69 | 51<br>65<br>51 |
| 110x50 Trunking with Flush Mounting Box      |           |  |                           |        | 2966.4 (b)                 | 2119                   |                          | 270                         | 183             | 146            | 109            |
| 110x50 Trunking with Semi-Flush Mounting Box |           |  |                           |        | 3543.4 (b)                 | 2531                   |                          | 322                         | 219             | 175            | 130            |

#### Legend:

CBR – White Complete Product.

(b) - Section available with the biggest device.

Technical Characteristics of Trunkings and Accessories on page 223.

Tables of Cables and Criteria for Trunkings Selection on page 222.

# Trunkings - General Technical Characteristics

## Raw Material (Rigid PVC - M1)

### 1 - Trunkings

#### Hardness (shore D)

Din 53 505

80,0 Degrees

#### Specific Weight

ISO 1183

1,40 gr/cm<sup>3</sup>

#### Gelling Time

Manufacturer's procedure

130s

#### Fire Behaviour

UL Inflammability Test of Plastic Materials

UL94

Grade V0

#### Specification LNEC-E365:1990

M1

### 2 - Accessories

#### Hardness (shore D)

Din 53 505

77,0 Degrees

#### Specific Weight

ISO 1183

1,46 gr/cm<sup>3</sup>

#### Melt Flow Index

NP 2914

34,0 gr/600s

#### Fire Behaviour

UL Inflammability Test of Plastic Materials

UL94

Grade V0

#### Gelling Time

Manufacturer's procedure

145s

#### Application

Indoor Installations

#### Mechanical Properties

Subject to light mechanical loads

#### Operating Temperature

NF C 68 - 104

-5° C a + 60°C

#### Continuity of Insulating Characteristics

NF C 68 - 104

Continuity of the insulating characteristics is maintained

#### Cover Dismantling

NF C 68 - 104

The cover can be removed without tools

#### Protection Against Penetration of Solid Objects

NF C 68 - 104

IP 4X

#### Protection Against Water Penetration

NF C 68 - 104

IP X2

#### Protection Against Mechanical Stresses and Impacts

NF C 68 - 104 e EN 50102

– 110X34 and 110X50 trunking

Impact energy 5 Joule - IK08

– 16 Series trunkings

Impact energy 10 Joule - IK09

– Accessories and other trunkings

Impact energy 0,70 Joule - IK05

#### Heat Resistance

(Ball pressure test)

NF C 68 - 104

Trunkings and accessories resistant to 60°C

#### Fire Resistance

(Glow wire test - extinction of flame)

NF C 68 - 104 e IEC 60695-2-1

Accessories are resistant to the test at 650°C

#### Fire Resistance

(Burner test - ability to extinguish flame)

NF C 68 - 104

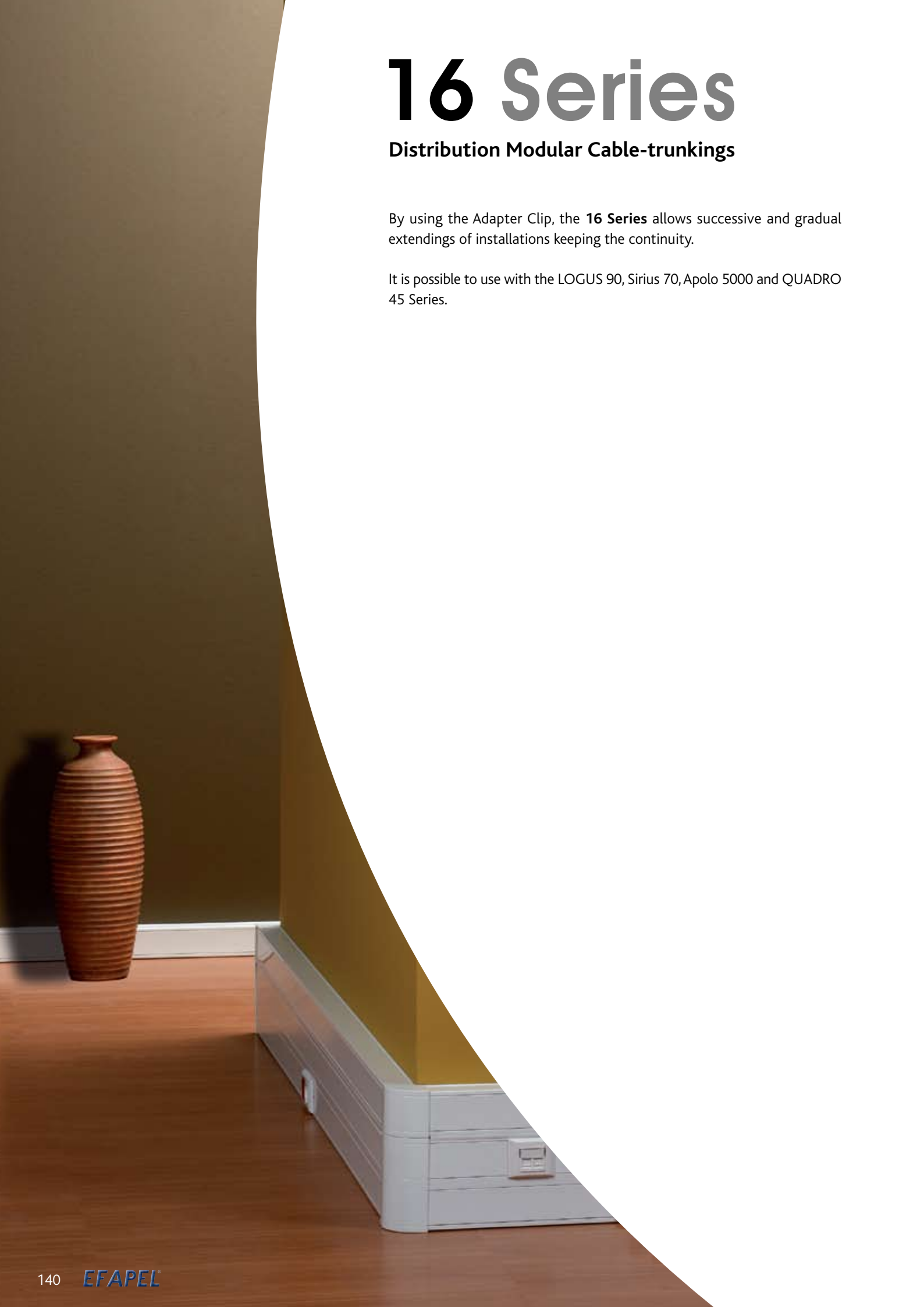
Trunkings are resistant to the burner test

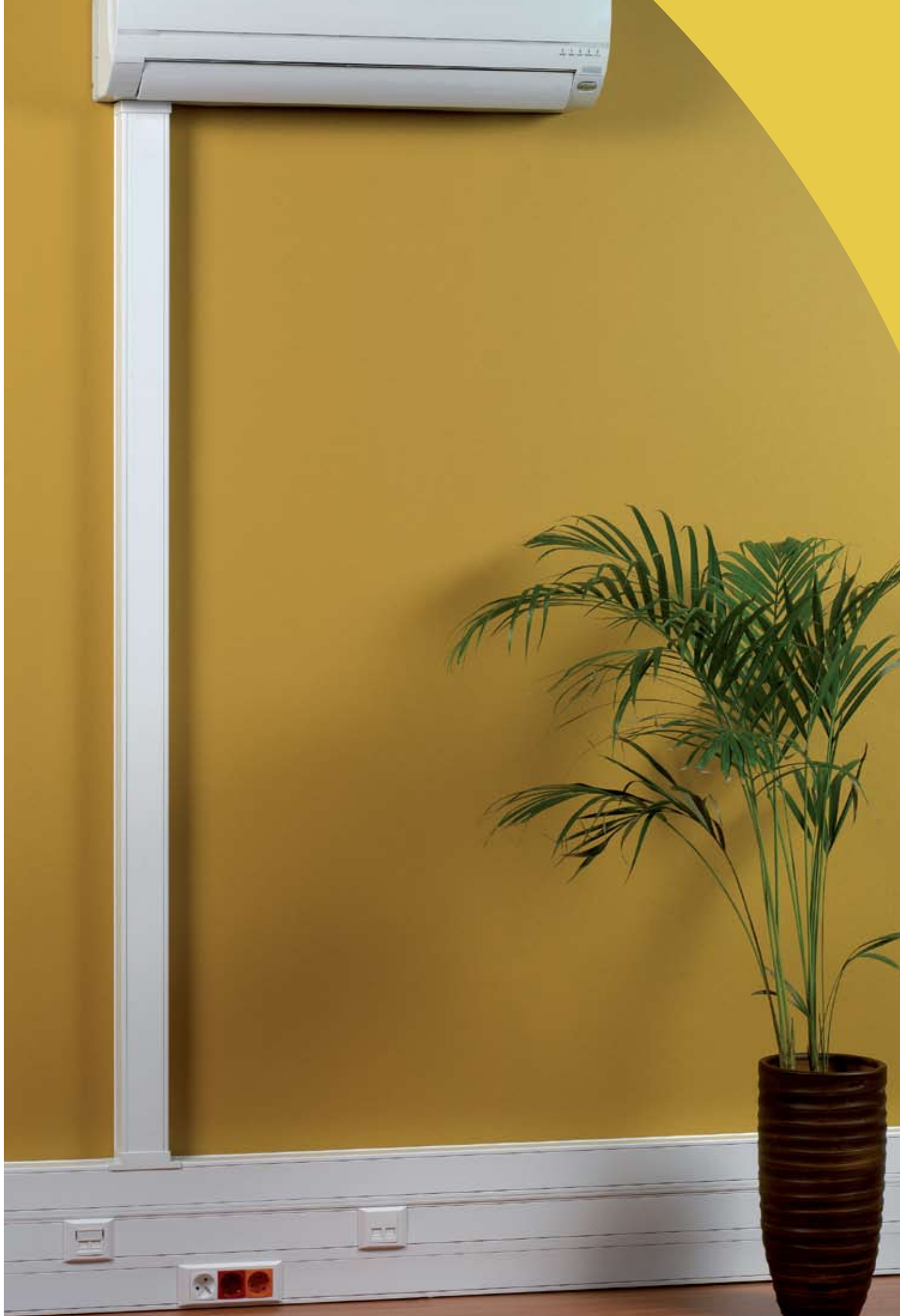
# 16 Series

## Distribution Modular Cable-trunkings

By using the Adapter Clip, the **16 Series** allows successive and gradual extendings of installations keeping the continuity.

It is possible to use with the LOGUS 90, Sirius 70, Apolo 5000 and QUADRO 45 Series.



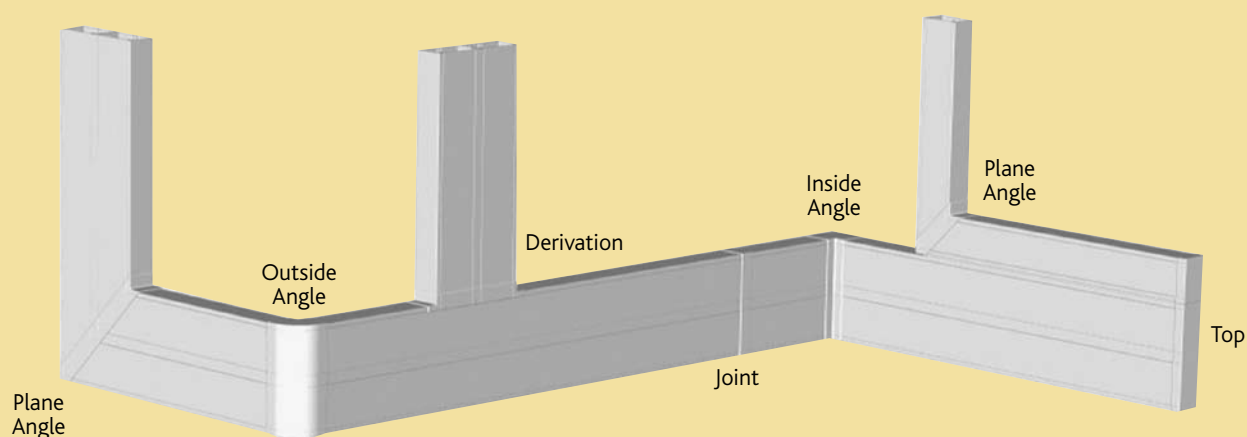


# 16 Series - Distribution Modular Cable-trunkings

## Distribution Modular Cable-trunkings

| Trunkings with Covers of 60mm (L60) and 75mm (L75) Width |           |  |                 | Accessories Description – Reference – (Box/Unit) |                     |                     |                     |                     |  |
|----------------------------------------------------------|-----------|--|-----------------|--------------------------------------------------|---------------------|---------------------|---------------------|---------------------|--|
| Designation                                              | Ref.      |  |                 | Derivation                                       | Inside Angle        | Plane Angle         | Joint               | Top                 |  |
| 75x50 Modular Trunking<br>- Cover - L60                  | 16010 CBR |  | 75x50<br>(16 m) | 16011 ABR<br>(5 un)                              | 16012 ABR<br>(5 un) | 16013 ABR<br>(5 un) | 16014 ABR<br>(5 un) | 16015 ABR<br>(5 un) |  |
| 90x50 Modular Trunking<br>- Cover - L75                  | 16020 CBR |  | 90x50<br>(16 m) | 16021 ABR<br>(5 un)                              | 16022 ABR<br>(5 un) | 16023 ABR<br>(5 un) | 16024 ABR<br>(5 un) | 16025 ABR<br>(5 un) |  |
| 155x50 Modular Trunking<br>- Cover - L60                 | 16030 CBR |  | 155x50<br>(8 m) | 16031 ABR<br>(5 un)                              | 16032 ABR<br>(5 un) | 16033 ABR<br>(5 un) | 16034 ABR<br>(5 un) | 16035 ABR<br>(5 un) |  |
| 185x50 Modular Trunking<br>- Cover - L75                 | 16040 CBR |  | 185x50<br>(8 m) | 16041 ABR<br>(5 un)                              | 16042 ABR<br>(5 un) | 16043 ABR<br>(5 un) | 16044 ABR<br>(5 un) | 16045 ABR<br>(5 un) |  |
| 90x65 Modular Trunking<br>- Cover - L75                  | 16050 CBR |  | 90x65<br>(16 m) | 16051 ABR<br>(5 un)                              | 16052 ABR<br>(5 un) | 16053 ABR<br>(5 un) | 16054 ABR<br>(5 un) | 16055 ABR<br>(5 un) |  |
| 185x65 Modular Trunking<br>- Cover - L75                 | 16060 CBR |  | 185x65<br>(8 m) | 16061 ABR<br>(5 un)                              | 16062 ABR<br>(5 un) | 16063 ABR<br>(5 un) | 16064 ABR<br>(5 un) | 16065 ABR<br>(5 un) |  |

### Complete Line of Accessories

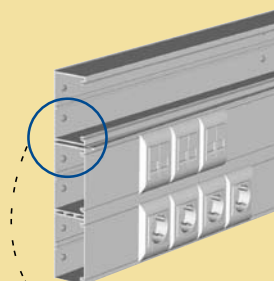
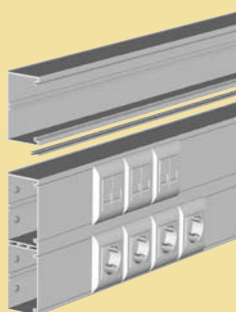


**Legend:**  
ABR – White Accessorie; CBR – White Complete Product.

dimensions: 75x50 / 90x50 / 155x50 / 185x50 / 90x65 / 185x65

|  | Outside Angle                                                                     | Adapter Clip                                                                      | Divider                                                                           | Flush Mounting Box                                                                | Semi-Flush Mounting Box                                                           | Flush Mounting Box for Italian/American Type Mechanisms                           | Clip for Cable Support                                                            | Single Adapter for Modules of 45x45 Series Trunkings with Covers of 60-75mm width  | Double Adapter for Modules of 45x45 Series Trunkings with Covers of 60mm width      | Double Adapter for Modules of 45x45 Series Trunkings with Covers of 75mm width      | Triple Adapter for Modules of 45x45 Series Trunkings with Covers of 60mm width      | Triple Adapter for Modules of 45x45 Series Trunkings with Covers of 75mm width      |
|--|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 16016 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 10099 ABR<br>(20 m)                                                               | ----                                                                              | ----                                                                              | ----                                                                              | ----                                                                              | 10986 ABR<br>(20 un)                                                               | 10951 ABR<br>(10 un)                                                                | ----                                                                                | 10953 ABR<br>(10 un)                                                                | ----                                                                                |
|  | 16026 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 10099 ABR<br>(20 m)                                                               | 10984 ABR<br>(10 un)                                                              | 10985 ABR<br>(10 un)                                                              | 10971 ABR<br>(10 un)                                                              | 10987 ABR<br>(50 un)                                                              | 10986 ABR<br>(20 un)                                                               | ----                                                                                | 10952 ABR<br>(10 un)                                                                | ----                                                                                | 10954 ABR<br>(10 un)                                                                |
|  | 16036 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 10099 ABR<br>(20 m)                                                               | ----                                                                              | ----                                                                              | ----                                                                              | ----                                                                              | 10986 ABR<br>(20 un)                                                               | 10951 ABR<br>(10 un)                                                                | ----                                                                                | 10953 ABR<br>(10 un)                                                                | ----                                                                                |
|  | 16046 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 10099 ABR<br>(20 m)                                                               | 10984 ABR<br>(10 un)                                                              | 10985 ABR<br>(10 un)                                                              | 10971 ABR<br>(10 un)                                                              | 10987 ABR<br>(50 un)                                                              | 10986 ABR<br>(20 un)                                                               | ----                                                                                | 10952 ABR<br>(10 un)                                                                | ----                                                                                | 10954 ABR<br>(10 un)                                                                |
|  | 16056 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 16972 ABR<br>(20 m)                                                               | 10984 ABR<br>(10 un)                                                              | 10985 ABR<br>(10 un)                                                              | 10971 ABR<br>(10 un)                                                              | 10987 ABR<br>(50 un)                                                              | 10986 ABR<br>(20 un)                                                               | ----                                                                                | 10952 ABR<br>(10 un)                                                                | ----                                                                                | 10954 ABR<br>(10 un)                                                                |
|  | 16066 ABR<br>(5 un)                                                               | 16971 ABR<br>(48 m)                                                               | 16972 ABR<br>(20 m)                                                               | 10984 ABR<br>(10 un)                                                              | 10985 ABR<br>(10 un)                                                              | 10971 ABR<br>(10 un)                                                              | 10987 ABR<br>(50 un)                                                              | 10986 ABR<br>(20 un)                                                               | ----                                                                                | 10952 ABR<br>(10 un)                                                                | ----                                                                                | 10954 ABR<br>(10 un)                                                                |

## Innovation



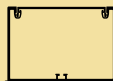
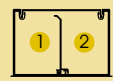
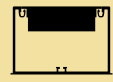
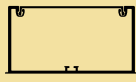
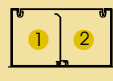
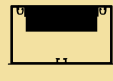
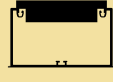
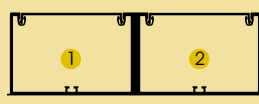
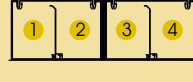
Adapter Clip for  
Modular Cable-trunkings  
(Ref. 16971 ABR)



# 16 Series - Distribution Modular Cable-trunkings

## Distribution Modular Cable-trunkings - Selection of Trunkings

### Trunkings with Covers of 60mm (L60) and 75mm (L75) Width

| Designation                                         | Ref.      |    | Trunkings Characteristics |        |                                      |                              | Max. Nr. Conductors H07 V-U |                             |                      |                      |                      |
|-----------------------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------|--------|--------------------------------------|------------------------------|-----------------------------|-----------------------------|----------------------|----------------------|----------------------|
|                                                     |           |                                                                                     | Internal Dimensions       | Length | Internal Section (S)                 | Available Section(Su)        | Max. ø Available            | Nº Máx. Conductores H07 V-U |                      |                      |                      |
|                                                     |           |                                                                                     | (mm)                      | (m)    | (mm²)                                | (S:1.4) (mm²)                | (mm)                        | 1.5 mm²                     | 2.5 mm²              | 4 mm²                | 6 mm²                |
| 75x50 Modular Trunking                              | 16010 CBR |    | 71x46                     | 2      | 3266                                 | 2333                         | 45                          | 297                         | 202                  | 161                  | 120                  |
| 75x50 Modular Trunking with 1 Divider               |           |    |                           | 2      | 1 1630<br>2 1630                     | 1164<br>1164                 | 34<br>34                    | 148<br>148                  | 100<br>100           | 80<br>80             | 60<br>60             |
| 75x50 Modular Trunking with Flush Mounting Box      |           |    |                           | 2      | 1466<br>a)                           | 1047                         |                             | 133                         | 90                   | 72                   | 54                   |
| 90x50 Modular Trunking                              | 16020 CBR |   | 86x46                     | 2      | 3956                                 | 2826                         | 45                          | 360                         | 244                  | 195                  | 146                  |
| 90x50 Modular Trunking with 1 Divider               |           |  |                           | 2      | 1 1975<br>2 1975                     | 1411<br>1411                 | 40<br>40                    | 180<br>180                  | 122<br>122           | 97<br>97             | 73<br>73             |
| 90x50 Modular Trunking with Flush Mounting Box      |           |  |                           | 2      | 2156<br>a)                           | 1540                         |                             | 196                         | 133                  | 106                  | 79                   |
| 90x50 Modular Trunking with Semi-Flush Mounting Box |           |  |                           | 2      | 2733<br>a)                           | 1952                         |                             | 249                         | 169                  | 135                  | 101                  |
| 155x50 Modular Trunking                             | 16030 CBR |  | 70x46<br>70x46            | 2      | 1 3220<br>2 3220                     | 2300<br>2300                 | 45<br>45                    | 293<br>293                  | 199<br>199           | 159<br>159           | 118<br>118           |
| 155x50 Modular Trunking with 2 Dividers             |           |  |                           | 2      | 1 1607<br>2 1607<br>3 1607<br>4 1607 | 1148<br>1148<br>1148<br>1148 | 34<br>34<br>34<br>34        | 146<br>146<br>146<br>146    | 99<br>99<br>99<br>99 | 79<br>79<br>79<br>79 | 59<br>59<br>59<br>59 |
| 155x50 Modular Trunking with Flush Mounting Box     |           |  |                           | 2      | 1 1420<br>2 1420<br>a)               | 1014<br>1014                 |                             | 129<br>129                  | 87<br>87             | 70<br>70             | 52<br>52             |

#### Legend:

CBR – White Complete Product.

(a) - Section available with the biggest device.

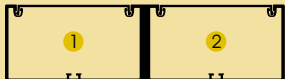
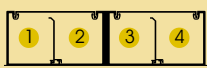
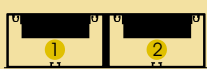
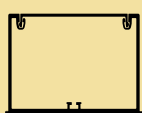
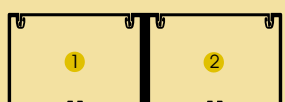
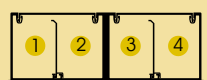
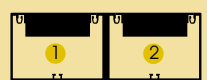
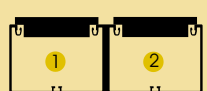
Technical Characteristics of Trunkings and Accessories on page 223.

Tables of Cables and Criteria for Trunkings Selection on page 222.

# 16 Series - Distribution Modular Cable-trunkings

## Distribution Modular Cable-trunkings - Selection of Trunkings

### Trunkings with Covers of 60mm (L60) and 75mm (L75) Width

| Designation                                          | Ref.      |    | Trunkings Characteristics |        |                                      |                              | Isolated Cables Capacity |                             |                          |                          |                      |
|------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------|--------|--------------------------------------|------------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|----------------------|
|                                                      |           |                                                                                     | Internal Dimensions       | Length | Internal Section (S)                 | Available Section(Su)        | Max. ø Available         | Max. Nr. Conductors H07 V-U |                          |                          |                      |
|                                                      |           |                                                                                     | (mm)                      | (m)    | (mm²)                                | (S:1.4) (mm²)                | (mm)                     | 1.5 mm²                     | 2.5 mm²                  | 4 mm²                    | 6 mm²                |
| 185x50 Modular Trunking                              | 16040 CBR |    | 85x46<br>85x46            | 2      | 1 3910<br>2 3910                     | 2793<br>2793                 | 45<br>45                 | 356<br>356                  | 241<br>241               | 193<br>193               | 144<br>144           |
| 185x50 Modular Trunking with 2 Dividers              |           |    |                           | 2      | 1 1952<br>2 1952<br>3 1952<br>4 1952 | 1394<br>1394<br>1394<br>1394 | 40<br>40<br>40<br>40     | 178<br>178<br>178<br>178    | 120<br>120<br>120<br>120 | 96<br>96<br>96<br>96     | 72<br>72<br>72<br>72 |
| 185x50 Modular Trunking with Flush Mounting Box      |           |    |                           | 2      | 1 2110<br>2 2110<br>a)               | 1507<br>1507                 |                          | 192<br>192                  | 130<br>130               | 104<br>104               | 78<br>78             |
| 185x50 Modular Trunking with Semi-Flush Mounting Box |           |    |                           | 2      | 1 2687<br>2 2687<br>a)               | 1919<br>1919                 |                          | 244<br>244                  | 166<br>166               | 133<br>133               | 99<br>99             |
| 90x65 Modular Trunking                               | 16050 CBR |   | 86x61                     | 2      | 5246                                 | 3747                         | 60                       | 478                         | 324                      | 259                      | 193                  |
| 90x65 Modular Trunking with 1 Divider                |           |  |                           | 2      | 1 2620<br>2 2620                     | 1871<br>1871                 | 40<br>40                 | 238<br>238                  | 162<br>162               | 129<br>129               | 96<br>96             |
| 90x65 Modular Trunking with Flush Mounting Box       |           |  |                           | 2      | 3446<br>a)                           | 2461                         |                          | 314                         | 213                      | 170                      | 127                  |
| 90x65 Modular Trunking with Semi-Flush Mounting Box  |           |  |                           | 2      | 4023<br>a)                           | 2874                         |                          | 366                         | 248                      | 199                      | 148                  |
| 185x65 Modular Trunking                              | 16060 CBR |  | 85x61<br>85x61            | 2      | 1 5185<br>2 5185                     | 3704<br>3704                 | 60<br>60                 | 472<br>472                  | 320<br>320               | 256<br>256               | 191<br>191           |
| 185x65 Modular Trunking with 2 Dividers              |           |  |                           | 2      | 1 2590<br>2 2590<br>3 2590<br>4 2590 | 1850<br>1850<br>1850<br>1850 | 40<br>40<br>40<br>40     | 236<br>236<br>236<br>236    | 160<br>160<br>160<br>160 | 128<br>128<br>128<br>128 | 95<br>95<br>95<br>95 |
| 185x65 Modular Trunking with Flush Mounting Box      |           |  |                           | 2      | 1 3385<br>2 3385<br>a)               | 2418<br>2418                 |                          | 308<br>308                  | 209<br>209               | 167<br>167               | 125<br>125           |
| 185x65 Modular Trunking with Semi-Flush Mounting Box |           |  |                           | 2      | 1 3962<br>2 3962<br>a)               | 2830<br>2830                 |                          | 361<br>361                  | 244<br>244               | 196<br>196               | 146<br>146           |

#### Legend:

CBR – White Complete Product.

(a) - Section available with the biggest device.

Technical Characteristics of Trunkings and Accessories on page 223.

Tables of Cables and Criteria for Trunkings Selection on page 222.

# 13 Series

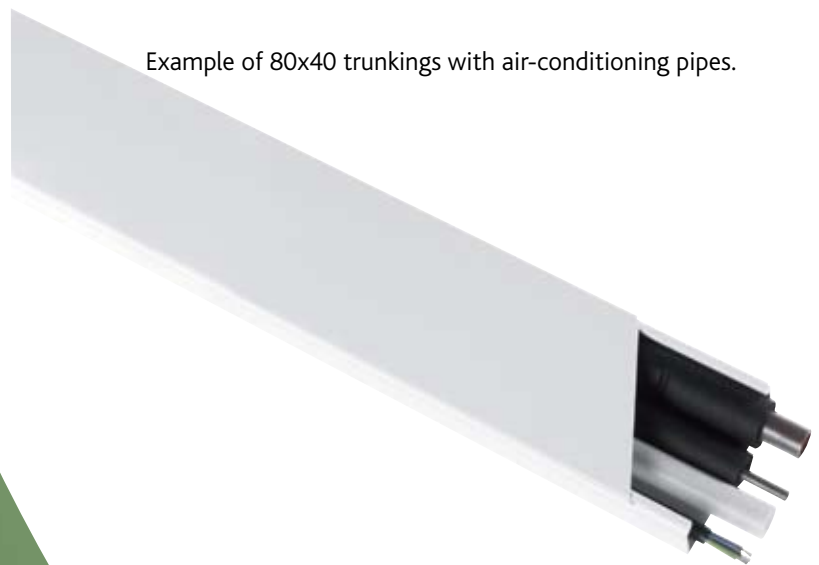
## Trunkings for the Protection of Cables and Pipes

The **13 Series** is the rugged and reliable solution for all installations where you want to get a versatile system of conduits for the installation and protection of cables, pipes of air-conditioning, water, compressed-air, vacuum and heating.

With an easy assembly and discreet design, the **13 Series** is presented in colour White - RAL 9003 - and is distinguished by its ruggedness and reliability in residential and industrial facilities.

This Series is available in 8 dimensions to solve the normal requirements of any installation.

Example of 80x40 trunkings with air-conditioning pipes.



# 13 Series - Trunkings for the Protection of Cables and Pipes

## Trunkings for the Protection of Cables and Pipes

dimensions: 25x30 / 40x40 / 60x40 / 60x60  
80x40 / 80x60 / 100x40 / 100x60

White Colour RAL 9003

According to NF C 68 - 104 Standard



| Trunkings       |           |  |                  | Accessories                          |                      |                      |                      |                        |
|-----------------|-----------|--|------------------|--------------------------------------|----------------------|----------------------|----------------------|------------------------|
| Designation     | Ref.      |  |                  | Description – Reference – (Box/Unit) |                      |                      |                      |                        |
|                 |           |  |                  | Variable Inside Angle                | Plane Angle          | Joint                | Top                  | Variable Outside Angle |
| 25x30 Trunking  | 13010 CBR |  |                  |                                      |                      |                      |                      |                        |
| 25x30 Trunking  | 13010 CBR |  | 25x30<br>(96 m)  | 13012 ABR<br>(10 un)                 | 13013 ABR<br>(10 un) | 13014 ABR<br>(10 un) | 13015 ABR<br>(10 un) | 13016 ABR<br>(10 un)   |
| 40x40 Trunking  | 13020 CBR |  | 40x40<br>(48 m)  | 13022 ABR<br>(10 un)                 | 13023 ABR<br>(10 un) | 13024 ABR<br>(10 un) | 13025 ABR<br>(10 un) | 13026 ABR<br>(10 un)   |
| 60x40 Trunking  | 13030 CBR |  | 60x40<br>(32 m)  | 13032 ABR<br>(5 un)                  | 13033 ABR<br>(5 un)  | 13034 ABR<br>(5 un)  | 13035 ABR<br>(5 un)  | 13036 ABR<br>(5 un)    |
| 60x60 Trunking  | 13040 CBR |  | 60x60<br>(24 m)  | 13042 ABR<br>(5 un)                  | 13043 ABR<br>(5 un)  | 13044 ABR<br>(5 un)  | 13045 ABR<br>(5 un)  | 13046 ABR<br>(5 un)    |
| 80x40 Trunking  | 13050 CBR |  | 80x40<br>(24 m)  | 13052 ABR<br>(5 un)                  | 13053 ABR<br>(5 un)  | 13054 ABR<br>(5 un)  | 13055 ABR<br>(5 un)  | 13056 ABR<br>(5 un)    |
| 80x60 Trunking  | 13060 CBR |  | 80x60<br>(16 m)  | 13062 ABR<br>(5 un)                  | 13063 ABR<br>(5 un)  | 13064 ABR<br>(5 un)  | 13065 ABR<br>(5 un)  | 13066 ABR<br>(5 un)    |
| 100x40 Trunking | 13070 CBR |  | 100x40<br>(20 m) | 13072 ABR<br>(5 un)                  | 13073 ABR<br>(5 un)  | 13074 ABR<br>(5 un)  | 13075 ABR<br>(5 un)  | 13076 ABR<br>(5 un)    |
| 100x60 Trunking | 13080 CBR |  | 100x60<br>(16 m) | 13082 ABR<br>(5 un)                  | 13083 ABR<br>(5 un)  | 13084 ABR<br>(5 un)  | 13085 ABR<br>(5 un)  | 13086 ABR<br>(5 un)    |

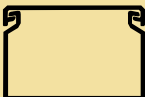
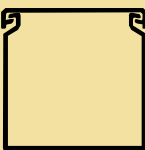
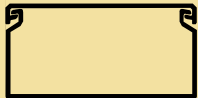
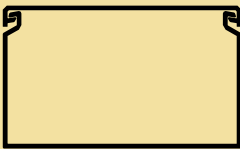
Legend:

ABR – White Accessory; CBR – White Complete Product.

# 13 Series - Trunkings for the Protection of Cables and Pipes

## Trunkings for the Protection of Cables and Pipes - Selection of Trunkings

### Trunkings

| Designation     | Ref.      |    | Trunkings Characteristics |        |                      |                            | Cables, Tubes and Conductors Capacity |                             |                    |                  |                  |
|-----------------|-----------|-------------------------------------------------------------------------------------|---------------------------|--------|----------------------|----------------------------|---------------------------------------|-----------------------------|--------------------|------------------|------------------|
|                 |           |                                                                                     | Internal Dimensions       | Length | Internal Section (S) | Available Section (Su)     | Max. ø Available                      | Max. Nr. Conductors H07 V-U |                    |                  |                  |
|                 |           |                                                                                     | (mm)                      | (m)    | (mm <sup>2</sup> )   | (S:1.4) (mm <sup>2</sup> ) | (mm)                                  | 1.5mm <sup>2</sup>          | 2.5mm <sup>2</sup> | 4mm <sup>2</sup> | 6mm <sup>2</sup> |
| 25x30 Trunking  | 13010 CBR |    | 22x27                     | 2      | 530.0                | 379                        | 20                                    | 48                          | 32                 | 26               | 19               |
| 40x40 Trunking  | 13020 CBR |    | 37x37                     | 2      | 1280.6               | 915                        | 35                                    | 116                         | 79                 | 63               | 47               |
| 60x40 Trunking  | 13030 CBR |    | 56x37                     | 2      | 1973.7               | 1410                       | 35                                    | 180                         | 122                | 97               | 73               |
| 60x60 Trunking  | 13040 CBR |  | 56x56                     | 2      | 3101.7               | 2216                       | 55                                    | 282                         | 191                | 153              | 114              |
| 80x40 Trunking  | 13050 CBR |  | 73x36                     | 2      | 2668.0               | 1906                       | 35                                    | 243                         | 164                | 132              | 98               |
| 80x60 Trunking  | 13060 CBR |  | 76x56                     | 2      | 4192.0               | 2994                       | 55                                    | 382                         | 259                | 207              | 154              |
| 100x40 Trunking | 13070 CBR |  | 96x36                     | 2      | 3352.3               | 2395                       | 35                                    | 305                         | 207                | 166              | 123              |
| 100x60 Trunking | 13080 CBR |  | 96x56                     | 2      | 5272.3               | 3766                       | 55                                    | 480                         | 325                | 260              | 194              |

#### Legend:

CBR – White Complete Product.

Technical Characteristics of Trunkings and Accessories on page 223.

Tables of Cables and Criteria for Trunkings Selection on page 222.

## Technical Trunkings and Accessories - Certifications



### 10 Series - Cable-trunkings for Electrical Installations and Telecommunications

|         |         |         |         |
|---------|---------|---------|---------|
| 10010 C | 10050 C | 10090 C | 10951 A |
| 10011 A | 10051 A | 10091 A | 10952 A |
| 10012 A | 10052 A | 10092 A | 10953 A |
| 10013 A | 10053 A | 10093 A | 10954 A |
| 10014 A | 10054 A | 10094 A | 10961 A |
| 10015 A | 10055 A | 10095 A | 10962 A |
| 10016 A | 10056 A | 10096 A | 10963 A |
| 10017 A | 10057 A | 10098 A | 10964 A |
| 10018 A | 10058 A | 10099 A | 10965 A |
|         |         |         | 10966 A |
| 10020 C | 10060 C | 10100 C | 10967 A |
| 10021 A | 10061 A | 10101 A | 10968 A |
| 10022 A | 10062 A | 10102 A | 10975 A |
| 10023 A | 10063 A | 10103 A | 10976 A |
| 10024 A | 10064 A | 10104 A | 10981 A |
| 10025 A | 10065 A | 10105 A | 10982 A |
| 10026 A | 10066 A | 10106 A | 10984 A |
| 10027 A | 10067 A | 10107 A | 10985 A |
| 10028 A | 10068 A | 10108 A | 10986 A |
|         |         |         | 10987 A |
| 10030 C | 10070 C | 10140 C | 10988 A |
| 10031 A | 10071 A | 10141 A | 10989 A |
| 10032 A | 10072 A | 10142 A |         |
| 10033 A | 10073 A | 10143 A | 10991 A |
| 10034 A | 10074 A | 10144 A | 10993 A |
| 10035 A | 10075 A | 10145 A | 10998 A |
| 10036 A | 10076 A | 10146 A |         |
| 10037 A | 10077 A | 10147 A |         |
| 10038 A | 10078 A | 10148 A |         |
|         | 10079 A | 10149 A |         |
| 10040 C |         |         |         |
| 10041 A | 10080 C | 10150 C |         |
| 10042 A | 10081 A |         |         |
| 10043 A | 10082 A | 10160 C |         |
| 10044 A | 10083 A |         |         |
| 10045 A | 10084 A | 10170 C |         |
| 10046 A | 10085 A |         |         |
| 10047 A | 10086 A |         |         |
| 10048 A | 10088 A |         |         |
|         | 10089 A |         |         |

### 16 Series - Distribution Modular Cable-trunkings

|         |         |
|---------|---------|
| 16010 C | 16060 C |
| 16011 A | 16061 A |
| 16012 A | 16062 A |
| 16013 A | 16063 A |
| 16014 A | 16064 A |
| 16015 A | 16065 A |
| 16016 A | 16066 A |
|         |         |
| 16020 C | 16971 A |
| 16021 A | 16972 A |
| 16022 A |         |
| 16023 A |         |
| 16024 A |         |
| 16025 A |         |
| 16026 A |         |
|         |         |
| 16030 C |         |
| 16031 A |         |
| 16032 A |         |
| 16033 A |         |
| 16034 A |         |
| 16035 A |         |
| 16036 A |         |
|         |         |
| 16040 C |         |
| 16041 A |         |
| 16042 A |         |
| 16043 A |         |
| 16044 A |         |
| 16045 A |         |
| 16046 A |         |
|         |         |
| 16050 C |         |
| 16051 A |         |
| 16052 A |         |
| 16053 A |         |
| 16054 A |         |
| 16055 A |         |
| 16056 A |         |

### 13 Series - Trunkings for the Protection of Cables and Pipes

|         |         |
|---------|---------|
| 13010 C | 13070 C |
| 13012 A | 13072 A |
| 13013 A | 13073 A |
| 13014 A | 13074 A |
| 13015 A | 13075 A |
| 13016 A | 13076 A |
|         |         |
| 13020 C | 13080 A |
| 13022 A | 13082 A |
| 13023 A | 13083 A |
| 13024 A | 13084 A |
| 13025 A | 13085 A |
| 13026 A | 13086 A |
|         |         |
| 13030 C |         |
| 13032 A |         |
| 13033 A |         |
| 13034 A |         |
| 13035 A |         |
| 13036 A |         |
|         |         |
| 13040 C |         |
| 13042 A |         |
| 13043 A |         |
| 13044 A |         |
| 13045 A |         |
| 13046 A |         |
|         |         |
| 13050 C |         |
| 13052 A |         |
| 13053 A |         |
| 13054 A |         |
| 13055 A |         |
| 13056 A |         |
|         |         |
| 13060 C |         |
| 13062 A |         |
| 13063 A |         |
| 13064 A |         |
| 13065 A |         |
| 13066 A |         |

# 14 Series

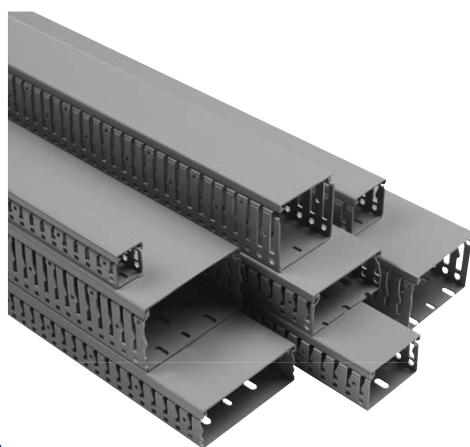
## Trunkings for Electrical Panels

Versatile and safe, the **14 Series** consists in a system of trunkings for driving, organizing and protecting the electrical wires in electrical and telecommunications panels.

Because of its perforated base, the **14 Series** is easy to install and these holes allow for a gradual expansion in the number of wires and their secure fixation.

Applications:

- Networking and Structured Cabling;
- 19" Panels and Cabinets;
- Electrical Panels;
- Panels of the Automation Systems of Machines.

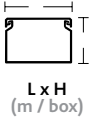
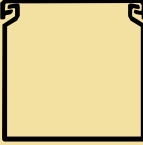


# 14 Series - Trunkings for Electrical Panels

## Trunkings for Electrical Panels

dimensions: 25x30 / 40x40 / 60x40 / 60x60  
80x40 / 80x60 / 100x40 / 100x60

Grey Colour RAL 7035

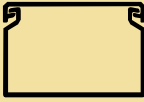
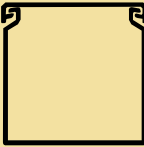
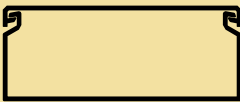
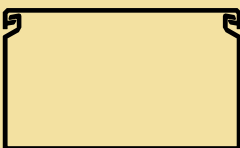
| Trunkings                             |           | Description – Reference – (Box/Unit)                                                 |                                                                                     |
|---------------------------------------|-----------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Designation                           | Ref.      |     |  |
| 25x30 Trunking for Electrical Panels  | 14010 CCZ |     | 25x30<br>(96 m)                                                                     |
| 40x40 Trunking for Electrical Panels  | 14020 CCZ |     | 40x40<br>(48 m)                                                                     |
| 60x40 Trunking for Electrical Panels  | 14030 CCZ |    | 60x40<br>(32 m)                                                                     |
| 60x60 Trunking for Electrical Panels  | 14040 CCZ |   | 60x60<br>(24 m)                                                                     |
| 80x40 Trunking for Electrical Panels  | 14050 CCZ |  | 80x40<br>(24 m)                                                                     |
| 80x60 Trunking for Electrical Panels  | 14060 CCZ |  | 80x60<br>(16 m)                                                                     |
| 100x40 Trunking for Electrical Panels | 14070 CCZ |  | 100x40<br>(20 m)                                                                    |
| 100x60 Trunking for Electrical Panels | 14080 CCZ |  | 100x60<br>(16 m)                                                                    |

**Legend:**  
CCZ – Grey Complete Product.

# 14 Series - Trunkings for Electrical Panels

## Trunkings for Electrical Panels - Selection of Trunkings

### Trunkings

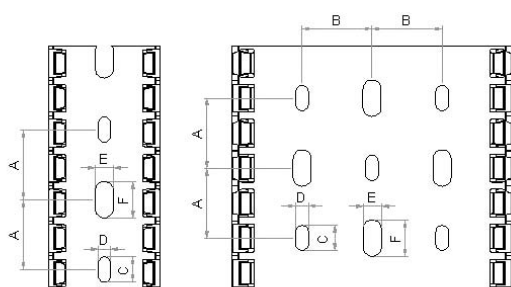
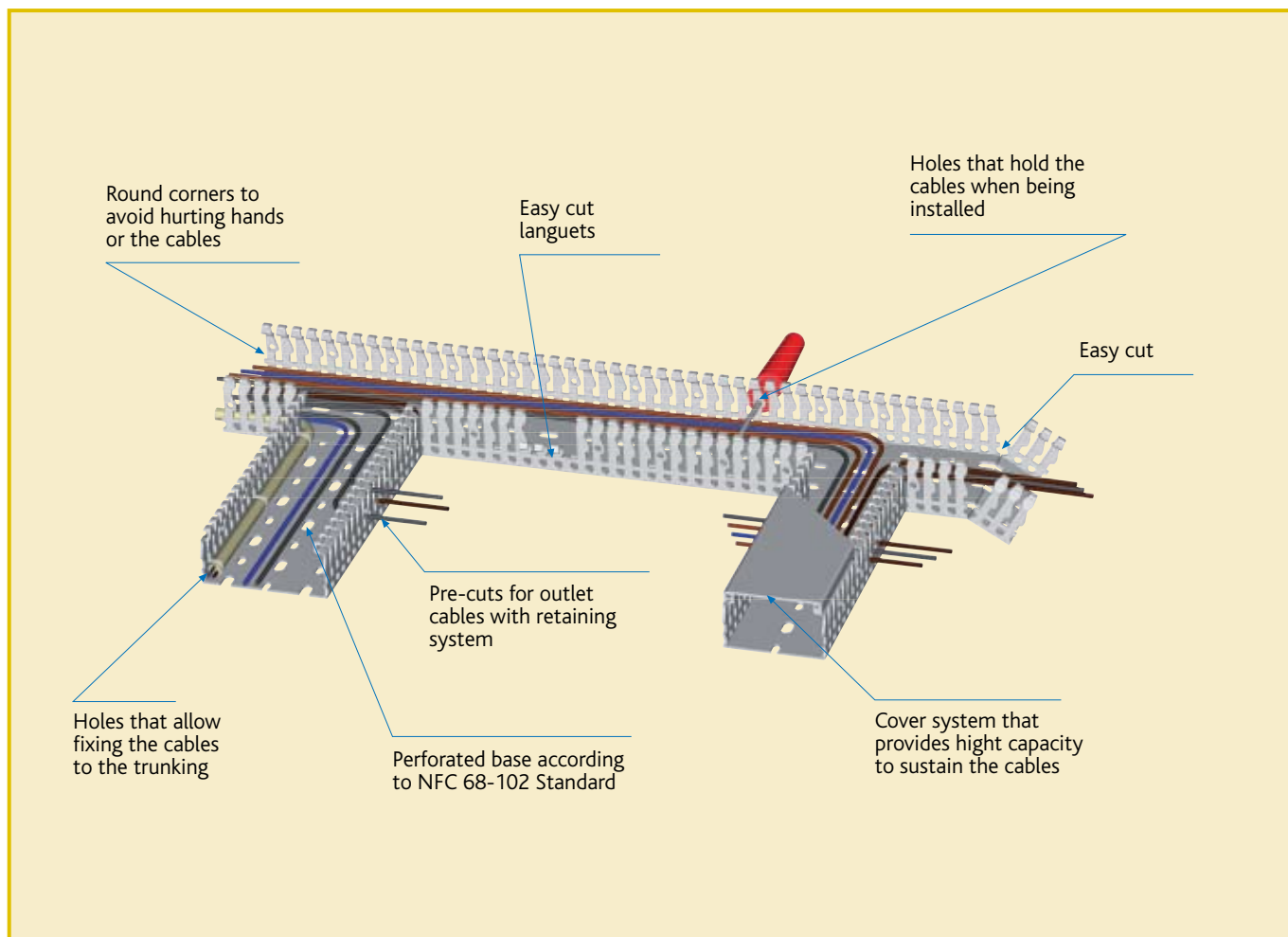
| Description                           | Ref.      |    | Trunkings Characteristics |        |                      |                            | Cables, Tubes and Conductors Capacity |                             |                    |                  |                  |
|---------------------------------------|-----------|-------------------------------------------------------------------------------------|---------------------------|--------|----------------------|----------------------------|---------------------------------------|-----------------------------|--------------------|------------------|------------------|
|                                       |           |                                                                                     | Internal Dimensions       | Length | Internal Section (S) | Available Section (Su)     | Max. ø Available                      | Max. Nr. Conductors H07 V-U |                    |                  |                  |
|                                       |           |                                                                                     | (mm)                      | (m)    | (mm <sup>2</sup> )   | (S:1.4) (mm <sup>2</sup> ) | (mm)                                  | 1.5mm <sup>2</sup>          | 2.5mm <sup>2</sup> | 4mm <sup>2</sup> | 6mm <sup>2</sup> |
| 25x30 Trunking for Electrical Panels  | 14010 CCZ |    | 22x27                     | 2      | 530.0                | 379                        | 20                                    | 48                          | 32                 | 26               | 19               |
| 40x40 Trunking for Electrical Panels  | 14020 CCZ |    | 37x37                     | 2      | 1280.6               | 915                        | 35                                    | 116                         | 79                 | 63               | 47               |
| 60x40 Trunking for Electrical Panels  | 14030 CCZ |    | 56x37                     | 2      | 1973.7               | 1410                       | 35                                    | 180                         | 122                | 97               | 73               |
| 60x60 Trunking for Electrical Panels  | 14040 CCZ |   | 56x56                     | 2      | 3101.7               | 2216                       | 55                                    | 282                         | 191                | 153              | 114              |
| 80x40 Trunking for Electrical Panels  | 14050 CCZ |  | 73x36                     | 2      | 2668.0               | 1906                       | 35                                    | 243                         | 164                | 132              | 98               |
| 80x60 Trunking for Electrical Panels  | 14060 CCZ |  | 76x56                     | 2      | 4192.0               | 2994                       | 55                                    | 382                         | 259                | 207              | 154              |
| 100x40 Trunking for Electrical Panels | 14070 CCZ |  | 96x36                     | 2      | 3352.3               | 2395                       | 35                                    | 305                         | 207                | 166              | 123              |
| 100x60 Trunking for Electrical Panels | 14080 CCZ |  | 96x56                     | 2      | 5272.3               | 3766                       | 55                                    | 480                         | 325                | 260              | 194              |

#### Legend:

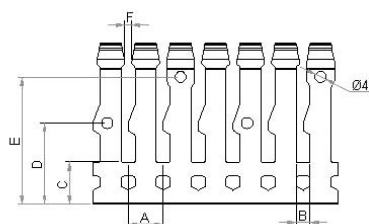
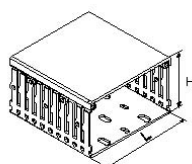
CCZ – Grey Complete Product.

Technical Characteristics of Trunkings and Accessories on page 223.  
Tables of Cables and Criteria for Trunkings Selection on page 222.

# 14 Series - Trunkings for Electrical Panels



| Base Perforation (in mm) |    |    |    |   |     |    |     |
|--------------------------|----|----|----|---|-----|----|-----|
| H                        | L  | A  | B  | C | D   | E  | F   |
| 25                       | 30 | 25 | -  | 9 | 4.5 | 13 | 6.5 |
| 40                       | 40 | 25 | -  | 9 | 4.5 | 13 | 6.5 |
| 60                       | 40 | 25 | -  | 9 | 4.5 | 13 | 6.5 |
| 60                       | 60 | 25 | -  | 9 | 4.5 | 13 | 6.5 |
| 80                       | 40 | 25 | 25 | 9 | 4.5 | 13 | 6.5 |
| 80                       | 60 | 25 | 25 | 9 | 4.5 | 13 | 6.5 |
| 100                      | 40 | 25 | 25 | 9 | 4.5 | 13 | 6.5 |
| 100                      | 60 | 25 | 25 | 9 | 4.5 | 13 | 6.5 |



| Lateral Perforation (in em mm) |    |     |   |      |    |    |     |
|--------------------------------|----|-----|---|------|----|----|-----|
| H                              | L  | A   | B | C    | D  | E  | F   |
| 25                             | 30 | 125 | 5 | 10,5 | 17 | -  | 2.5 |
| 40                             | 40 | 125 | 5 | 11,5 | 20 | -  | 2.5 |
| 60                             | 40 | 125 | 5 | 15   | 20 | -  | 2.5 |
| 60                             | 60 | 125 | 5 | 15   | 29 | 45 | 2.5 |
| 80                             | 40 | 125 | 5 | 12   | 20 | -  | 2.5 |
| 80                             | 60 | 125 | 5 | 15   | 29 | 45 | 2.5 |
| 100                            | 40 | 125 | 5 | 12   | 20 | -  | 2.5 |
| 100                            | 60 | 125 | 5 | 15   | 29 | 45 | 2.5 |

# DVI Series

## Data, Voice and Image

With the **DVI Series**, EFAPEL offers a set of products capable of responding to the solicitations imposed by the telecommunications installations of homes and offices.

In the **DVI Series**, highlights the **new RJ45 Category 5e and Category 6 UTP Connectors**.

Designed for fast mounting and without the use of tools ("Tool-less" type connectors), these new connectors are presented in two colours to facilitate their clear identification. The **Red colour** is for the **RJ45 Category 6 Connector** and the **Green colour** is for the **RJ45 Category 5e**.

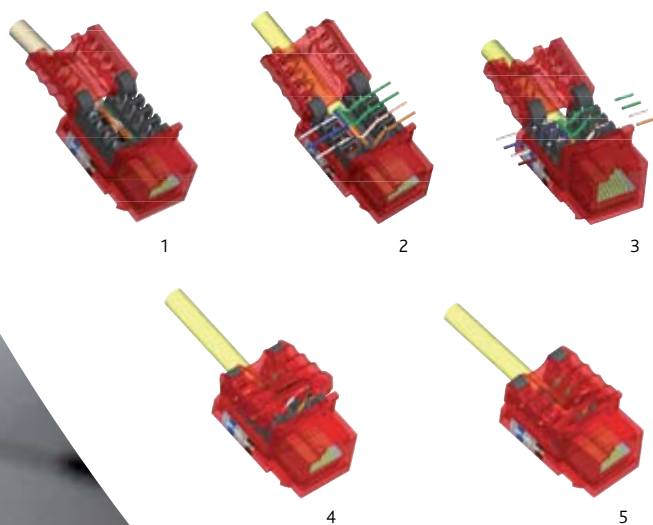


RJ45 Connector Cat 5e UTP



RJ45 Connector Cat 6 UTP

## Example of the Assembly Sequence



# DVI Series - Data, Voice and Image

## CONNECTORS (RJ11, RJ45, Coaxial Cable and Fibre Optic)

|                                                                                    |                                                                        | Ref.  | Colour | Box (Un) |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------|--------|----------|
|   | RJ11 Category 3 Connector                                              | 21972 | -      | 5        |
|   | ST Fibre Optic Connector                                               | 21974 | -      | 5        |
|   | RJ45 Category 5e UTP Connector (100 MHz) <b>NEW</b>                    | 21975 | -      | 5        |
|   | RJ45 Category 6 UTP Connector (250 MHz) <b>NEW</b>                     | 21978 | -      | 5        |
|   | F Type Coaxial Cable Connector                                         | 21979 | -      | 5        |
|   | Double RJ45 Category 5e UTP Connector (1 input / 2 outputs) <b>NEW</b> | 21980 | -      | 5        |
|   | RJ45 Category 5e FTP Connector (100 MHz)                               | 21985 | -      | 5        |
|  | RJ45 Category 6 FTP Connector (250 MHz)                                | 21988 | -      | 5        |

## CONNECTION AND DISTRIBUTION DEVICES

|                                                                                     |                                                         | Ref.  | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|-------|--------|----------|
|  | Telephone Plug - 4 Positions with 4 Contacts (Plug 4x4) | 82024 | -      | 50       |
|  | Telephone Plug - 6 Positions with 4 Contacts (Plug 6x4) | 82025 | -      | 50       |
|  | Telephone Plug - 6 Positions with 6 Contacts (Plug 6x6) | 82026 | -      | 50       |
|  | Telephone Plug - 8 Positions with 8 Contacts (Plug 8x8) | 82028 | -      | 20       |
|  | Shielded RJ45 FTP Plug 8 Contacts                       | 82029 | -      | 20       |
|  | F Type Male Plug                                        | 82601 | -      | 50       |
|  | F Type 90° Male Plug                                    | 82602 | -      | 20       |
|  | F Type 90° Male + Female Plug                           | 82603 | -      | 20       |
|  | TV Male + Female Plug                                   | 82611 | -      | 50       |

**Legend:**  
RJ45 Connectors from DVI Series - Wiring diagrams on page 199.

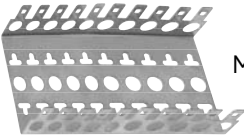
# DVI Series - Data, Voice and Image

## SURGE PROTECTION DEVICES AND ACCESSORIES

|                                                                                     |                                                                   | Ref.  | Colour | Box (Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------|--------|----------|
|    | Ten Pairs Disconnection Module -DDS- (Numbers from 1 to 10)       | 82511 | -      | 10       |
|    | Ten Pairs Derivation Device for Connection and Test -DDE          | 82512 | -      | 10       |
|    | F-Type 75 OHM Tap Terminator                                      | 82681 | -      | 10       |
|    | Eigth Outputs TV Splitter<br>(F Type, 5MHz - 1GHz, 12dB, Flow DC) | 82691 | -      | 1        |
|    | Four Outputs TV Splitter                                          | 82692 | -      | 1        |
|    | Two Poles Gas-filled Surge Arresters Cartridge                    | 82521 | -      | 10       |
|  | Two Poles Gas-filled Surge Arrester                               | 82522 | -      | 100      |
|  | Three Poles Gas-filled Surge Arresters Cartridge                  | 82523 | -      | 10       |
|  | Three Poles Gas-filled Surge Arrester                             | 82524 | -      | 100      |
|  | Plastic Cover for Two or Three Poles Surge Arresters Cartridges   | 82525 | -      | 10       |
|  | Identification Plug of 1 - 10 Pairs                               | 82531 | -      | 20       |
|  | Identification Plug of 10 - 100 Pairs                             | 82532 | -      | 20       |
|  | Disconnection Plug                                                | 82535 | -      | 10       |
|  | Fast Connector for 2 or 3 Conductors                              | 82536 | -      | 100      |

# DVI Series - Data, Voice and Image

## SURGE PROTECTION DEVICES AND ACCESSORIES

|                                                                                     |                                                       | Ref.  | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|-------|--------|-------------|
|    | Label Holder for DDE/DDS Modules                      | 82537 | -      | 10          |
|    | Label Holder for Mounting Frames                      | 82538 | -      | 10          |
|    | Mounting Support for 1 DDE/DDS Module (12mm height)   | 82541 | -      | 2           |
|    | Mounting Support for 2 DDE/DDS Modules (12mm height)  | 82542 | -      | 2           |
|    | Mounting Support for 1 DDE/DDS Module (22mm height)   | 82543 | -      | 2           |
|   | Mounting Support for 2 DDE/DDS Modules (22mm height)  | 82544 | -      | 2           |
|  | Mounting Support for 3 DDE/DDS Modules (22mm height)  | 82545 | -      | 2           |
|  | Mounting Support for 5 DDE/DDS Modules (22mm height)  | 82546 | -      | 2           |
|  | Mounting Support for 10 DDE/DDS Modules (22mm height) | 82547 | -      | 2           |
|  | Mounting Support for 11 DDE/DDS Modules (22mm height) | 82551 | -      | 1           |
|  | Mounting Support for 27 DDE/DDS Modules (22mm height) | 82552 | -      | 1           |

# DVI Series - Data, Voice and Image

| PATCH CORDS AND CABLES                                                              |                                                                               |         |        |          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------|--------|----------|
|                                                                                     |                                                                               | Ref.    | Colour | Box (Un) |
|    | Plain Telephone Cord with 6x4 RJ Plug and 4 "Y" Terminals - 2m length         | 82032   | -      | 1        |
|                                                                                     | Plain Telephone Cord with 6x4 RJ Plug and 4 "Y" Terminals - 5m length         | 82035   | -      | 1        |
|    | Plain Telephone Cord with Two RJ 6x4 Plugs - 2m length                        | 82042   | -      | 1        |
|                                                                                     | Plain Telephone Cord with Two RJ 6x4 Plugs - 5m length                        | 82045   | -      | 1        |
|    | Spiral Telephone Cord with Two RJ 4x4 plugs - 2m length                       | 82052   | -      | 1        |
|                                                                                     | Spiral Telephone Cord with Two RJ 4x4 plugs - 5m length                       | 82055   | -      | 1        |
|    | Antenna Cord with 1 Male and 1 Female Plugs - 1,5m length                     | 82591 A | BR     | 5        |
|                                                                                     | Antenna Cord with 1 Male and 1 Female Plugs - 3m length                       | 82593 A | BR     | 5        |
|                                                                                     | Antenna Cord with 1 Male and 1 Female Plugs - 5m length                       | 82595 A | BR     | 5        |
|  | Patch Cord of 4 Pairs UTP Cable Category 5e and 2 RJ45 Male Plugs 0,5m length | 82621 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs UTP Cable Category 5e and 2 RJ45 Male Plugs 3m length   | 82622 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs UTP Cable Category 5e and 2 RJ45 Male Plugs 5m length   | 82625 A | CZ     | 5        |
|  | Patch Cord of 4 Pairs FTP Cable Category 5e and 2 RJ45 Male Plugs 0,5m length | 82631 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs FTP Cable Category 5e and 2 RJ45 Male Plugs 3m length   | 82632 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs FTP Cable Category 5e and 2 RJ45 Male Plugs 5m length   | 82635 A | CZ     | 5        |
|  | Patch Cord of 4 Pairs UTP Cable Category 6 and 2 RJ45 Male Plugs 0,5m length  | 82641 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs UTP Cable Category 6 and 2 RJ45 Male Plugs 3m length    | 82642 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs UTP Cable Category 6 and 2 RJ45 Male Plugs 5m length    | 82645 A | CZ     | 5        |
|  | Patch Cord of 4 Pairs FTP Cable Category 6 and 2 RJ45 Male Plugs 0,5m length  | 82651 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs FTP Cable Category 6 and 2 RJ45 Male Plugs 3m length    | 82652 A | CZ     | 5        |
|                                                                                     | Patch Cord of 4 Pairs FTP Cable Category 6 and 2 RJ45 Male Plugs 5m length    | 82655 A | CZ     | 5        |

**Legend:**  
**A** – Accessory;  
**BR** – White; **CZ** – Grey.

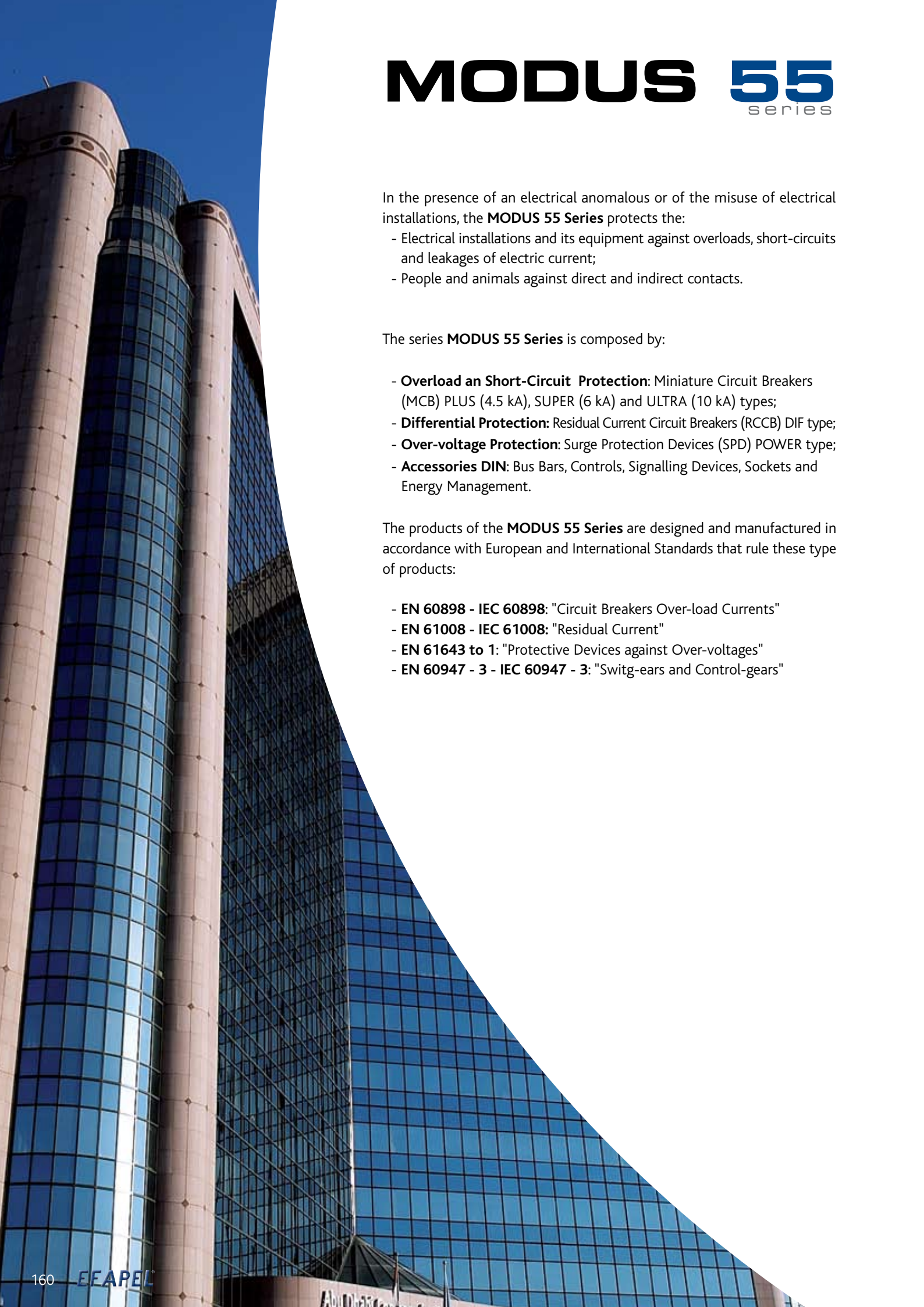
# DVI Series - Data, Voice and Image

## TOOLS

|                                                                                   |                                                   | Ref.  | Colour | Box<br>(Un) |
|-----------------------------------------------------------------------------------|---------------------------------------------------|-------|--------|-------------|
|  | Crimping Tool for 4x4 Plugs                       | 82064 | -      | 1           |
|  | Two Poles Test Cord                               | 82533 | -      | 1           |
|  | Four Poles Test Cord                              | 82534 | -      | 1           |
|  | Insertion Tool (with or without Cutting Function) | 82561 | -      | 1           |
|  | Protecting Bag for Insertion Tool                 | 82562 | -      | 1           |
|  | Crimping Tool for 6x4, 6x6 or 8x8 RJ Plugs        | 82581 | -      | 1           |

## TELEPHONE CONNECTION DEVICES FOR USERS - BPA

|                                                                                     |                                                     | Ref.  | Colour | Box<br>(Un) |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|-------|--------|-------------|
|  | BPA - S (Simple)                                    | 82011 | -      | 10          |
|  | BPA - D (with Gas-filled Surge Arresters)           | 82012 | -      | 10          |
|  | BPA - F (with Fuses and Gas-filled Surge Arresters) | 82013 | -      | 10          |



# MODUS **55** series

In the presence of an electrical anomalous or of the misuse of electrical installations, the **MODUS 55 Series** protects the:

- Electrical installations and its equipment against overloads, short-circuits and leakages of electric current;
- People and animals against direct and indirect contacts.

The series **MODUS 55 Series** is composed by:

- **Overload an Short-Circuit Protection:** Miniature Circuit Breakers (MCB) PLUS (4.5 kA), SUPER (6 kA) and ULTRA (10 kA) types;
- **Differential Protection:** Residual Current Circuit Breakers (RCCB) DIF type;
- **Over-voltage Protection:** Surge Protection Devices (SPD) POWER type;
- **Accessories DIN:** Bus Bars, Controls, Signalling Devices, Sockets and Energy Management.

The products of the **MODUS 55 Series** are designed and manufactured in accordance with European and International Standards that rule these type of products:

- **EN 60898 - IEC 60898:** "Circuit Breakers Over-load Currents"
- **EN 61008 - IEC 61008:** "Residual Current"
- **EN 61643 to 1:** "Protective Devices against Over-voltages"
- **EN 60947 - 3 - IEC 60947 - 3:** "Switg-ears and Control-gears"

# A Professional Solution for Professionals

Full range of products for Electrical Installers and Panel Builders



Miniature Circuit Breaker



Residual Current Breaker



Clock-Switch



Bell



Over-voltage Protector



Signal Lamps

## A Professional Solution for Professionals

Full range of products for Electrical Installers and Panel Builders



### Overload and Short-Circuit Protection

Miniature Circuit Breakers PLUS (4,5kA)  
Miniature Circuit Breakers SUPER (6kA)  
Miniature Circuit Breakers ULTRA (10kA)



### Over-Voltage and Surge Protection

Surge Protection Devices POWER Type



Residential Sector

Tertiary Sector

Industrial Sector

### Residual Current Circuit Protection

Residual Current Circuit Breakers DIF Type

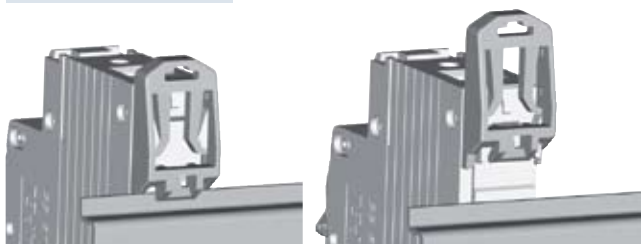


### Controls, Signalling Devices and Energy Management

DIN Accessories



### Easy Mounting



Fixing Plastic Clip with two defined positions.

Advantages:

- Allows to dismounting each product in independent way.
- Allows to adjust the location of each product into the panel without difficulties.
- Allows to mounting and dismounting of each product by using only one hand.

### Easy Connection



Connection Terminals compatible with all the types of connections:

- Rigid Cables;
- Flexible Cables;
- Terminals "Pin Type";
- Terminals "U Type";

### Easy Identification



All the indications are printed on each product:

- Type of product;
- Electrical and Operational Characteristics;
- Indication of the Operational Status through Colour Indicators (Green - OFF, Red - ON);
- Transparent window to place an Identification Card.

### Exclusive Design



Patented Model

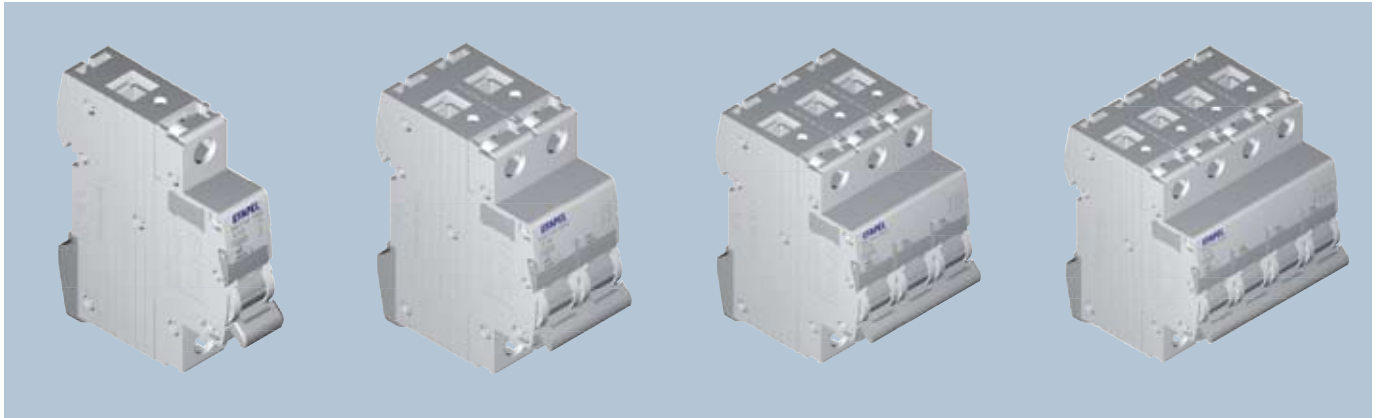
Modern and Nice Aesthetic.

Grey Colour RAL 7035.

Coordinate Colour for all the Series.

Lateral Channels for improve the heat dissipation.

## MINIATURE CIRCUIT BREAKERS (MCB)



**PLUS**

Breaking Capacity: 4,5kA

**SUPER**

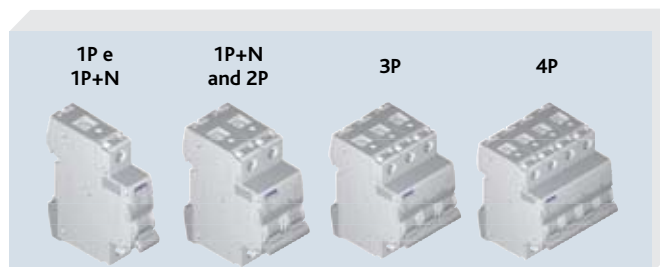
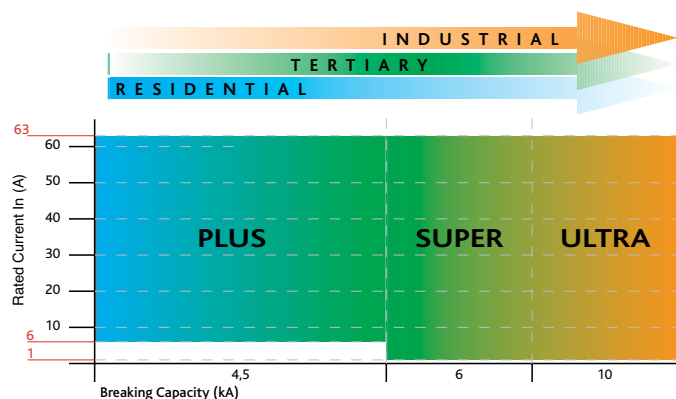
Breaking Capacity: 6kA

**ULTRA**

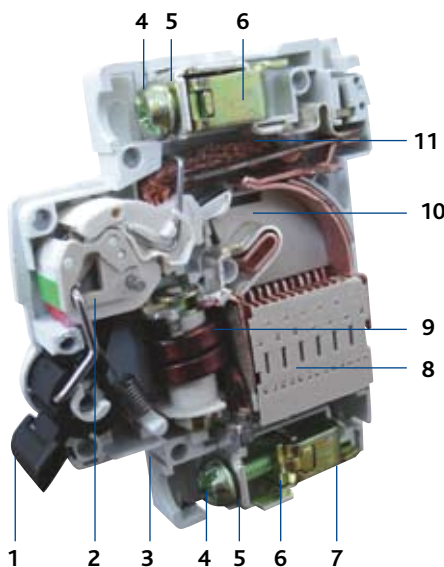
Breaking Capacity: 10kA

## MINIATURE CIRCUIT BREAKERS (MCB)

A WIDE RANGE FOR ALL THE SECTORS AND APPLICATIONS



### WE PRIORISE THE QUALITY



- 1 - Command handle with visual indication of the status of the contacts:  
- Green - OFF  
- Red - ON
- 2 - Exclusive Mechanism that produces the close of the contacts at maximum speed and independent of the speed of movement of the command handle.
- 3 - High precision enclosures injected in plastic (Nylon 66 with fibreglass).
- 4 - Terminal screws with combined head (pozidrive and straight).
- 5 - Connector for Bus Bar.
- 6 - The electrical connections are Pillar Type, that allows the use of rigid and flexible conductors.
- 7 - Guided terminals to avoid placing the cables out of the contact area.
- 8 - Polarized Arc Exhaustion Chamber.
- 9 - High Current Tripping Coil (short-circuit).
- 10 - Contacts of high electrical conductivity and high endurance to the common use.
- 11 - Overload tripping Bimetal.

### CODIFICATION RULES AND IDENTIFICATION CRITERIA

| DIGITS OF THE REFERENCE |                           |               |                    |                |                   |
|-------------------------|---------------------------|---------------|--------------------|----------------|-------------------|
| 1° e 2°                 | 3°                        | 4° and 5°     | 6°                 | 7°             | 8°                |
| SERIES                  | MINIATURE CIRCUIT BREAKER | RATED CURRENT | NUMBER OF POLES    | TRIPPING CURVE | BREAKING CAPACITY |
| 55                      | 1                         | 01 -- 1A      | 1 -- 1P            | B              | PLUS -- 4,5kA     |
|                         |                           | 02 -- 2A      | 2 -- 2P            |                |                   |
|                         |                           | 03 -- 3A      | 3 -- 3P            |                |                   |
|                         |                           | 04 -- 4A      | 4 -- 4P            | C              | SUPER -- 6kA      |
|                         |                           | 06 -- 6A      | 5 -- 1P+N (1 mod.) |                |                   |
|                         |                           | 10 -- 10A     | 6 -- 1P+N (2 mod.) |                |                   |
|                         |                           | 16 -- 16A     |                    | D              | ULTRA -- 10kA     |
|                         |                           | 20 -- 20A     |                    |                |                   |
|                         |                           | 25 -- 25A     |                    |                |                   |
|                         |                           | 32 -- 32A     |                    |                |                   |
|                         |                           | 40 -- 40A     |                    |                |                   |
|                         |                           | 50 -- 50A     |                    |                |                   |
|                         |                           | 63 -- 63A     |                    |                |                   |

Example: Miniature Circuit Breaker of 16 A, 3 Poles, C Tripping Curve with 6kA of breaking capacity - Ref. 55116 3CS

## MINIATURE CIRCUIT BREAKERS (MCB) PLUS (4,5kA)

**Application:** Residential / Tertiary Sectors

**Use:** For the command and the individual protection of electric circuits against overloads and short-circuits.

**Rated Voltage (Un):** 230V / 400V~

**Frequency:** 50/60Hz

**Standard of Conformity:** IEC 60898

**Terminal's Capacity:** from 1 to 35mm<sup>2</sup>

**Breaking Capacity:** 4,5kA (IEC 60898) - 6kA (IEC 60947-2)

**Energy Limitation Class:** 3

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

### Tripping Curve: C

### Breaking Capacity: 4,5kA

| Symbol                                                                              | Ref.      | Designation                  | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|------------------------------|-------------------|----------|------------|
|    | 55106 1CP | MCB - 1P - 4,5kA - C - 6A    | 6                 | 1        | 12         |
|                                                                                     | 55110 1CP | MCB - 1P - 4,5kA - C - 10A   | 10                |          |            |
|                                                                                     | 55116 1CP | MCB - 1P - 4,5kA - C - 16A   | 16                |          |            |
|                                                                                     | 55120 1CP | MCB - 1P - 4,5kA - C - 20A   | 20                |          |            |
|                                                                                     | 55125 1CP | MCB - 1P - 4,5kA - C - 25A   | 25                |          |            |
|                                                                                     | 55132 1CP | MCB - 1P - 4,5kA - C - 32A   | 32                |          |            |
|                                                                                     | 55140 1CP | MCB - 1P - 4,5kA - C - 40A   | 40                |          |            |
|                                                                                     | 55150 1CP | MCB - 1P - 4,5kA - C - 50A   | 50                |          |            |
|                                                                                     | 55163 1CP | MCB - 1P - 4,5kA - C - 63A   | 63                |          |            |
|    | 55106 5CP | MCB - 1P+N - 4,5kA - C - 6A  | 6                 | 1        | 12         |
|                                                                                     | 55110 5CP | MCB - 1P+N - 4,5kA - C - 10A | 10                |          |            |
|                                                                                     | 55116 5CP | MCB - 1P+N - 4,5kA - C - 16A | 16                |          |            |
|                                                                                     | 55120 5CP | MCB - 1P+N - 4,5kA - C - 20A | 20                |          |            |
|                                                                                     | 55125 5CP | MCB - 1P+N - 4,5kA - C - 25A | 25                |          |            |
|                                                                                     | 55132 5CP | MCB - 1P+N - 4,5kA - C - 32A | 32                |          |            |
|                                                                                     | 55140 6CP | MCB - 1P+N - 4,5kA - C - 40A | 40                | 2        | 6          |
|                                                                                     | 55150 6CP | MCB - 1P+N - 4,5kA - C - 50A | 50                |          |            |
|                                                                                     | 55163 6CP | MCB - 1P+N - 4,5kA - C - 63A | 63                |          |            |
|  | 55106 2CP | MCB - 2P - 4,5kA - C - 6A    | 6                 | 2        | 6          |
|                                                                                     | 55110 2CP | MCB - 2P - 4,5kA - C - 10A   | 10                |          |            |
|                                                                                     | 55116 2CP | MCB - 2P - 4,5kA - C - 16A   | 16                |          |            |
|                                                                                     | 55120 2CP | MCB - 2P - 4,5kA - C - 20A   | 20                |          |            |
|                                                                                     | 55125 2CP | MCB - 2P - 4,5kA - C - 25A   | 25                |          |            |
|                                                                                     | 55132 2CP | MCB - 2P - 4,5kA - C - 32A   | 32                |          |            |
|                                                                                     | 55140 2CP | MCB - 2P - 4,5kA - C - 40A   | 40                |          |            |
|                                                                                     | 55150 2CP | MCB - 2P - 4,5kA - C - 50A   | 50                |          |            |
|                                                                                     | 55163 2CP | MCB - 2P - 4,5kA - C - 63A   | 63                |          |            |
|  | 55106 3CP | MCB - 3P - 4,5kA - C - 6A    | 6                 | 3        | 4          |
|                                                                                     | 55110 3CP | MCB - 3P - 4,5kA - C - 10A   | 10                |          |            |
|                                                                                     | 55116 3CP | MCB - 3P - 4,5kA - C - 16A   | 16                |          |            |
|                                                                                     | 55120 3CP | MCB - 3P - 4,5kA - C - 20A   | 20                |          |            |
|                                                                                     | 55125 3CP | MCB - 3P - 4,5kA - C - 25A   | 25                |          |            |
|                                                                                     | 55132 3CP | MCB - 3P - 4,5kA - C - 32A   | 32                |          |            |
|                                                                                     | 55140 3CP | MCB - 3P - 4,5kA - C - 40A   | 40                |          |            |
|                                                                                     | 55150 3CP | MCB - 3P - 4,5kA - C - 50A   | 50                |          |            |
|                                                                                     | 55163 3CP | MCB - 3P - 4,5kA - C - 63A   | 63                |          |            |
|  | 55106 4CP | MCB - 4P - 4,5kA - C - 6A    | 6                 | 4        | 3          |
|                                                                                     | 55110 4CP | MCB - 4P - 4,5kA - C - 10A   | 10                |          |            |
|                                                                                     | 55116 4CP | MCB - 4P - 4,5kA - C - 16A   | 16                |          |            |
|                                                                                     | 55120 4CP | MCB - 4P - 4,5kA - C - 20A   | 20                |          |            |
|                                                                                     | 55125 4CP | MCB - 4P - 4,5kA - C - 25A   | 25                |          |            |
|                                                                                     | 55132 4CP | MCB - 4P - 4,5kA - C - 32A   | 32                |          |            |
|                                                                                     | 55140 4CP | MCB - 4P - 4,5kA - C - 40A   | 40                |          |            |
|                                                                                     | 55150 4CP | MCB - 4P - 4,5kA - C - 50A   | 50                |          |            |
|                                                                                     | 55163 4CP | MCB - 4P - 4,5kA - C - 63A   | 63                |          |            |

#### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## MINIATURE CIRCUIT BREAKERS (MCB) SUPER (6kA)

**Application:** Tertiary / Industrial Sectors

**Use:** For the command and the individual protection of electric circuits against overloads and short-circuits.

**Rated Voltage (Un):** 230V / 400V~

**Frequency:** 50/60Hz

**Standard of Conformity:** IEC 60898

**Terminal's Capacity:** from 1 to 35mm<sup>2</sup>

**Breaking Capacity:** 6kA (IEC 60898) - 10kA (60947-2)

**Energy Limitation Class:** 3

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

### Tripping Curve: C

### Breaking Capacity: 6kA

| Symbol                                                                                                                                                                     | Ref.      | Designation                | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------|-------------------|----------|------------|
| <br>   | 55101 1CS | MCB - 1P - 6kA - C - 1A    | 1                 | 1        | 1          |
|                                                                                                                                                                            | 55102 1CS | MCB - 1P - 6kA - C - 2A    | 2                 |          |            |
|                                                                                                                                                                            | 55103 1CS | MCB - 1P - 6kA - C - 3A    | 3                 |          |            |
|                                                                                                                                                                            | 55104 1CS | MCB - 1P - 6kA - C - 4A    | 4                 |          |            |
|                                                                                                                                                                            | 55106 1CS | MCB - 1P - 6kA - C - 6A    | 6                 | 1        | 12         |
|                                                                                                                                                                            | 55110 1CS | MCB - 1P - 6kA - C - 10A   | 10                |          |            |
|                                                                                                                                                                            | 55116 1CS | MCB - 1P - 6kA - C - 16A   | 16                |          |            |
|                                                                                                                                                                            | 55120 1CS | MCB - 1P - 6kA - C - 20A   | 20                |          |            |
|                                                                                                                                                                            | 55125 1CS | MCB - 1P - 6kA - C - 25A   | 25                |          |            |
|                                                                                                                                                                            | 55132 1CS | MCB - 1P - 6kA - C - 32A   | 32                |          |            |
|                                                                                                                                                                            | 55140 1CS | MCB - 1P - 6kA - C - 40A   | 40                |          |            |
|                                                                                                                                                                            | 55150 1CS | MCB - 1P - 6kA - C - 50A   | 50                |          |            |
|                                                                                                                                                                            | 55163 1CS | MCB - 1P - 6kA - C - 63A   | 63                |          |            |
| <br> | 55101 6CS | MCB - 1P+N - 6kA - C - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 6CS | MCB - 1P+N - 6kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 6CS | MCB - 1P+N - 6kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 6CS | MCB - 1P+N - 6kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 6CS | MCB - 1P+N - 6kA - C - 6A  | 6                 | 2        | 6          |
|                                                                                                                                                                            | 55110 6CS | MCB - 1P+N - 6kA - C - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 6CS | MCB - 1P+N - 6kA - C - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 6CS | MCB - 1P+N - 6kA - C - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 6CS | MCB - 1P+N - 6kA - C - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 6CS | MCB - 1P+N - 6kA - C - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 6CS | MCB - 1P+N - 6kA - C - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 6CS | MCB - 1P+N - 6kA - C - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 6CS | MCB - 1P+N - 6kA - C - 63A | 63                |          |            |
| <br> | 55101 2CS | MCB - 2P - 6kA - C - 1A    | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 2CS | MCB - 2P - 6kA - C - 2A    | 2                 |          |            |
|                                                                                                                                                                            | 55103 2CS | MCB - 2P - 6kA - C - 3A    | 3                 |          |            |
|                                                                                                                                                                            | 55104 2CS | MCB - 2P - 6kA - C - 4A    | 4                 |          |            |
|                                                                                                                                                                            | 55106 2CS | MCB - 2P - 6kA - C - 6A    | 6                 | 2        | 6          |
|                                                                                                                                                                            | 55110 2CS | MCB - 2P - 6kA - C - 10A   | 10                |          |            |
|                                                                                                                                                                            | 55116 2CS | MCB - 2P - 6kA - C - 16A   | 16                |          |            |
|                                                                                                                                                                            | 55120 2CS | MCB - 2P - 6kA - C - 20A   | 20                |          |            |
|                                                                                                                                                                            | 55125 2CS | MCB - 2P - 6kA - C - 25A   | 25                |          |            |
|                                                                                                                                                                            | 55132 2CS | MCB - 2P - 6kA - C - 32A   | 32                |          |            |
|                                                                                                                                                                            | 55140 2CS | MCB - 2P - 6kA - C - 40A   | 40                |          |            |
|                                                                                                                                                                            | 55150 2CS | MCB - 2P - 6kA - C - 50A   | 50                |          |            |
|                                                                                                                                                                            | 55163 2CS | MCB - 2P - 6kA - C - 63A   | 63                |          |            |

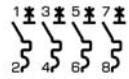
#### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: C

## Breaking Capacity: 6kA

| Symbol                                                                                                                                                                    | Ref.      | Designation              | Rated Current (A) | Mod. DIN | Box (Unit) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------|-------------------|----------|------------|
| <br>    | 55101 3CS | MCB - 3P - 6kA - C - 1A  | 1                 | 3        | 1          |
|                                                                                                                                                                           | 55102 3CS | MCB - 3P - 6kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                           | 55103 3CS | MCB - 3P - 6kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                           | 55104 3CS | MCB - 3P - 6kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                           | 55106 3CS | MCB - 3P - 6kA - C - 6A  | 6                 | 3        | 4          |
|                                                                                                                                                                           | 55110 3CS | MCB - 3P - 6kA - C - 10A | 10                |          |            |
|                                                                                                                                                                           | 55116 3CS | MCB - 3P - 6kA - C - 16A | 16                |          |            |
|                                                                                                                                                                           | 55120 3CS | MCB - 3P - 6kA - C - 20A | 20                |          |            |
|                                                                                                                                                                           | 55125 3CS | MCB - 3P - 6kA - C - 25A | 25                |          |            |
|                                                                                                                                                                           | 55132 3CS | MCB - 3P - 6kA - C - 32A | 32                |          |            |
|                                                                                                                                                                           | 55140 3CS | MCB - 3P - 6kA - C - 40A | 40                |          |            |
|                                                                                                                                                                           | 55150 3CS | MCB - 3P - 6kA - C - 50A | 50                |          |            |
|                                                                                                                                                                           | 55163 3CS | MCB - 3P - 6kA - C - 63A | 63                |          |            |
| <br> | 55101 4CS | MCB - 4P - 6kA - C - 1A  | 1                 | 4        | 1          |
|                                                                                                                                                                           | 55102 4CS | MCB - 4P - 6kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                           | 55103 4CS | MCB - 4P - 6kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                           | 55104 4CS | MCB - 4P - 6kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                           | 55106 4CS | MCB - 4P - 6kA - C - 6A  | 6                 | 4        | 3          |
|                                                                                                                                                                           | 55110 4CS | MCB - 4P - 6kA - C - 10A | 10                |          |            |
|                                                                                                                                                                           | 55116 4CS | MCB - 4P - 6kA - C - 16A | 16                |          |            |
|                                                                                                                                                                           | 55120 4CS | MCB - 4P - 6kA - C - 20A | 20                |          |            |
|                                                                                                                                                                           | 55125 4CS | MCB - 4P - 6kA - C - 25A | 25                |          |            |
|                                                                                                                                                                           | 55132 4CS | MCB - 4P - 6kA - C - 32A | 32                |          |            |
|                                                                                                                                                                           | 55140 4CS | MCB - 4P - 6kA - C - 40A | 40                |          |            |
|                                                                                                                                                                           | 55150 4CS | MCB - 4P - 6kA - C - 50A | 50                |          |            |
|                                                                                                                                                                           | 55163 4CS | MCB - 4P - 6kA - C - 63A | 63                |          |            |

## Tripping Curve: B

## Breaking Capacity: 6kA

| Symbol                                                                                                                                                                     | Ref.      | Designation                | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------|-------------------|----------|------------|
| <br> | 55101 1BS | MCB - 1P - 6kA - B - 1A    | 1                 | 1        | 1          |
|                                                                                                                                                                            | 55102 1BS | MCB - 1P - 6kA - B - 2A    | 2                 |          |            |
|                                                                                                                                                                            | 55103 1BS | MCB - 1P - 6kA - B - 3A    | 3                 |          |            |
|                                                                                                                                                                            | 55104 1BS | MCB - 1P - 6kA - B - 4A    | 4                 |          |            |
|                                                                                                                                                                            | 55106 1BS | MCB - 1P - 6kA - B - 6A    | 6                 | 1        | 12         |
|                                                                                                                                                                            | 55110 1BS | MCB - 1P - 6kA - B - 10A   | 10                |          |            |
|                                                                                                                                                                            | 55116 1BS | MCB - 1P - 6kA - B - 16A   | 16                |          |            |
|                                                                                                                                                                            | 55120 1BS | MCB - 1P - 6kA - B - 20A   | 20                |          |            |
|                                                                                                                                                                            | 55125 1BS | MCB - 1P - 6kA - B - 25A   | 25                |          |            |
|                                                                                                                                                                            | 55132 1BS | MCB - 1P - 6kA - B - 32A   | 32                |          |            |
|                                                                                                                                                                            | 55140 1BS | MCB - 1P - 6kA - B - 40A   | 40                |          |            |
|                                                                                                                                                                            | 55150 1BS | MCB - 1P - 6kA - B - 50A   | 50                |          |            |
|                                                                                                                                                                            | 55163 1BS | MCB - 1P - 6kA - B - 63A   | 63                |          |            |
| <br> | 55101 6BS | MCB - 1P+N - 6kA - B - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 6BS | MCB - 1P+N - 6kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 6BS | MCB - 1P+N - 6kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 6BS | MCB - 1P+N - 6kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 6BS | MCB - 1P+N - 6kA - B - 6A  | 6                 | 2        | 6          |
|                                                                                                                                                                            | 55110 6BS | MCB - 1P+N - 6kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 6BS | MCB - 1P+N - 6kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 6BS | MCB - 1P+N - 6kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 6BS | MCB - 1P+N - 6kA - B - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 6BS | MCB - 1P+N - 6kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 6BS | MCB - 1P+N - 6kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 6BS | MCB - 1P+N - 6kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 6BS | MCB - 1P+N - 6kA - B - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: B

## Breaking Capacity: 6kA

| Symbol                                                                                                                                                                     | Ref.      | Designation              | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------|-------------------|----------|------------|
| <br>     | 55101 2BS | MCB - 2P - 6kA - B - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 2BS | MCB - 2P - 6kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 2BS | MCB - 2P - 6kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 2BS | MCB - 2P - 6kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 2BS | MCB - 2P - 6kA - B - 6A  | 6                 | 2        | 6          |
|                                                                                                                                                                            | 55110 2BS | MCB - 2P - 6kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 2BS | MCB - 2P - 6kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 2BS | MCB - 2P - 6kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 2BS | MCB - 2P - 6kA - B - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 2BS | MCB - 2P - 6kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 2BS | MCB - 2P - 6kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 2BS | MCB - 2P - 6kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 2BS | MCB - 2P - 6kA - B - 63A | 63                |          |            |
| <br>  | 55101 3BS | MCB - 3P - 6kA - B - 1A  | 1                 | 3        | 1          |
|                                                                                                                                                                            | 55102 3BS | MCB - 3P - 6kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 3BS | MCB - 3P - 6kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 3BS | MCB - 3P - 6kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 3BS | MCB - 3P - 6kA - B - 6A  | 6                 | 3        | 4          |
|                                                                                                                                                                            | 55110 3BS | MCB - 3P - 6kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 3BS | MCB - 3P - 6kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 3BS | MCB - 3P - 6kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 3BS | MCB - 3P - 6kA - B - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 3BS | MCB - 3P - 6kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 3BS | MCB - 3P - 6kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 3BS | MCB - 3P - 6kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 3BS | MCB - 3P - 6kA - B - 63A | 63                |          |            |
| <br> | 55101 4BS | MCB - 4P - 6kA - B - 1A  | 1                 | 4        | 1          |
|                                                                                                                                                                            | 55102 4BS | MCB - 4P - 6kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 4BS | MCB - 4P - 6kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 4BS | MCB - 4P - 6kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 4BS | MCB - 4P - 6kA - B - 6A  | 6                 | 4        | 3          |
|                                                                                                                                                                            | 55110 4BS | MCB - 4P - 6kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 4BS | MCB - 4P - 6kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 4BS | MCB - 4P - 6kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 4BS | MCB - 4P - 6kA - B - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 4BS | MCB - 4P - 6kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 4BS | MCB - 4P - 6kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 4BS | MCB - 4P - 6kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 4BS | MCB - 4P - 6kA - B - 63A | 63                |          |            |

## Tripping Curve: D

## Breaking Capacity: 6kA

| Symbol                                                                                                                                                                     | Ref.      | Designation              | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------|-------------------|----------|------------|
| <br> | 55101 1DS | MCB - 1P - 6kA - D - 1A  | 1                 | 1        | 1          |
|                                                                                                                                                                            | 55102 1DS | MCB - 1P - 6kA - D - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 1DS | MCB - 1P - 6kA - D - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 1DS | MCB - 1P - 6kA - D - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 1DS | MCB - 1P - 6kA - D - 6A  | 6                 | 1        | 12         |
|                                                                                                                                                                            | 55110 1DS | MCB - 1P - 6kA - D - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 1DS | MCB - 1P - 6kA - D - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 1DS | MCB - 1P - 6kA - D - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 1DS | MCB - 1P - 6kA - D - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 1DS | MCB - 1P - 6kA - D - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 1DS | MCB - 1P - 6kA - D - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 1DS | MCB - 1P - 6kA - D - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 1DS | MCB - 1P - 6kA - D - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: D

## Breaking Capacity: 6kA

| Symbol                                                                              | Ref.      | Designation              | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|--------------------------|-------------------|----------|------------|
|    | 55101 2DS | MCB - 2P - 6kA - D - 1A  | 1                 | 2        | 1          |
|                                                                                     | 55102 2DS | MCB - 2P - 6kA - D - 2A  | 2                 |          |            |
|                                                                                     | 55103 2DS | MCB - 2P - 6kA - D - 3A  | 3                 |          |            |
|                                                                                     | 55104 2DS | MCB - 2P - 6kA - D - 4A  | 4                 |          |            |
|                                                                                     | 55106 2DS | MCB - 2P - 6kA - D - 6A  | 6                 | 2        | 6          |
|                                                                                     | 55110 2DS | MCB - 2P - 6kA - D - 10A | 10                |          |            |
|                                                                                     | 55116 2DS | MCB - 2P - 6kA - D - 16A | 16                |          |            |
|                                                                                     | 55120 2DS | MCB - 2P - 6kA - D - 20A | 20                |          |            |
|                                                                                     | 55125 2DS | MCB - 2P - 6kA - D - 25A | 25                |          |            |
|                                                                                     | 55132 2DS | MCB - 2P - 6kA - D - 32A | 32                |          |            |
|                                                                                     | 55140 2DS | MCB - 2P - 6kA - D - 40A | 40                |          |            |
|                                                                                     | 55150 2DS | MCB - 2P - 6kA - D - 50A | 50                |          |            |
|                                                                                     | 55163 2DS | MCB - 2P - 6kA - D - 63A | 63                |          |            |
|   | 55101 3DS | MCB - 3P - 6kA - D - 1A  | 1                 | 3        | 1          |
|                                                                                     | 55102 3DS | MCB - 3P - 6kA - D - 2A  | 2                 |          |            |
|                                                                                     | 55103 3DS | MCB - 3P - 6kA - D - 3A  | 3                 |          |            |
|                                                                                     | 55104 3DS | MCB - 3P - 6kA - D - 4A  | 4                 |          |            |
|                                                                                     | 55106 3DS | MCB - 3P - 6kA - D - 6A  | 6                 | 3        | 4          |
|                                                                                     | 55110 3DS | MCB - 3P - 6kA - D - 10A | 10                |          |            |
|                                                                                     | 55116 3DS | MCB - 3P - 6kA - D - 16A | 16                |          |            |
|                                                                                     | 55120 3DS | MCB - 3P - 6kA - D - 20A | 20                |          |            |
|                                                                                     | 55125 3DS | MCB - 3P - 6kA - D - 25A | 25                |          |            |
|                                                                                     | 55132 3DS | MCB - 3P - 6kA - D - 32A | 32                |          |            |
|                                                                                     | 55140 3DS | MCB - 3P - 6kA - D - 40A | 40                |          |            |
|                                                                                     | 55150 3DS | MCB - 3P - 6kA - D - 50A | 50                |          |            |
|                                                                                     | 55163 3DS | MCB - 3P - 6kA - D - 63A | 63                |          |            |
|  | 55101 4DS | MCB - 4P - 6kA - D - 1A  | 1                 | 4        | 1          |
|                                                                                     | 55102 4DS | MCB - 4P - 6kA - D - 2A  | 2                 |          |            |
|                                                                                     | 55103 4DS | MCB - 4P - 6kA - D - 3A  | 3                 |          |            |
|                                                                                     | 55104 4DS | MCB - 4P - 6kA - D - 4A  | 4                 |          |            |
|                                                                                     | 55106 4DS | MCB - 4P - 6kA - D - 6A  | 6                 | 4        | 3          |
|                                                                                     | 55110 4DS | MCB - 4P - 6kA - D - 10A | 10                |          |            |
|                                                                                     | 55116 4DS | MCB - 4P - 6kA - D - 16A | 16                |          |            |
|                                                                                     | 55120 4DS | MCB - 4P - 6kA - D - 20A | 20                |          |            |
|                                                                                     | 55125 4DS | MCB - 4P - 6kA - D - 25A | 25                |          |            |
|                                                                                     | 55132 4DS | MCB - 4P - 6kA - D - 32A | 32                |          |            |
|                                                                                     | 55140 4DS | MCB - 4P - 6kA - D - 40A | 40                |          |            |
|                                                                                     | 55150 4DS | MCB - 4P - 6kA - D - 50A | 50                |          |            |
|                                                                                     | 55163 4DS | MCB - 4P - 6kA - D - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## MINIATURE CIRCUIT BREAKERS (MCB) ULTRA (10kA)

**Application:** Tertiary / Industrial Sectors.

**Use:** For the command and the individual protection of electric circuits against overloads and short-circuits.

**Rated Voltage (Un):** 230V / 400V~

**Frequency:** 50/60Hz

**Standard of Conformity:** IEC 60898

**Terminal's Capacity:** from 1 to 35mm<sup>2</sup>

**Breaking Capacity:** 10kA (IEC 60898) - 12,5kA (60947-2)

**Energy Limitation Class:** 3

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

### Tripping Curve: C

### Breaking Capacity: 10kA

| Symbol                                                                                                                                                                     | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
| <br>   | 55101 1CU | MCB - 1P - 10kA - C - 1A  | 1                 | 1        | 1          |
|                                                                                                                                                                            | 55102 1CU | MCB - 1P - 10kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 1CU | MCB - 1P - 10kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 1CU | MCB - 1P - 10kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 1CU | MCB - 1P - 10kA - C - 6A  | 6                 | 1        | 12         |
|                                                                                                                                                                            | 55110 1CU | MCB - 1P - 10kA - C - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 1CU | MCB - 1P - 10kA - C - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 1CU | MCB - 1P - 10kA - C - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 1CU | MCB - 1P - 10kA - C - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 1CU | MCB - 1P - 10kA - C - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 1CU | MCB - 1P - 10kA - C - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 1CU | MCB - 1P - 10kA - C - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 1CU | MCB - 1P - 10kA - C - 63A | 63                |          |            |
| <br> | 55101 2CU | MCB - 2P - 10kA - C - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 2CU | MCB - 2P - 10kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 2CU | MCB - 2P - 10kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 2CU | MCB - 2P - 10kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 2CU | MCB - 2P - 10kA - C - 6A  | 6                 | 2        | 6          |
|                                                                                                                                                                            | 55110 2CU | MCB - 2P - 10kA - C - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 2CU | MCB - 2P - 10kA - C - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 2CU | MCB - 2P - 10kA - C - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 2CU | MCB - 2P - 10kA - C - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 2CU | MCB - 2P - 10kA - C - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 2CU | MCB - 2P - 10kA - C - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 2CU | MCB - 2P - 10kA - C - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 2CU | MCB - 2P - 10kA - C - 63A | 63                |          |            |
| <br> | 55101 3CU | MCB - 3P - 10kA - C - 1A  | 1                 | 3        | 1          |
|                                                                                                                                                                            | 55102 3CU | MCB - 3P - 10kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 3CU | MCB - 3P - 10kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 3CU | MCB - 3P - 10kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 3CU | MCB - 3P - 10kA - C - 6A  | 6                 | 3        | 4          |
|                                                                                                                                                                            | 55110 3CU | MCB - 3P - 10kA - C - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 3CU | MCB - 3P - 10kA - C - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 3CU | MCB - 3P - 10kA - C - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 3CU | MCB - 3P - 10kA - C - 25A | 25                |          |            |
|                                                                                                                                                                            | 55132 3CU | MCB - 3P - 10kA - C - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 3CU | MCB - 3P - 10kA - C - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 3CU | MCB - 3P - 10kA - C - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 3CU | MCB - 3P - 10kA - C - 63A | 63                |          |            |

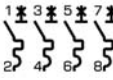
#### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: C

## Breaking Capacity: 10kA

| Symbol                                                                                                                                                                 | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
| <br> | 55101 4CU | MCB - 4P - 10kA - C - 1A  | 1                 | 4        | 1          |
|                                                                                                                                                                        | 55102 4CU | MCB - 4P - 10kA - C - 2A  | 2                 |          |            |
|                                                                                                                                                                        | 55103 4CU | MCB - 4P - 10kA - C - 3A  | 3                 |          |            |
|                                                                                                                                                                        | 55104 4CU | MCB - 4P - 10kA - C - 4A  | 4                 |          |            |
|                                                                                                                                                                        | 55106 4CU | MCB - 4P - 10kA - C - 6A  | 6                 | 4        | 3          |
|                                                                                                                                                                        | 55110 4CU | MCB - 4P - 10kA - C - 10A | 10                |          |            |
|                                                                                                                                                                        | 55116 4CU | MCB - 4P - 10kA - C - 16A | 16                |          |            |
|                                                                                                                                                                        | 55120 4CU | MCB - 4P - 10kA - C - 20A | 20                |          |            |
|                                                                                                                                                                        | 55125 4CU | MCB - 4P - 10kA - C - 25A | 25                |          |            |
|                                                                                                                                                                        | 55132 4CU | MCB - 4P - 10kA - C - 32A | 32                |          |            |
|                                                                                                                                                                        | 55140 4CU | MCB - 4P - 10kA - C - 40A | 40                |          |            |
|                                                                                                                                                                        | 55150 4CU | MCB - 4P - 10kA - C - 50A | 50                |          |            |
|                                                                                                                                                                        | 55163 4CU | MCB - 4P - 10kA - C - 63A | 63                |          |            |

## Tripping Curve: B

## Breaking Capacity: 10kA

| Symbol                                                                                                                                                                     | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
| <br>  | 55101 1BU | MCB - 1P - 10kA - B - 1A  | 1                 | 1        | 1          |
|                                                                                                                                                                            | 55102 1BU | MCB - 1P - 10kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 1BU | MCB - 1P - 10kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 1BU | MCB - 1P - 10kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 1BU | MCB - 1P - 10kA - B - 6A  | 6                 |          |            |
|                                                                                                                                                                            | 55110 1BU | MCB - 1P - 10kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 1BU | MCB - 1P - 10kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 1BU | MCB - 1P - 10kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 1BU | MCB - 1P - 10kA - B - 25A | 25                | 2        | 1          |
|                                                                                                                                                                            | 55132 1BU | MCB - 1P - 10kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 1BU | MCB - 1P - 10kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 1BU | MCB - 1P - 10kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 1BU | MCB - 1P - 10kA - B - 63A | 63                |          |            |
| <br> | 55101 2BU | MCB - 2P - 10kA - B - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                            | 55102 2BU | MCB - 2P - 10kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 2BU | MCB - 2P - 10kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 2BU | MCB - 2P - 10kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 2BU | MCB - 2P - 10kA - B - 6A  | 6                 |          |            |
|                                                                                                                                                                            | 55110 2BU | MCB - 2P - 10kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 2BU | MCB - 2P - 10kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 2BU | MCB - 2P - 10kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 2BU | MCB - 2P - 10kA - B - 25A | 25                | 3        | 1          |
|                                                                                                                                                                            | 55132 2BU | MCB - 2P - 10kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 2BU | MCB - 2P - 10kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 2BU | MCB - 2P - 10kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 2BU | MCB - 2P - 10kA - B - 63A | 63                |          |            |
| <br> | 55101 3BU | MCB - 3P - 10kA - B - 1A  | 1                 | 3        | 1          |
|                                                                                                                                                                            | 55102 3BU | MCB - 3P - 10kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                            | 55103 3BU | MCB - 3P - 10kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                            | 55104 3BU | MCB - 3P - 10kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                            | 55106 3BU | MCB - 3P - 10kA - B - 6A  | 6                 |          |            |
|                                                                                                                                                                            | 55110 3BU | MCB - 3P - 10kA - B - 10A | 10                |          |            |
|                                                                                                                                                                            | 55116 3BU | MCB - 3P - 10kA - B - 16A | 16                |          |            |
|                                                                                                                                                                            | 55120 3BU | MCB - 3P - 10kA - B - 20A | 20                |          |            |
|                                                                                                                                                                            | 55125 3BU | MCB - 3P - 10kA - B - 25A | 25                | 3        | 1          |
|                                                                                                                                                                            | 55132 3BU | MCB - 3P - 10kA - B - 32A | 32                |          |            |
|                                                                                                                                                                            | 55140 3BU | MCB - 3P - 10kA - B - 40A | 40                |          |            |
|                                                                                                                                                                            | 55150 3BU | MCB - 3P - 10kA - B - 50A | 50                |          |            |
|                                                                                                                                                                            | 55163 3BU | MCB - 3P - 10kA - B - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: B

## Breaking Capacity: 10kA

| Symbol                                                                                                                                                              | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
|   | 55101 4BU | MCB - 4P - 10kA - B - 1A  | 1                 | 4        | 1          |
|                                                                                                                                                                     | 55102 4BU | MCB - 4P - 10kA - B - 2A  | 2                 |          |            |
|                                                                                                                                                                     | 55103 4BU | MCB - 4P - 10kA - B - 3A  | 3                 |          |            |
|                                                                                                                                                                     | 55104 4BU | MCB - 4P - 10kA - B - 4A  | 4                 |          |            |
|                                                                                                                                                                     | 55106 4BU | MCB - 4P - 10kA - B - 6A  | 6                 |          |            |
|                                                                                                                                                                     | 55110 4BU | MCB - 4P - 10kA - B - 10A | 10                |          |            |
|                                                                                                                                                                     | 55116 4BU | MCB - 4P - 10kA - B - 16A | 16                |          |            |
|                                                                                                                                                                     | 55120 4BU | MCB - 4P - 10kA - B - 20A | 20                |          |            |
|                                                                                                                                                                     | 55125 4BU | MCB - 4P - 10kA - B - 25A | 25                |          |            |
|                                                                                                                                                                     | 55132 4BU | MCB - 4P - 10kA - B - 32A | 32                |          |            |
|                                                                                                                                                                     | 55140 4BU | MCB - 4P - 10kA - B - 40A | 40                |          |            |
|                                                                                                                                                                     | 55150 4BU | MCB - 4P - 10kA - B - 50A | 50                |          |            |
|                                                                                                                                                                     | 55163 4BU | MCB - 4P - 10kA - B - 63A | 63                |          |            |

## Tripping Curve: D

## Breaking Capacity: 10kA

| Symbol                                                                                                                                                                  | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
|    | 55101 1DU | MCB - 1P - 10kA - D - 1A  | 1                 | 1        | 1          |
|                                                                                                                                                                         | 55102 1DU | MCB - 1P - 10kA - D - 2A  | 2                 |          |            |
|                                                                                                                                                                         | 55103 1DU | MCB - 1P - 10kA - D - 3A  | 3                 |          |            |
|                                                                                                                                                                         | 55104 1DU | MCB - 1P - 10kA - D - 4A  | 4                 |          |            |
|                                                                                                                                                                         | 55106 1DU | MCB - 1P - 10kA - D - 6A  | 6                 | 1        | 12         |
|                                                                                                                                                                         | 55110 1DU | MCB - 1P - 10kA - D - 10A | 10                |          |            |
|                                                                                                                                                                         | 55116 1DU | MCB - 1P - 10kA - D - 16A | 16                |          |            |
|                                                                                                                                                                         | 55120 1DU | MCB - 1P - 10kA - D - 20A | 20                |          |            |
|                                                                                                                                                                         | 55125 1DU | MCB - 1P - 10kA - D - 25A | 25                |          |            |
|                                                                                                                                                                         | 55132 1DU | MCB - 1P - 10kA - D - 32A | 32                |          |            |
|                                                                                                                                                                         | 55140 1DU | MCB - 1P - 10kA - D - 40A | 40                |          |            |
|                                                                                                                                                                         | 55150 1DU | MCB - 1P - 10kA - D - 50A | 50                |          |            |
|                                                                                                                                                                         | 55163 1DU | MCB - 1P - 10kA - D - 63A | 63                |          |            |
|   | 55101 2DU | MCB - 2P - 10kA - D - 1A  | 1                 | 2        | 1          |
|                                                                                                                                                                         | 55102 2DU | MCB - 2P - 10kA - D - 2A  | 2                 |          |            |
|                                                                                                                                                                         | 55103 2DU | MCB - 2P - 10kA - D - 3A  | 3                 |          |            |
|                                                                                                                                                                         | 55104 2DU | MCB - 2P - 10kA - D - 4A  | 4                 |          |            |
|                                                                                                                                                                         | 55106 2DU | MCB - 2P - 10kA - D - 6A  | 6                 | 2        | 6          |
|                                                                                                                                                                         | 55110 2DU | MCB - 2P - 10kA - D - 10A | 10                |          |            |
|                                                                                                                                                                         | 55116 2DU | MCB - 2P - 10kA - D - 16A | 16                |          |            |
|                                                                                                                                                                         | 55120 2DU | MCB - 2P - 10kA - D - 20A | 20                |          |            |
|                                                                                                                                                                         | 55125 2DU | MCB - 2P - 10kA - D - 25A | 25                |          |            |
|                                                                                                                                                                         | 55132 2DU | MCB - 2P - 10kA - D - 32A | 32                |          |            |
|                                                                                                                                                                         | 55140 2DU | MCB - 2P - 10kA - D - 40A | 40                |          |            |
|                                                                                                                                                                         | 55150 2DU | MCB - 2P - 10kA - D - 50A | 50                |          |            |
|                                                                                                                                                                         | 55163 2DU | MCB - 2P - 10kA - D - 63A | 63                |          |            |
|   | 55101 3DU | MCB - 3P - 10kA - D - 1A  | 1                 | 3        | 1          |
|                                                                                                                                                                         | 55102 3DU | MCB - 3P - 10kA - D - 2A  | 2                 |          |            |
|                                                                                                                                                                         | 55103 3DU | MCB - 3P - 10kA - D - 3A  | 3                 |          |            |
|                                                                                                                                                                         | 55104 3DU | MCB - 3P - 10kA - D - 4A  | 4                 |          |            |
|                                                                                                                                                                         | 55106 3DU | MCB - 3P - 10kA - D - 6A  | 6                 | 3        | 4          |
|                                                                                                                                                                         | 55110 3DU | MCB - 3P - 10kA - D - 10A | 10                |          |            |
|                                                                                                                                                                         | 55116 3DU | MCB - 3P - 10kA - D - 16A | 16                |          |            |
|                                                                                                                                                                         | 55120 3DU | MCB - 3P - 10kA - D - 20A | 20                |          |            |
|                                                                                                                                                                         | 55125 3DU | MCB - 3P - 10kA - D - 25A | 25                |          |            |
|                                                                                                                                                                         | 55132 3DU | MCB - 3P - 10kA - D - 32A | 32                |          |            |
|                                                                                                                                                                         | 55140 3DU | MCB - 3P - 10kA - D - 40A | 40                |          |            |
|                                                                                                                                                                         | 55150 3DU | MCB - 3P - 10kA - D - 50A | 50                |          |            |
|                                                                                                                                                                         | 55163 3DU | MCB - 3P - 10kA - D - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

## Tripping Curve: D

## Breaking Capacity: 10kA

| Symbol                                                                            | Ref.      | Designation               | Rated Current (A) | Mod. DIN | Box (Unit) |
|-----------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------|------------|
|  | 55101 4DU | MCB - 4P - 10kA - D - 1A  | 1                 | 4        | 1          |
|                                                                                   | 55102 4DU | MCB - 4P - 10kA - D - 2A  | 2                 |          |            |
|                                                                                   | 55103 4DU | MCB - 4P - 10kA - D - 3A  | 3                 |          |            |
|                                                                                   | 55104 4DU | MCB - 4P - 10kA - D - 4A  | 4                 |          |            |
|                                                                                   | 55106 4DU | MCB - 4P - 10kA - D - 6A  | 6                 | 4        | 3          |
|                                                                                   | 55110 4DU | MCB - 4P - 10kA - D - 10A | 10                |          |            |
|                                                                                   | 55116 4DU | MCB - 4P - 10kA - D - 16A | 16                |          |            |
|                                                                                   | 55120 4DU | MCB - 4P - 10kA - D - 20A | 20                |          |            |
|                                                                                   | 55125 4DU | MCB - 4P - 10kA - D - 25A | 25                |          |            |
|                                                                                   | 55132 4DU | MCB - 4P - 10kA - D - 32A | 32                |          |            |
|                                                                                   | 55140 4DU | MCB - 4P - 10kA - D - 40A | 40                |          |            |
|                                                                                   | 55150 4DU | MCB - 4P - 10kA - D - 50A | 50                |          |            |
|                                                                                   | 55163 4DU | MCB - 4P - 10kA - D - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Miniature Circuit Breakers from pages 224 to 225.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Miniature Circuit Breakers from pages 228 to 234.

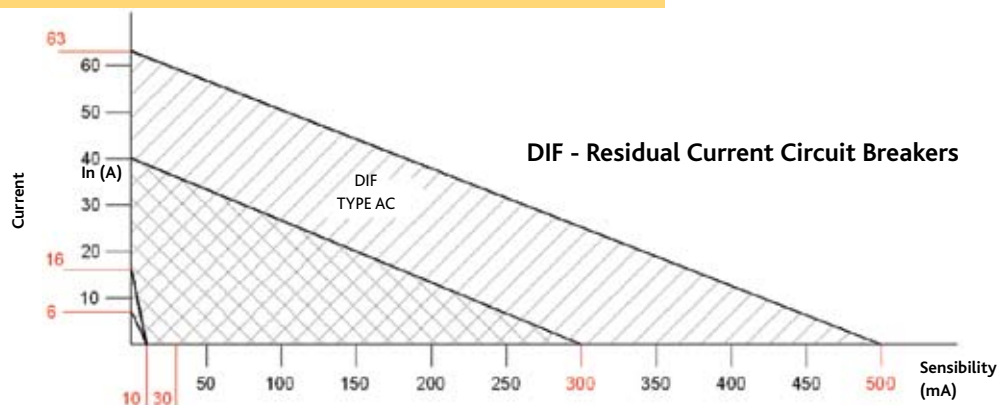
RESIDUAL CURRENT CIRCUIT BREAKERS (RCCB) DIF TYPE



DIF TYPE

Sensibility: 10mA/30mA/300mA/500mA

PRODUCTS FOR THE PROTECTION OF PEOPLE AND ANIMALS AGAINST ELECTRICAL SHOCKS



| Type | Sectors of Application                | Types | Sensibility         | Configurations | Rated Currents |
|------|---------------------------------------|-------|---------------------|----------------|----------------|
| DIF  | Residential<br>Tertiary<br>Industrial | AC    | 10, 30, 300, 500 mA | 2P - 4P        | 16 to 63A      |

CODIFICATION RULES AND IDENTIFICATION CRITERIA

| DIGITS OF THE REFERENCE |                                  |               |             |                 |             |                   |
|-------------------------|----------------------------------|---------------|-------------|-----------------|-------------|-------------------|
| 1° and 2°               | 3°                               | 4° and 5°     | EMPTY SPACE | 6°              | 7°          | 8°                |
| SERIES                  | RESIDUAL CURRENT CIRCUIT BREAKER | RATED CURRENT |             | NUMBER OF POLES | SENSIBILITY | CLASS             |
| 55                      | 2                                | 16 -- 16A     |             | 2 2P            | A - 10mA    | A -- A<br>C -- AC |
|                         |                                  | 25 -- 25A     |             |                 | B - 30mA    |                   |
|                         |                                  | 40 -- 40A     |             |                 | D - 300mA   |                   |
|                         |                                  | 63 -- 63A     |             |                 | E - 500mA   |                   |

Examples: Residual Current Circuit Breaker of 25 A, 2P, 30 mA, AC Class – Ref. 55225 2BC

## RESIDUAL CURRENT CIRCUIT BREAKERS (RCCB) DIF TYPE

**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the protection of people against direct and indirect contacts (10 and 30 mA) and for the protection of the electrical installations against insulation failures (300 mA and 500 mA)

**Rated Voltage (Un):** 2P - 230V/400V~; 4P - 415V/420V~

**Frequency:** 50/60Hz

**Configurations:** 2P and 4P

**Classes:** Class A and Class AC

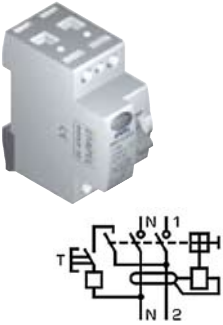
**Internally protected against unexpected operations.**

**Standard of Conformity:** IEC 61008

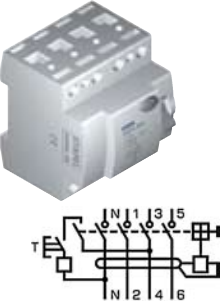
**Terminal's Capacity:** 25 mm<sup>2</sup> for flexible cables and 35mm<sup>2</sup> for rigid cables

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

## Two Poles Residual Current Circuit Breakers (RCCB)

| Symbol                                                                             | Ref.      | Designation                | Rated Current (A) | Mod. DIN | Box (Unit) |
|------------------------------------------------------------------------------------|-----------|----------------------------|-------------------|----------|------------|
|  | 55216 2AC | RCCB 2P - 10mA - AC - 16A  | 16                | 2        | 1          |
|                                                                                    | 55225 2AC | RCCB 2P - 10mA - AC - 25A  | 25                |          |            |
|                                                                                    | 55216 2BC | RCCB 2P - 30mA - AC - 16A  | 16                | 2        | 1          |
|                                                                                    | 55225 2BC | RCCB 2P - 30mA - AC - 25A  | 25                |          |            |
|                                                                                    | 55240 2BC | RCCB 2P - 30mA - AC - 40A  | 40                |          |            |
|                                                                                    | 55263 2BC | RCCB 2P - 30mA - AC - 63A  | 63                |          |            |
|                                                                                    | 55225 2DC | RCCB 2P - 300mA - AC - 25A | 25                | 2        | 1          |
|                                                                                    | 55240 2DC | RCCB 2P - 300mA - AC - 40A | 40                |          |            |
|                                                                                    | 55263 2DC | RCCB 2P - 300mA - AC - 63A | 63                |          |            |
|                                                                                    | 55225 2EC | RCCB 2P - 500mA - AC - 25A | 25                | 2        | 1          |
|                                                                                    | 55240 2EC | RCCB 2P - 500mA - AC - 40A | 40                |          |            |
|                                                                                    | 55263 2EC | RCCB 2P - 500mA - AC - 63A | 63                |          |            |

## Four Poles Residual Current Circuit Breakers (RCCB)

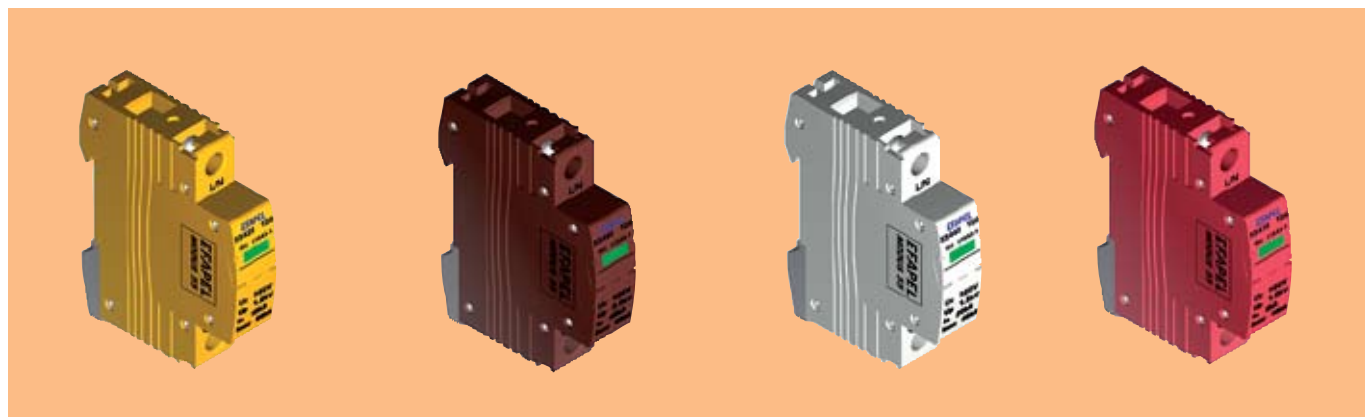
| Symbol                                                                              | Ref.      | Designation                | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|----------------------------|-------------------|----------|------------|
|  | 55225 4BC | RCCB 4P - 30mA - AC - 25A  | 25                | 4        | 1          |
|                                                                                     | 55240 4BC | RCCB 4P - 30mA - AC - 40A  | 40                |          |            |
|                                                                                     | 55263 4BC | RCCB 4P - 30mA - AC - 63A  | 63                |          |            |
|                                                                                     | 55225 4DC | RCCB 4P - 300mA - AC - 25A | 25                | 4        | 1          |
|                                                                                     | 55240 4DC | RCCB 4P - 300mA - AC - 40A | 40                |          |            |
|                                                                                     | 55263 4DC | RCCB 4P - 300mA - AC - 63A | 63                |          |            |
|                                                                                     | 55225 4EC | RCCB 4P - 500mA - AC - 25A | 25                | 4        | 1          |
|                                                                                     | 55240 4EC | RCCB 4P - 500mA - AC - 40A | 40                |          |            |
|                                                                                     | 55263 4EC | RCCB 4P - 500mA - AC - 63A | 63                |          |            |

### Legend:

Technical characteristics of the MODUS 55 SERIES Residual Current Circuit Breakers on page 226.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Residual Current Circuit Breakers from pages 235 to 238.

## OVER-VOLTAGE AND SURGE PROTECTION DEVICES (SPD) POWER TYPE



| Type  | Application Sector | Configuration | Discharge Current | Rated Voltage |
|-------|--------------------|---------------|-------------------|---------------|
| POWER | Residential        | 1P            | 10kA              | 230V~         |
|       | Tertiary           |               | 20kA              | 230V~         |
|       | Industrial         |               | 40kA              | 230V~         |
|       |                    |               | 60kA              | 230V~         |

### POWER TYPE

Discharge Current: 10kA/20kA/40kA/60kA

### OVER-VOLTAGE AND SURGE PROTECTION DEVICES (SPD) POWER TYPE

**Application:** Residential / Tertiary / Industrial Sectors.

**Use:** For protection of electrical circuits and loads against over voltages caused by atmospheric phenomenas (lightnings) or by switching in the electrical network.

**Rated Voltage (Un):** 230V/420V~

**Frequency:** 50/60Hz

**Configurations:** 1P

**Maximum Discharge Current (Imax.):** 10, 20, 40 and 60kA

**Standard of Conformity:** IEC 61643-1

**With Optical Indication of the Working Status**

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

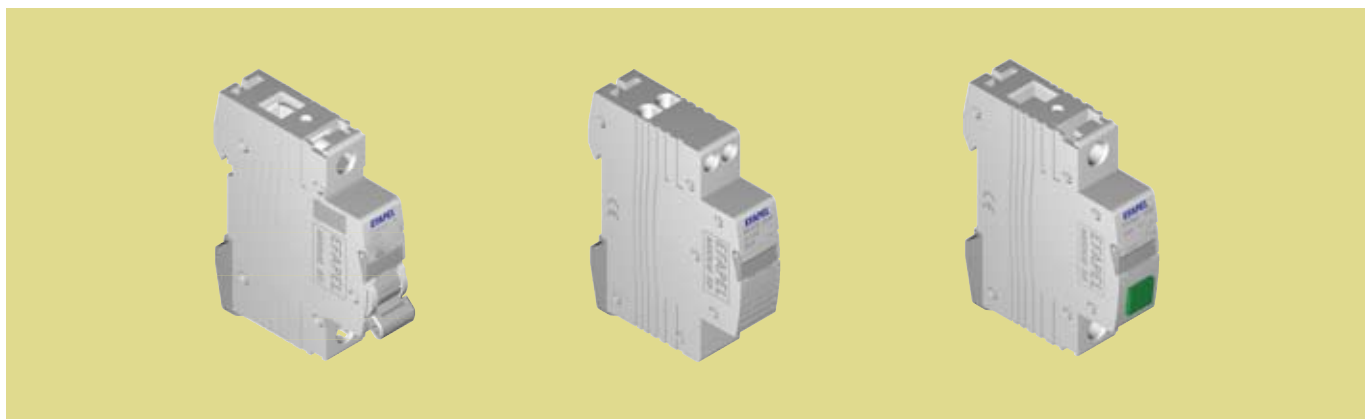
| Symbol                                                                              | Ref.      | Designation                             | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|-----------------------------------------|-------------------|----------|------------|
|  | 55410 1DC | SPD with cartridge - 1P - 230/300V 10kA | 10                | 1        | 2          |
|                                                                                     | 55420 1DC | SPD with cartridge - 1P - 230/300V 20kA | 20                |          |            |
|                                                                                     | 55440 1DC | SPD with cartridge - 1P - 230/300V 40kA | 40                |          |            |
|                                                                                     | 55460 1DC | SPD with cartridge - 1P - 230/300V 60kA | 60                |          |            |

#### Legend:

Technical characteristics of the MODUS 55 SERIES Over-Voltage and Surge Protection Devices on page 227.

Instructions for the Selection, Installation and Use of the MODUS 55 SERIES Over-Voltage and Surge Protection Devices from pages 239 to 243.

## CONTROLS, SIGNALLING DEVICES AND ENERGY MANAGEMENT



### Isolator Switches

**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the connection and disconnection of loads (Example: Lighting loads)

**Rated Voltage (Un):** 250V/415V~

**Configurations:** 1P, 2P, 3P and 4P

**Rated Current (In):** from 25A to 100A

**Standard of Conformity:** IEC 60947-3

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

| Symbol                                                                                                                                                                  | Ref.      | Designation                            | Rated Current (A) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------|-------------------|----------|------------|
|   | 55525 1IT | Isolator Switch - 1P - 250/415V - 25A  | 25                | 1        | 12         |
|                                                                                                                                                                         | 55532 1IT | Isolator Switch - 1P - 250/415V - 32A  | 32                |          |            |
|                                                                                                                                                                         | 55540 1IT | Isolator Switch - 1P - 250/415V - 40A  | 40                |          |            |
|                                                                                                                                                                         | 55563 1IT | Isolator Switch - 1P - 250/415V - 63A  | 63                |          |            |
|                                                                                                                                                                         | 55580 1IT | Isolator Switch - 1P - 250/415V - 80A  | 80                |          |            |
|                                                                                                                                                                         | 55500 1IT | Isolator Switch - 1P - 250/415V - 100A | 100               |          |            |
|   | 55525 2IT | Isolator Switch - 2P - 250/415V - 25A  | 25                | 2        | 1          |
|                                                                                                                                                                         | 55532 2IT | Isolator Switch - 2P - 250/415V - 32A  | 32                |          |            |
|                                                                                                                                                                         | 55540 2IT | Isolator Switch - 2P - 250/415V - 40A  | 40                |          |            |
|                                                                                                                                                                         | 55563 2IT | Isolator Switch - 2P - 250/415V - 63A  | 63                |          |            |
|                                                                                                                                                                         | 55580 2IT | Isolator Switch - 2P - 250/415V - 80A  | 80                |          |            |
|                                                                                                                                                                         | 55500 2IT | Isolator Switch - 2P - 250/415V - 100A | 100               |          |            |
|   | 55525 3IT | Isolator Switch - 3P - 250/415V - 25A  | 25                | 3        | 1          |
|                                                                                                                                                                         | 55532 3IT | Isolator Switch - 3P - 250/415V - 32A  | 32                |          |            |
|                                                                                                                                                                         | 55540 3IT | Isolator Switch - 3P - 250/415V - 40A  | 40                |          |            |
|                                                                                                                                                                         | 55563 3IT | Isolator Switch - 3P - 250/415V - 63A  | 63                |          |            |
|                                                                                                                                                                         | 55580 3IT | Isolator Switch - 3P - 250/415V - 80A  | 80                |          |            |
|                                                                                                                                                                         | 55500 3IT | Isolator Switch - 3P - 250/415V - 100A | 100               |          |            |
|   | 55525 4IT | Isolator Switch - 4P - 250/415V - 25A  | 25                | 4        | 1          |
|                                                                                                                                                                         | 55532 4IT | Isolator Switch - 4P - 250/415V - 32A  | 32                |          |            |
|                                                                                                                                                                         | 55540 4IT | Isolator Switch - 4P - 250/415V - 40A  | 40                |          |            |
|                                                                                                                                                                         | 55563 4IT | Isolator Switch - 4P - 250/415V - 63A  | 63                |          |            |
|                                                                                                                                                                         | 55580 4IT | Isolator Switch - 4P - 250/415V - 80A  | 80                |          |            |
|                                                                                                                                                                         | 55500 4IT | Isolator Switch - 4P - 250/415V - 100A | 100               |          |            |

## Pilot Lights

**Application:** Residential / Tertiary / Industrial Sectors

**Rated Voltage (Un):** 230V~

**Supplied with lamp and light diffuser**

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

| Symbol                                                                                                                                                              | Ref.      | Designation                      | Power (W) | Mod. DIN | Box (Unit) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------|-----------|----------|------------|
|   | 55560 VRD | Pilot Light with Green Diffuser  | < 1       | 1        | 1          |
|                                                                                                                                                                     | 55560 VRM | Pilot Light with Red Diffuser    |           |          |            |
|                                                                                                                                                                     | 55560 LAR | Pilot Light with Orange Diffuser |           |          |            |

## Doorbell Transformer

**Application:** Residential / Tertiary / Industrial Sectors

**Primary Rated Voltage (U1n):** 230V~

**Secondary Rated Voltages (U2n):** 8V - 12V - 24V

**Frequency:** 50 / 60Hz

**Rated Power:** 8VA

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

| Symbol                                                                                                                                                                  | Ref.      | Designation                | Secondary Voltage (V) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------|-----------------------|----------|------------|
|   | 55508 TRF | Doorbell Transformer - 8VA | 8 - 12 - 24           | 2        | 1          |

## Doorbells

**Application:** Residential / Tertiary / Industrial Sectors

**Rated Voltage:** 12V~ - 230V~

**Frequency:** 50 / 60Hz

**Rated Power:** 5VA and 6,5VA

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)

| Symbol                                                                                                                                                                  | Ref.                   | Designation                        | Voltage (V) | Mod. DIN | Box (Unit) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------|-------------|----------|------------|
|   | 55505 CMP<br>55565 CMP | Doorbell - 5VA<br>Doorbell - 6,5VA | 12<br>230   | 1        | 1          |

## Staircase Time Switches

**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the control of the lighting in corridors, staircases, etc.

**Rated Voltage (Un):** 230V~

**Rated Current (In):** 10A and 16A

**Time Adjustment:** from 45 seconds to 12 minutes

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)



| Ref.                   | Designation                                                                                   | Rated Current (A) | Mód. DIN | Box (Unit) |
|------------------------|-----------------------------------------------------------------------------------------------|-------------------|----------|------------|
| 55510 SPA<br>55516 CPA | Staircase Time Switch 10A<br>Staircase Time Switch 16A with advanced warning of disconnection | 10<br>16          | 1        | 1          |

## Contactors

**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the control and the automation of systems in buildings allowing the command of electrical circuits of high power.

**Rated Voltage (Un):** 230V~

**Rated Current (In):** 20A

**Frequency:** 50 / 60Hz

**Control (Coil) Voltage:** 230V

**Contact Configuration:** 2 NA (2 normally open contacts)

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)



| Ref.      | Designation             | Rated Current (A) | Mod. DIN | Box (Unit) |
|-----------|-------------------------|-------------------|----------|------------|
| 55502 CTR | Contactor - 2 NA - 230V | 20                | 1        | 1          |

## Clock Switches

**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the control of the connection and disconnection (ON-OFF) of an electrical circuit in accordance with a time program.

**Rated Voltage (Un):** 230V~

**Rated Current (In):** 16A

**Frequency:** 50 / 60Hz

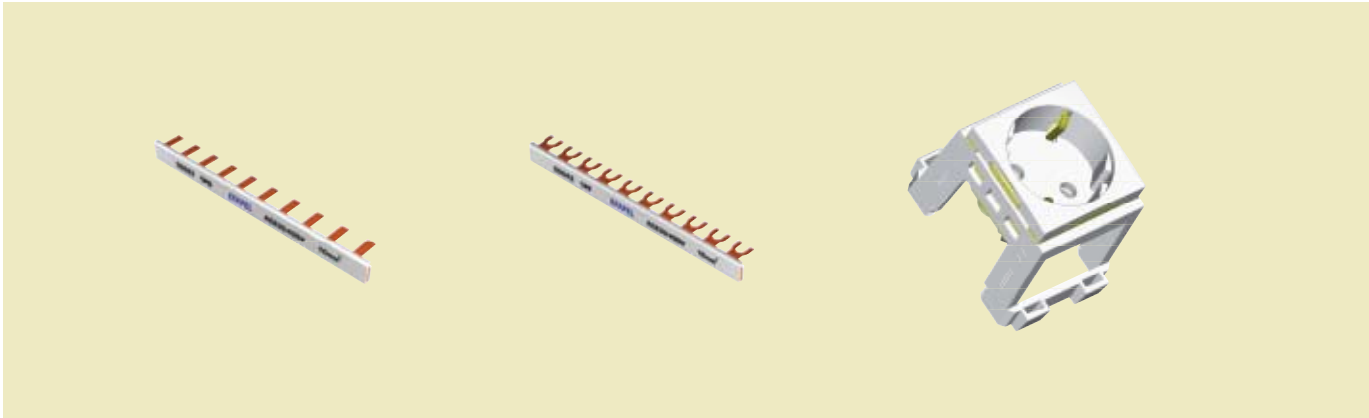
**Program:** Daily / Weekly

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)



| Ref.                   | Designation                                                                                  | Rated Current (A) | Mod. DIN | Box (Unit) |
|------------------------|----------------------------------------------------------------------------------------------|-------------------|----------|------------|
| 55501 ANL<br>55501 DIG | Analogue Daily Clock Switch of 1 Channel<br>Digital Daily / Weekly Clock Switch of 1 Channel | 16                | 1<br>2   | 1          |

## DIN ACCESSORIES



### Bus Bars

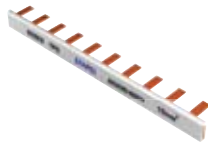
**Application:** Residential / Tertiary / Industrial Sectors

**Use:** For the connection of electrical protection devices and modular accessories with open terminals (pin type) or with screw terminals ("U" type).

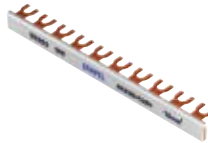
**Rated Current (In):** 63A

**Configurations:** 1P, 2P, 3P and 4P

### Pin Type

|  | Ref.      | Designation   | Imax (kA) | Lenght (m) | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|---------------|-----------|------------|------------|
|                                                                                     | 55563 1PD | Pin type - 1P | 63        | 1          | 10         |
|                                                                                     | 55563 2PD | Pin type - 2P |           |            |            |
|                                                                                     | 55563 3PD | Pin type - 3P |           |            |            |
|                                                                                     | 55563 4PD | Pin type - 4P |           |            |            |

### "U" Type

|  | Ref.      | Designation   | Imax (kA) | Lenght (m) | Box (Unit) |
|-------------------------------------------------------------------------------------|-----------|---------------|-----------|------------|------------|
|                                                                                     | 55563 1PF | "U" Type - 1P | 63        | 1          | 10         |
|                                                                                     | 55563 2PF | "U" Type - 2P |           |            |            |
|                                                                                     | 55563 3PF | "U" Type - 3P |           |            |            |
|                                                                                     | 55563 4PF | "U" Type - 4P |           |            |            |

## Sockets

**Application:** Residential / Tertiary / Industrial Sectors

**Rated Voltage (Un):** 250V~

**Rated Current (In):** 16A

**Types:** Earth Socket (Schuko Type) in the French and Schuko models

**Standard of Conformity:** EN 60884-1, NF C 61-314

**Installation:** On symmetrical DIN track of 35mm (DIN 46277)



| Ref.      | Designation                                                  | Rated Current (A) | Mod. DIN | Box (Unit) |
|-----------|--------------------------------------------------------------|-------------------|----------|------------|
| 55531 CBR | Earth Socket (Schuko Type) White                             | 16                | 2,5      | 4          |
| 55531 CVM | Earth Socket (Schuko Type) Red                               |                   |          |            |
| 55531 CLR | Earth Socket (Schuko Type) Orange                            |                   |          |            |
| 55532 CBR | Safety Earth Socket (Schuko Type) White                      |                   |          |            |
| 55532 CVM | Safety Earth Socket (Schuko Type) Red                        |                   |          |            |
| 55532 CLR | Safety Earth Socket (Schuko Type) Orange                     |                   |          |            |
| 55536 CVM | Earth Socket (Schuko Type) with Blockage Red                 |                   |          |            |
| 55537 CVM | Earth Socket (Schuko Type) with Blockage and Signal Lamp Red |                   |          |            |
| 55511 CBR | Earth Socket (French Type) White                             |                   |          |            |
| 55511 CVM | Earth Socket (French Type) Red                               |                   |          |            |
| 55511 CLR | Earth Socket (French Type) Orange                            |                   |          |            |
| 55512 CBR | Safety Earth Socket (French Type) White                      |                   |          |            |
| 55512 CVM | Safety Earth Socket (French Type) Red                        |                   |          |            |
| 55512 CLR | Safety Earth Socket (French Type) Orange                     |                   |          |            |
| 55516 CVM | Earth Socket (French Type) with Blockage Red                 |                   |          |            |
| 55517 CVM | Earth Socket (French Type) with Blockage and Signal Lamp Red |                   |          |            |

## Other Accessories



| Ref.    | Designation                                    | Colour | Box (Unit) |
|---------|------------------------------------------------|--------|------------|
| 45990 A | Adapter for 45x45 Modules to Electrical Panels | BR     | 10         |
| 45991   | Blocking Pin for 45x45 Series Sockets          | -      | 25         |

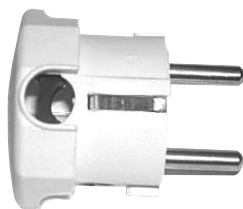
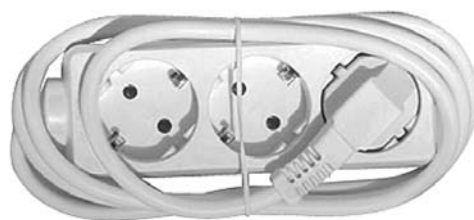


### Legend:

A – Accessory; C – Complete device.  
BR – White; LR – Orange; VM – Red.

# Accessories for Electrical Installations

Various and useful products day-by-day work and for remodelling or fixing of electrical installations.



## Accessories for Electrical Installations

### LAMPS

|                                                                                   |                             | Ref.  | Colour | Box<br>(Unit) |
|-----------------------------------------------------------------------------------|-----------------------------|-------|--------|---------------|
|  | Large E14 - 5W Lamp<br>250V | 81011 | -      | 10            |
|  | Small E14 - 5W Lamp<br>250V | 81012 | -      | 10            |

### PLASTIC FITTINGS

|                                                                                     |                           | Ref.  | Colour | Box<br>(Unit) |
|-------------------------------------------------------------------------------------|---------------------------|-------|--------|---------------|
|    | 5mm Fitting (100 units)   | 81052 | -      | 1             |
|    | 5mm Fitting (500 units)   | 81053 | -      | 1             |
|    | 5mm Fitting (1000 units)  | 81054 | -      | 1             |
|    | 5mm Fitting (5000 units)  | 81055 | -      | 1             |
|    | 6mm Fitting (100 units)   | 81062 | -      | 1             |
|  | 6mm Fitting (500 units)   | 81063 | -      | 1             |
|  | 6mm Fitting (1000 units)  | 81064 | -      | 1             |
|  | 6mm Fitting (5000 units)  | 81065 | -      | 1             |
|  | 8mm Fitting (100 units)   | 81082 | -      | 1             |
|  | 8mm Fitting (500 units)   | 81083 | -      | 1             |
|  | 8mm Fitting (1000 units)  | 81084 | -      | 1             |
|  | 10mm Fitting (100 units)  | 81102 | -      | 1             |
|  | 10mm Fitting (500 units)  | 81103 | -      | 1             |
|  | 10mm Fitting (1000 units) | 81104 | -      | 1             |

### LAMP-HOLDERS

|                                                                                     |                                         | Ref.  | Colour | Box<br>(Unit) |
|-------------------------------------------------------------------------------------|-----------------------------------------|-------|--------|---------------|
|  | E27 Lamp-holder for Ceiling Application | 81201 | -      | 20            |
|  | E27 Lamp-holder for Luminaries          | 81211 | -      | 20            |
|  | E27 Lamp-holder for Table Lamps         | 81221 | -      | 20            |

# Accessories for Electrical Installations

## LAMP-HOLDERS

|                                                                                                        | Ref.  | Colour | Box (Unit) |
|--------------------------------------------------------------------------------------------------------|-------|--------|------------|
|  E27 Base Lamp-holder | 81251 | -      | 10         |

## PLUGS

|                                                                                                                                                | Ref.  | Colour | Box (Unit) |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------------|
|  Male 2P Plug<br>6A - 250V                                    | 81501 | -      | 20         |
|  Male Schuko Plug<br>16A - 250V                               | 81502 | -      | 20         |
|  Male Schuko Plug<br>16A - 250V<br>With Input 90°             | 81503 | -      | 20         |
|  Female Schuko Plug<br>16A - 250V                             | 81504 | -      | 20         |
|  Triple Schuko Adapter<br>16A - 250V<br>With Linear Outputs | 81505 | -      | 5          |
|  Triple Schuko Adapter<br>16A - 250V<br>With 90° Outputs    | 81506 | -      | 10         |
|  Double Schuko Adapter<br>16A - 250V<br>With 90° Outputs    | 81507 | -      | 5          |

## MULTIPLE OUTLET SOCKETS

|                                                                                                                                                                      | Ref.  | Colour | Box (Unit) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------------|
|  Triple Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 1,5m | 81601 | -      | 5          |
|  Triple Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 3m   | 81602 | -      | 5          |
|  Triple Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 5m   | 81603 | -      | 4          |
|  Six Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 1,5m    | 81701 | -      | 5          |
|  Six Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 3m      | 81702 | -      | 5          |
|  Six Outlets Schuko Sockets<br>16A - 250V<br>With cable 3x2,5mm2 - Lenght 5m      | 81703 | -      | 5          |

# Accessories for Electrical Installations

## EXTENSION CORDS



Extension Cord 6A - 250V  
With cable 3x2,5mm2 - Lenght 3m

| Ref. | Colour | Box (Unit) |
|------|--------|------------|
|------|--------|------------|

|       |   |   |
|-------|---|---|
| 81801 | - | 5 |
|-------|---|---|

Extension Cord 6A - 250V  
With cable 3x2,5mm2 - Lenght 5m

|       |   |   |
|-------|---|---|
| 81802 | - | 5 |
|-------|---|---|



Extension Cord 16A - 250V  
With cable 3x2,5mm2 - Lenght 1,5m

|       |   |   |
|-------|---|---|
| 81803 | - | 5 |
|-------|---|---|

Extension Cord 16A - 250V  
With cable 3x2,5mm2 - Lenght 3m

|       |   |   |
|-------|---|---|
| 81804 | - | 5 |
|-------|---|---|

Extension Cord 16A - 250V  
With cable 3x2,5mm2 - Lenght 5m

|       |   |   |
|-------|---|---|
| 81805 | - | 5 |
|-------|---|---|

Extension Cord 16A - 250V  
With cable 3x2,5mm2 - Lenght 10m

|       |   |   |
|-------|---|---|
| 81806 | - | 5 |
|-------|---|---|

Extension Cord 16A - 250V  
With cable 3x2,5 mm2 - Lenght 15m

|       |   |   |
|-------|---|---|
| 81807 | - | 5 |
|-------|---|---|



Extension Cord for Irons 16A - 250V  
Length 2m

|       |   |   |
|-------|---|---|
| 81808 | - | 5 |
|-------|---|---|

## BLINDS ACCESSORIES



### Relay for Blinds Control

- Power Source: 230V – 50Hz
- Breaking Capacity: 6A
- Electrical blockage.
- Connect locally to Venetian Push-buttons (Ref. 21283).
- For the centralized command of the installation, connect remotely to a Venetian Push-button (Ref. 21283) or to a General Blinds Control (Ref. 21311).

|       |   |   |
|-------|---|---|
| 81511 | - | 1 |
|-------|---|---|

• Wiring diagrams on page 195.



### Automatic Relay for Blinds Control

- Power Source: 230V – 50Hz
- Breaking Capacity: 6A
- Electrical blockage.
- Connect locally to Double Push-buttons (Ref. 21156).
- For the centralized command of the installation, connect remotely to a Double Push-button (Ref. 21156) or to a General Blinds Control (Ref. 21311).

**NEW**

|       |   |   |
|-------|---|---|
| 81512 | - | 1 |
|-------|---|---|

• Wiring diagrams on page 194.



### Infrared Remote Control Transmitter for Blinds Control

- 4 groups of programmable functions.
- It works with 2 AAA batteries, not included.

|       |   |   |
|-------|---|---|
| 81901 | - | 1 |
|-------|---|---|



# Technical Information

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### WIRING DIAGRAMS

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### INSTRUCTIONS FOR THE SELECTION, INSTALLATION AND USE

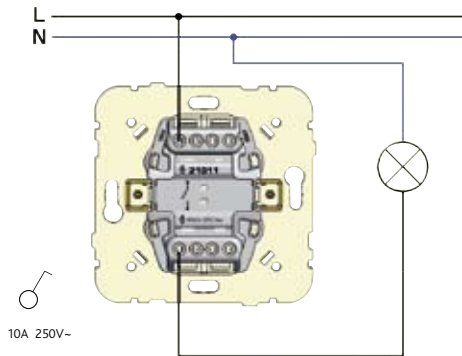
|                                                                  |     |
|------------------------------------------------------------------|-----|
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|---------------------------------------|-----|
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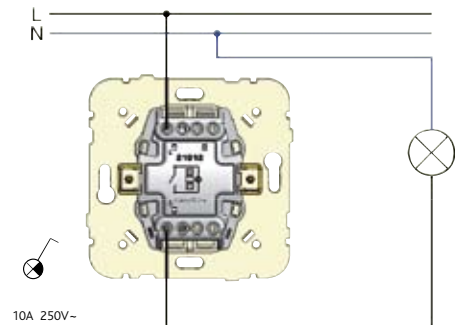
|                                      |     |
|--------------------------------------|-----|
| <b>CERTIFICATIONS OF THE COMPANY</b> | 250 |
|--------------------------------------|-----|

## Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

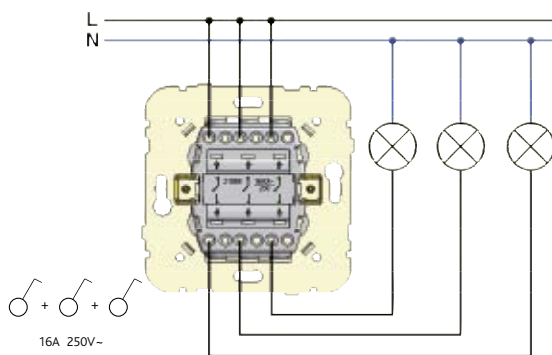
**SINGLE POLE SWITCH**



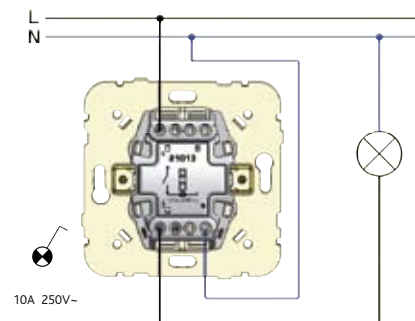
**SINGLE POLE SWITCH WITH ORIENTING LIGHT**



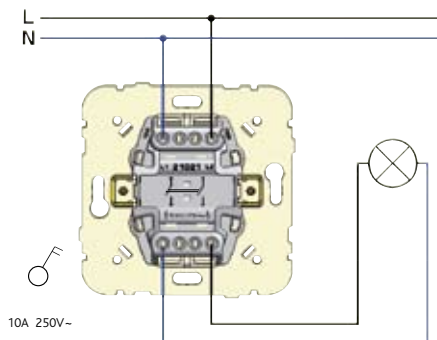
**THREE CIRCUITS SWITCH**



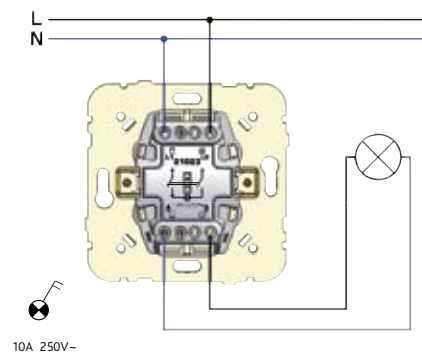
**SINGLE POLE SWITCH WITH PILOT LAMP**



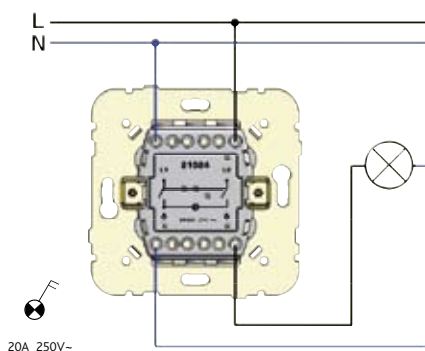
**TWO-POLE SWITCH**



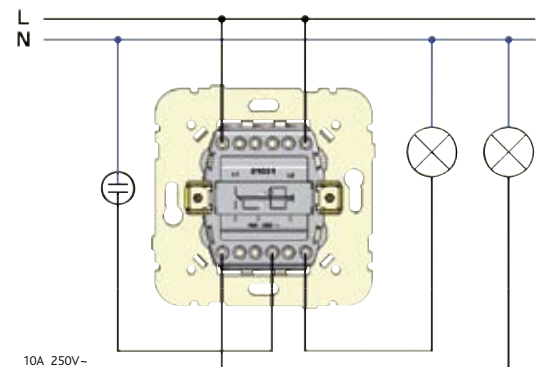
**TWO-POLE SWITCH WITH PILOT LAMP**



**TWO-POLE SWITCH WITH PILOT LAMP**



**CARD-SYSTEM SWITCH**



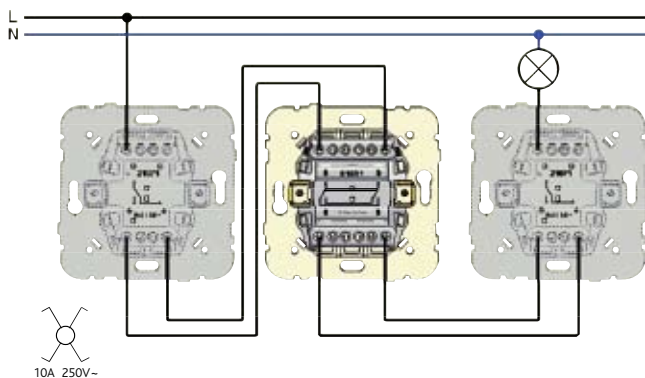
NOTE:  
Only used with Cover Plates of LOGUS 90, Sirius 70 and Apolo 5000 Series.

# Wiring Diagrams

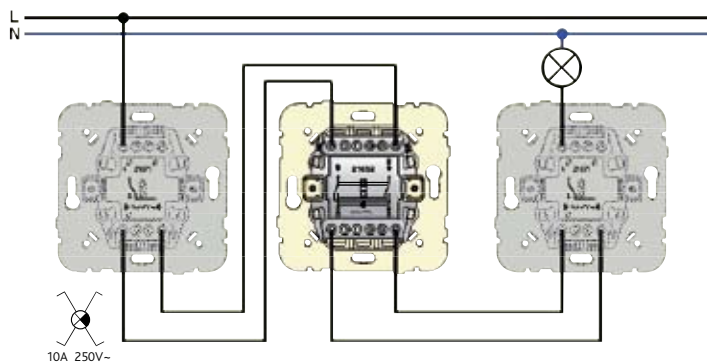
**mec 21**  
series

Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

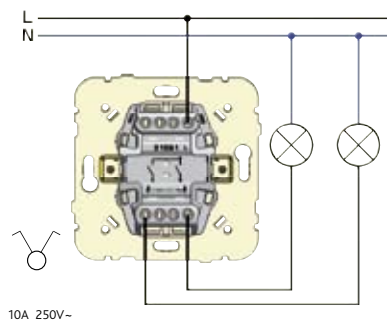
**INTERMEDIATE SWITCH**



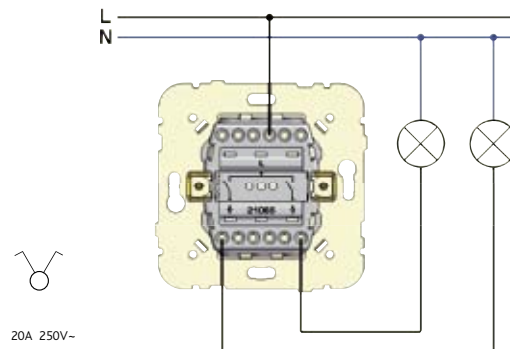
**INTERMEDIATE SWITCH WITH ORIENTING LIGHT**



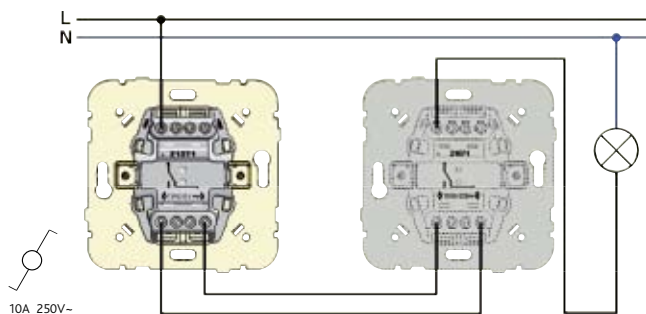
**TWO CIRCUIT SWITCH**



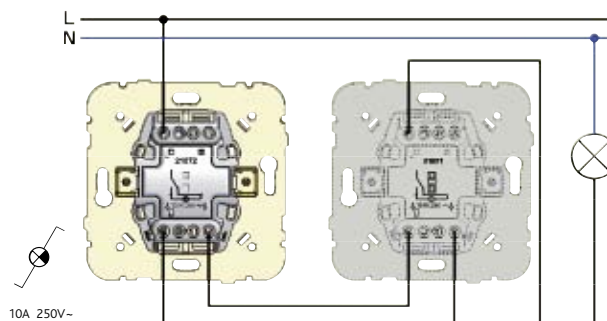
**TWO CIRCUIT SWITCH 20A**



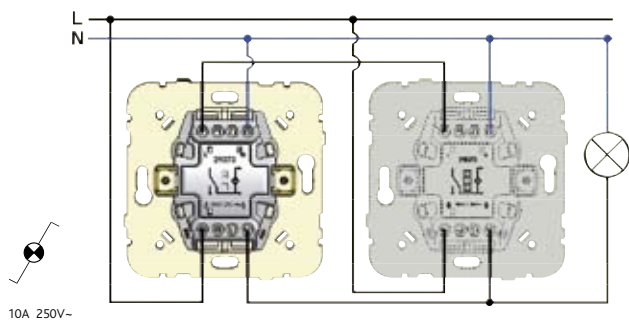
**TWO-WAY SWITCH**



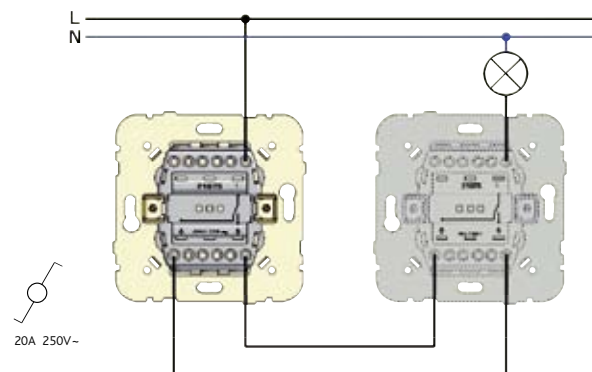
**TWO-WAY SWITCH WITH ORIENTING LIGHT**



**TWO-WAY SWITCH WITH PILOT LAMP**

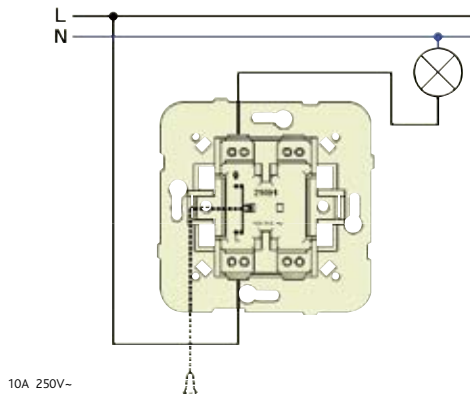


**TWO-WAY SWITCH 20A**

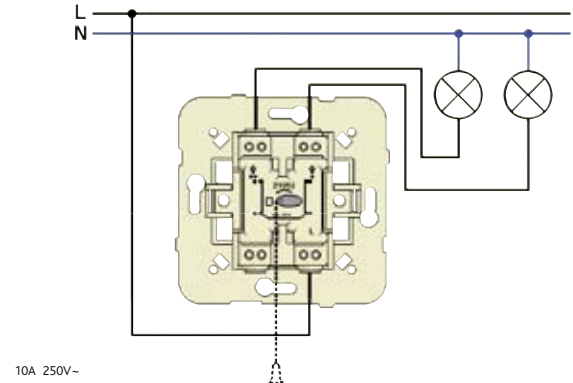


## Mechanisms used in LOGUS 90, Sirius 70 and Apollo 5000 Series

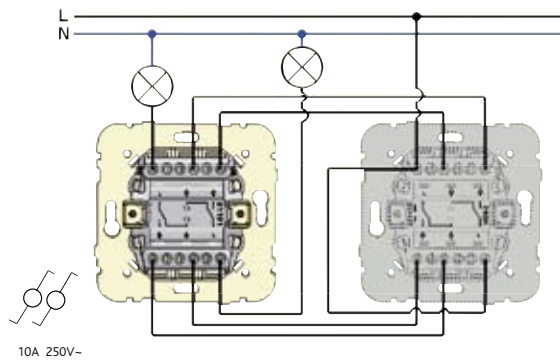
**PULL-CORD PUSH-BUTTON**



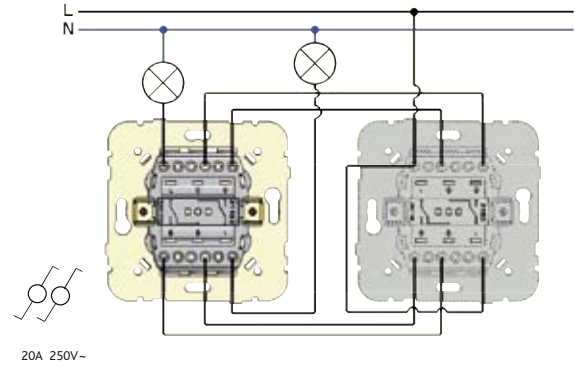
**PULL-CORD TWO-WAY SWITCH**



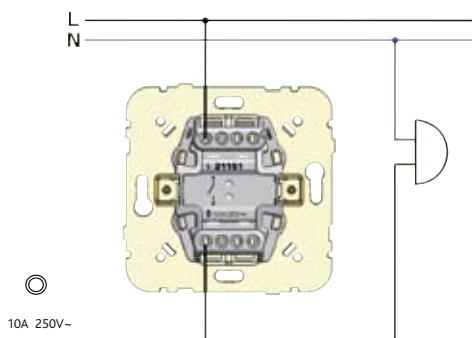
**DOUBLE TWO-WAY SWITCH**



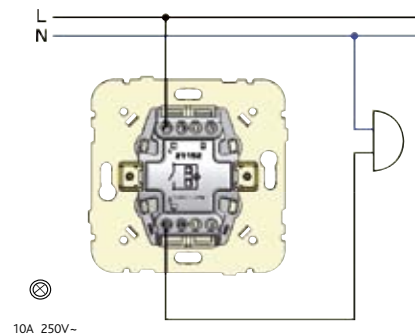
**DOUBLE TWO-WAY SWITCH 20A**



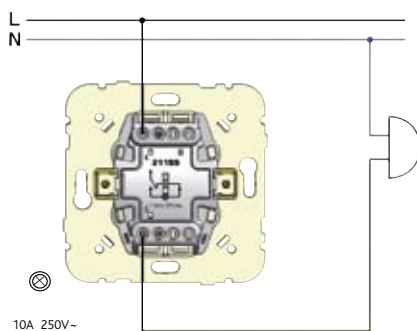
**ROCKER PUSH-BUTTON**



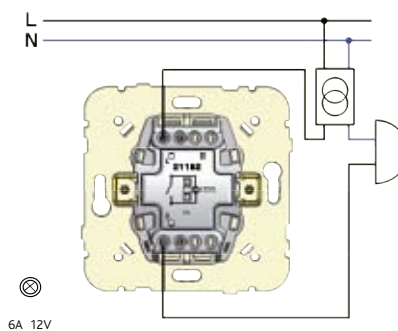
**ROCKER PUSH-BUTTON WITH ORIENTING LIGHT (250V)**



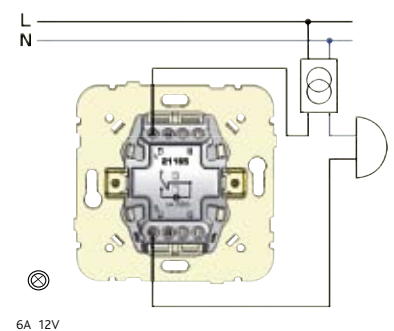
**ROCKER PUSH-BUTTON WITH IDENTIFICATION (250V)**



**ROCKER PUSH-BUTTON WITH ORIENTING LIGHT (12V)**



**ROCKER PUSH-BUTTON WITH IDENTIFICATION (12V)**

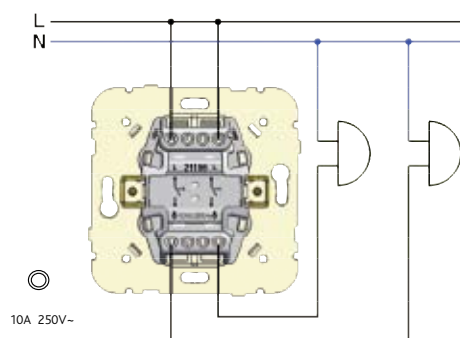


# Wiring Diagrams

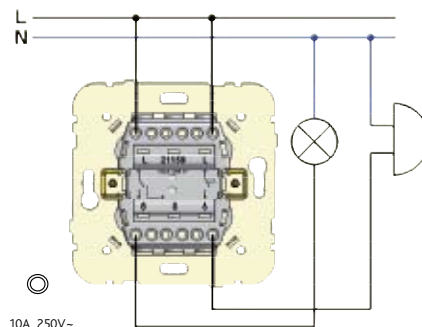
**mec 21**  
series

Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

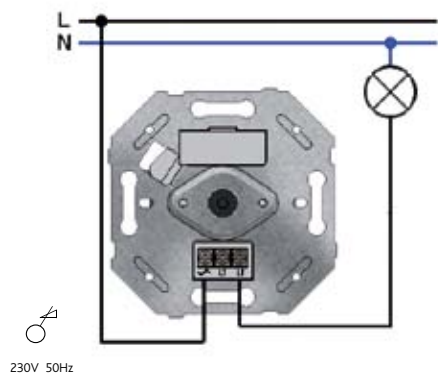
**DOUBLE PUSH-BUTTON  
WITHOUT ELECTRICAL BLOCKAGE**



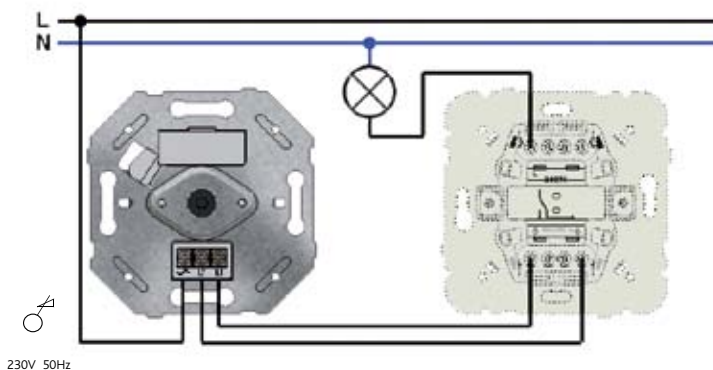
**ROCKER PUSH-BUTTON /  
TWO-WAY SWITCH**



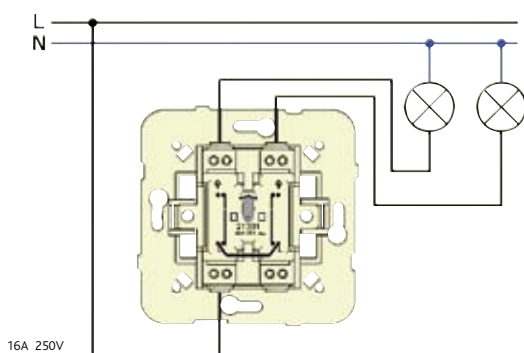
**DIMMER TWO-WAY SWITCH OF 500W  
ELECTRONIC DIMMER TWO-WAY SWITCH OF 320W**



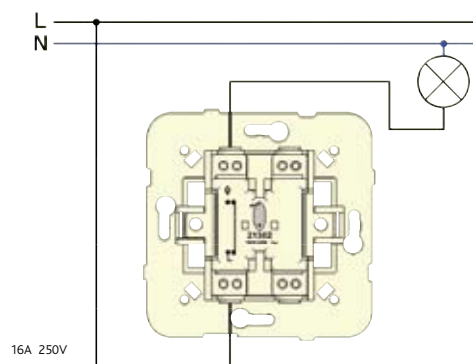
**DIMMER TWO-WAY SWITCH OF 500W  
ELECTRONIC DIMMER TWO-WAY SWITCH OF 320W**



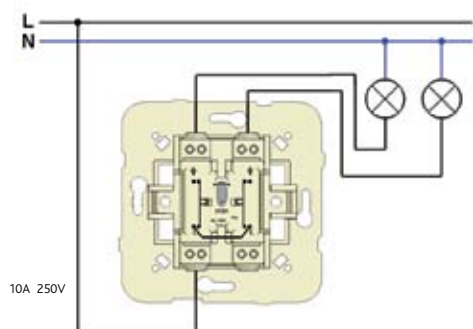
**ROTARY TWO-WAY SWITCH 16A**



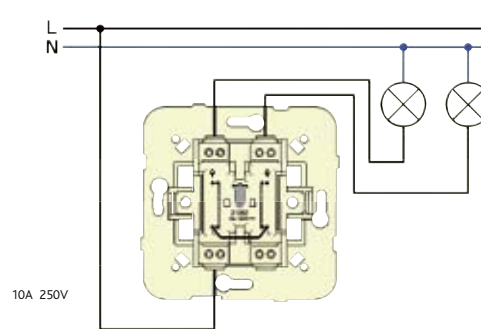
**ROTARY SWITCH 16A**



**KEY-LOCK PUSH-BUTTON**



**KEY-LOCK TWO-WAY SWITCH**



## Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

### MOTION DETECTOR

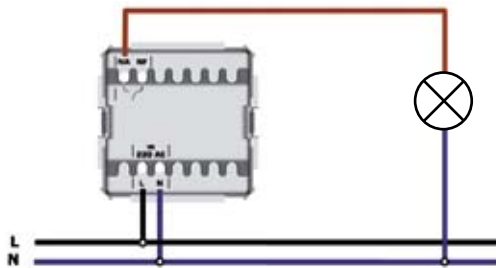
**Description:** The Motion Detector allows the automatic control of the lighting by the detection of the infrared radiation emitted by a moving object and the local light level.

**Technical Characteristics:**

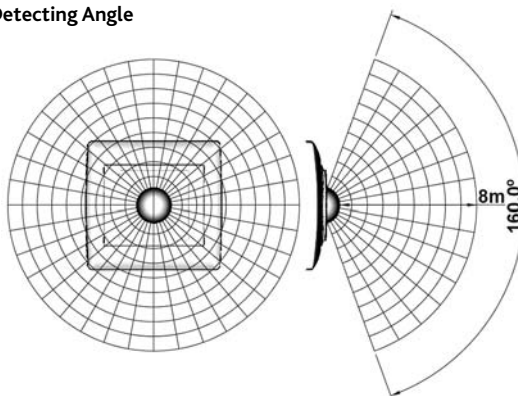
- Voltage Power Supply: 230V  $\pm$  10%, 50 - 60Hz
- Maximum Lamps Load:
  - Ref. 21402 - 400W
  - Ref. 21401 - 1000W
- Light Sensibility Regulation.
- Operating Time Regulation: from 5 seg. to 5 min.
- Maximum Detection Range: 8 metres

**Adjustments:** 1. Remove the cover of the mechanism for reach the potentiometers of the adjustments of time and sensibility.  
2. Proceed to make the necessary adjustments.

**Wiring Diagram:**



**Distance and Detecting Angle**



**Operating Time Regulation**

**Light Sensibility Regulation**



# Wiring Diagrams

**mec 21**  
series

## Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

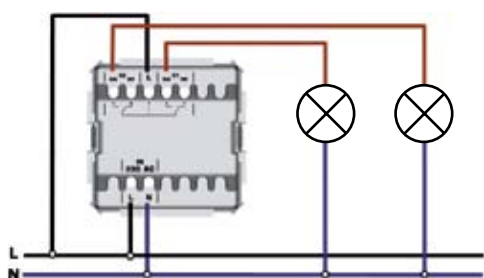
### ONE CIRCUIT DIGITAL CLOCK SWITCH

**Description:** The Digital Time Switch is a time switch designed to control any electrical installation. Includes pulse programming from 1 to 59 seconds and up to 32 block memory spaces. Automatic Winter-Summer official time adjustment.

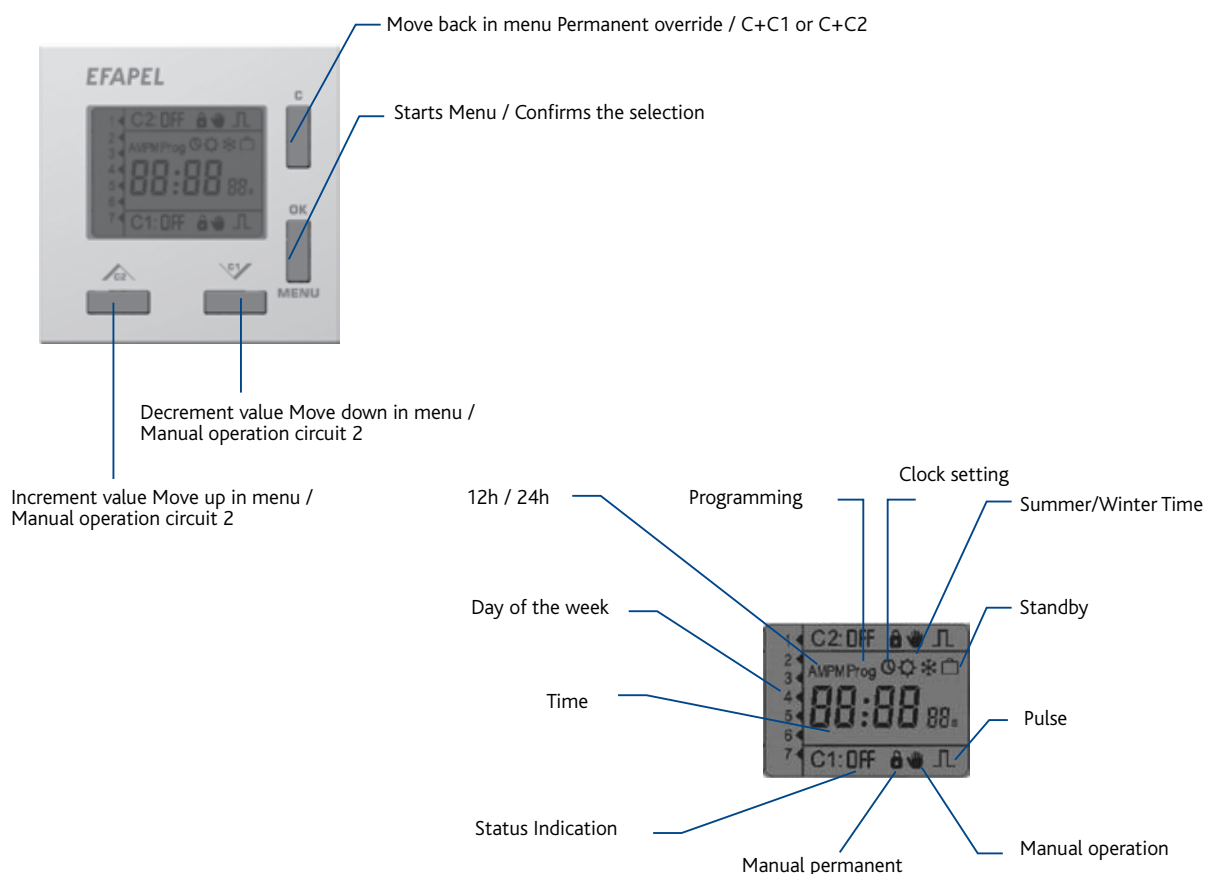
#### Technical Characteristics:

- Power Supply: 230V/50Hz
- Switching capacity: 6A + 6A
- Power Consumption: 6 VA 1 circuit (approx. 1W)
- Memory Capacity: 32 programs
- Output Functions: ON - OFF - Pulse (from 1 to 59 sec)
- Switching Accuracy: Better than 1 second
- Operating Accuracy:  $\pm 1$  s/ day at 23 °C
- Selection: Winter/Summer
- "Standby" Function (Holidays)

#### Wiring Diagram:



#### Installation:



### Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

#### BLINDS CONTROL MODULES

**Description:** The modules allow the individual or the general control of a blind or group of blinds, in manual or automatic way, in accordance with a programmed schedule or with the environmental conditions defined or measured by associated sensors (light-level, wind, gas, intrusion, etc.). They can be operated locally or by means an IR Transmitter or by simple push buttons.

#### Technical Characteristics of General Command for all the blinds/and Local Command associated to one or more blinds:

- It could be associated with existing local commands (push buttons) or to standard relays.
- Voltage Power Supply: 230V  $\pm$  10%, 50 - 60Hz
- Power Consumption: less than 1W (aprox.)
- Maximum Load capacity of the contacts: 6A
- Remote control action by using the IR Transmitter model (Ref. 81901) or Local control by using standard push buttons (Ref. 21283) or sensors.
- Input signals (230V)
- 2 programmed functions (up/down) (Only available in the General Controls)
- "Standby" function (Only available in the General Controls)
- Battery Back up: 24 hs

#### Terminals and Connections:

GENERAL COMMAND



#### Legend:

1. General Output - Down
2. Blinds Power Supply (line)
3. General Output - Up
4. Power Supply (line)
5. Power Supply (neutral)
6. Signal input priority 2 (230Vac) - Up
7. Signal input priority 2 (230Vac) - Down
8. Signal input priority 1 (230Vac) - Up
9. Signal input priority 1 (230Vac) - Down

**Nota:** The commands given by the direct action over the buttons of the product ( $\blacktriangle$   $\blacktriangledown$ ) or by using other equipments connected to the signal input of priority 1 (PR1), cancel all the commands received through the signal input with priority 2 (PR2)

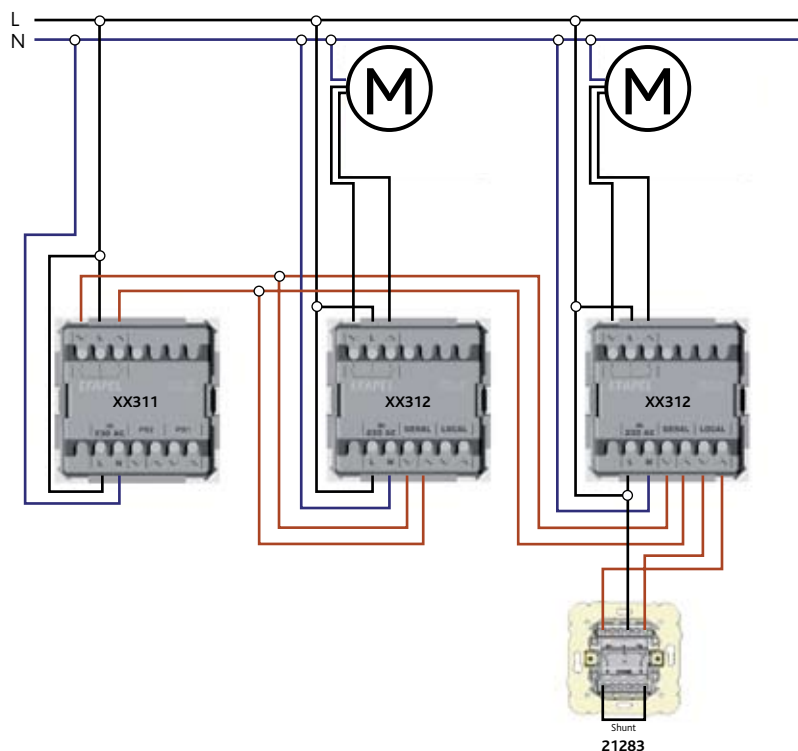
LOCAL COMMAND



#### Legend:

1. General Output - Down
2. Blinds Power Supply (line)
3. General Output - Up
4. Power Supply (line)
5. Power Supply (neutral)
6. Signal input for the General Control - Up
7. Signal input for the General Control - Down
8. Signal input for the Local Control - Up
9. Signal input for the Local Control - Down

**Nota:** The commands given by the direct action over the buttons of the product ( $\blacktriangle$   $\blacktriangledown$ ) or by using other equipments connected to the "Local" inputs, cancel all the commands received through the "Geral" inputs.



# Wiring Diagrams

**mec 21**  
series

## Mechanisms used in LOGUS 90, Sirius 70 and Apollo 5000 Series

### AUTOMATIC RELAY FOR BLINDS CONTROL

**Descrição:** They allow the local and global control of a group of blinds. It could be installed in the standard wall boxes, in the derivation boxes near the blinds or in deep wall boxes and behind the wiring devices installed in the same box.

**Technical Characteristics:**

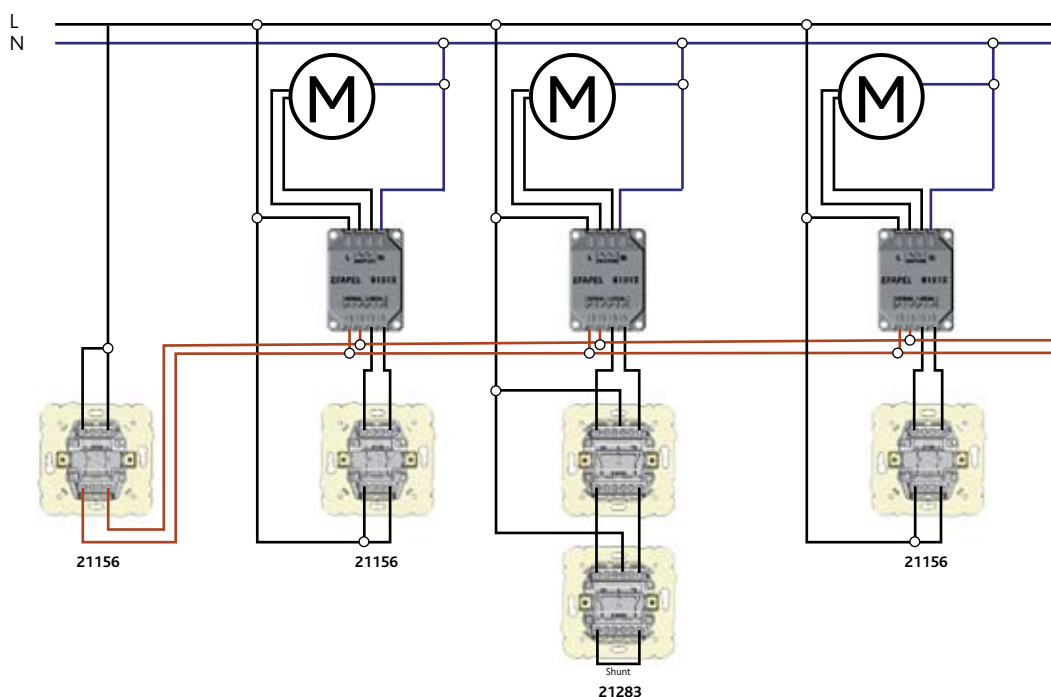
- Power Supply: 230V~ / 50Hz
- Breaking Capacity of the contacts - 6A
- Could be used with the Double Push-button (ref. 21283) or with the Blind Commands
- With electrical blockage
- Dimensions: 48mm x 36,3mm x 24mm

**Wiring Diagram:**

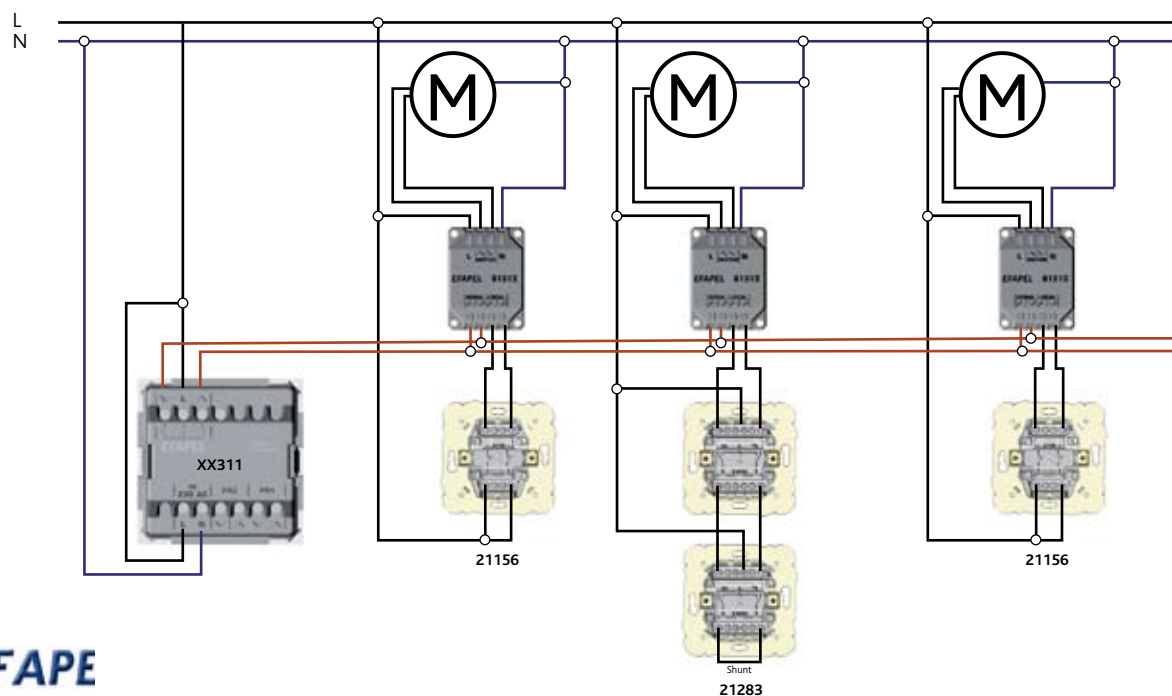


**Markings:**

- N - Power Supply - Neutral
- L - Power Supply - Phase
- ▲ - Output for motor - Up
- ▼ - Output for motor - Down
- GERAL - Inputs for the General Control
- LOCAL - Inputs for the Local Control



**Note:** Use the Double Push-button (Ref. 21156) with the Rockers for Venetian Push-buttons (Ref. 90612 T; 70612 T; 50612 T).



### Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

#### RELAY FOR BLINDS CONTROL

**Description:** They allow the local and global control of a group of blinds. It could be installed in the standard wall boxes, in the derivation boxes near the blinds or in deep wall boxes and behind the wiring devices installed in the same box.

##### Technical Characteristics:

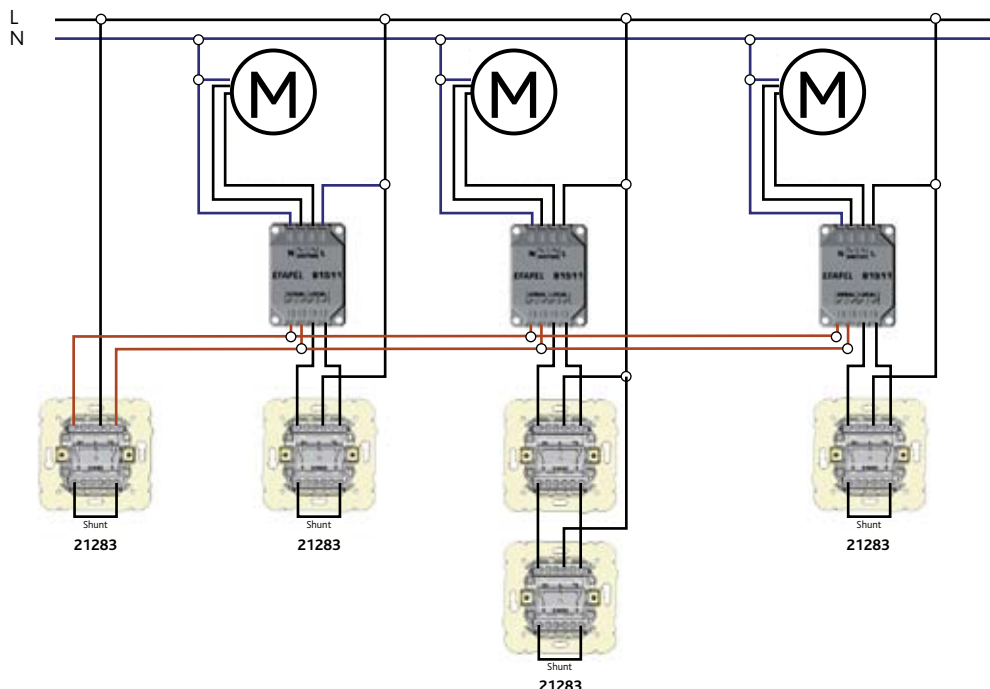
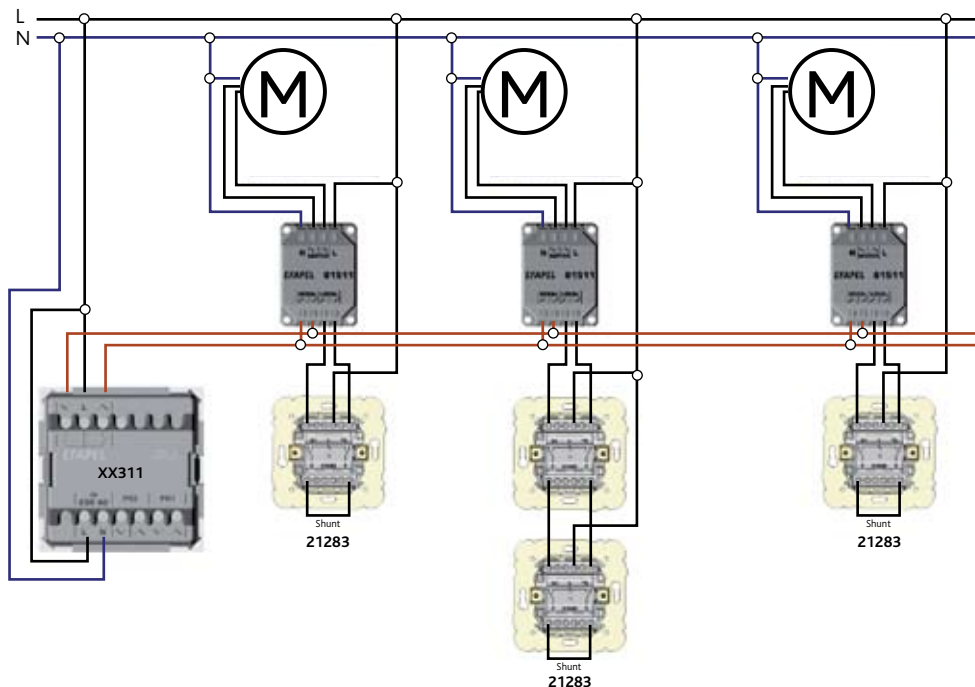
- Power Supply: 230V~ / 50Hz
- Breaking Capacity of the contacts - 6A
- Could be used with the Double Push-button (ref. 21283) or with the Blind Commands
- With electrical blockage
- Dimensions: 48mm x 36,3mm x 24mm

##### Wiring Diagram:



##### Markings:

- N - Power Supply - Neutral
- L - Power Supply - Phase
- ▲ - Output for motor - Up
- ▼ - Output for motor - Down
- GERAL - Inputs for the General Control
- LOCAL - Inputs for the Local Control

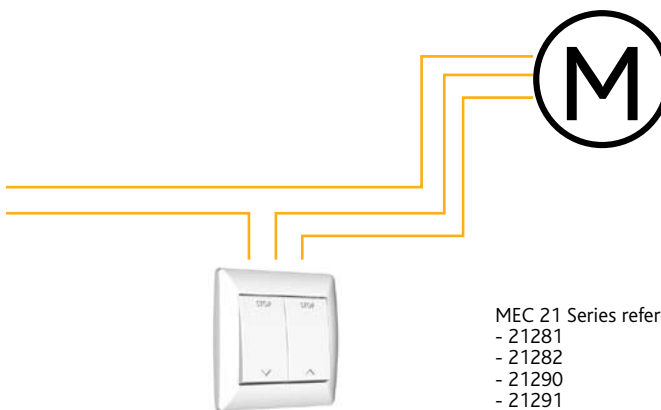


# Wiring Diagrams

**mec 21**  
series

Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

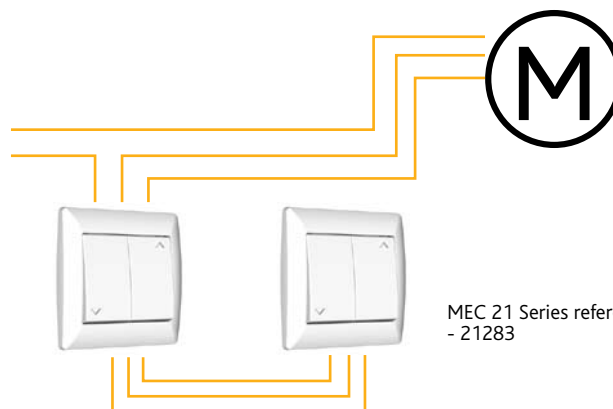
## Local Command



MEC 21 Series references

- 21281
- 21282
- 21290
- 21291
- 21292

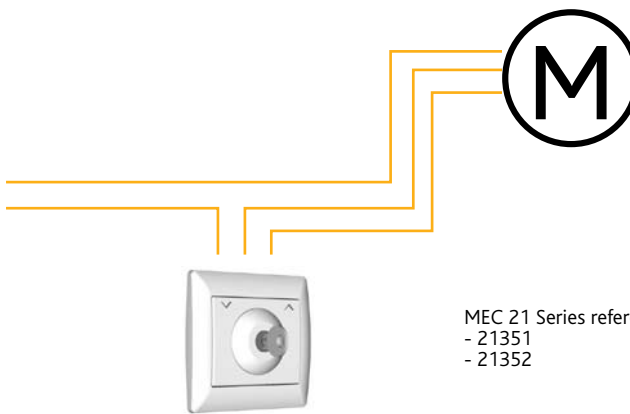
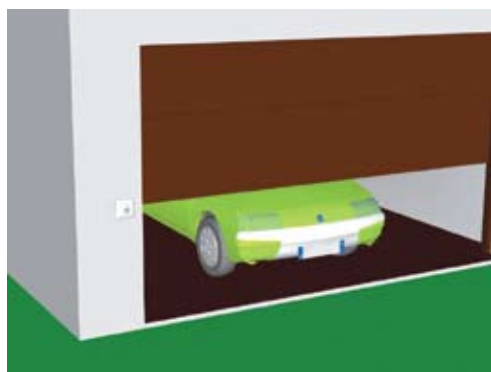
## Command from Several Points



MEC 21 Series references

- 21283

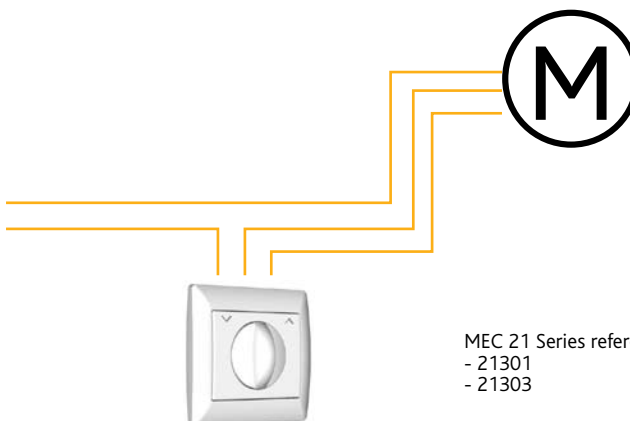
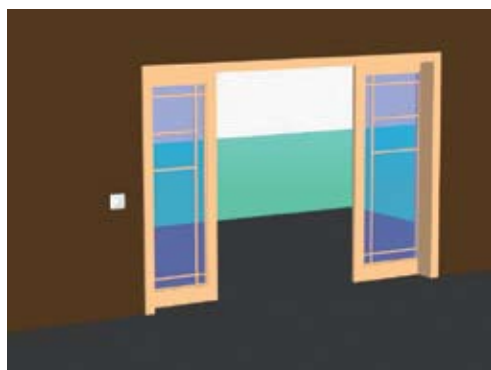
## Key Command



MEC 21 Series references

- 21351
- 21352

## Rotary Command

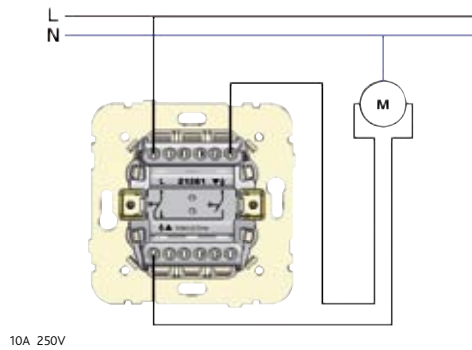


MEC 21 Series references

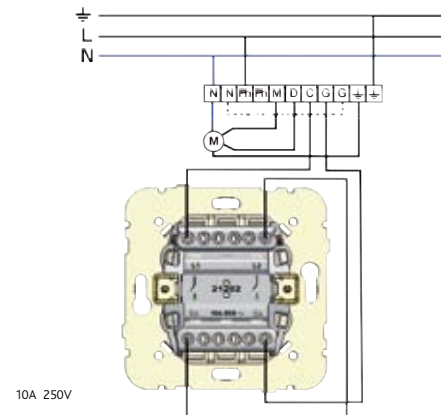
- 21301
- 21303

## Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

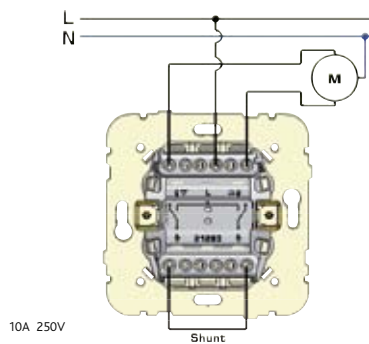
### VENETIAN DOUBLE PUSH-BUTTON



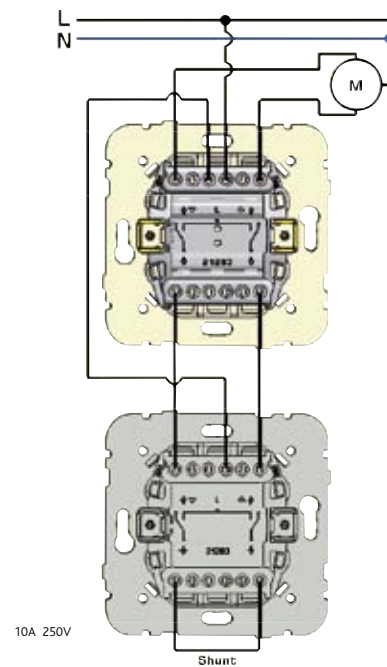
### VENETIAN DOUBLE PUSH-BUTTON WITH NORMALLY CLOSED CONTACTS



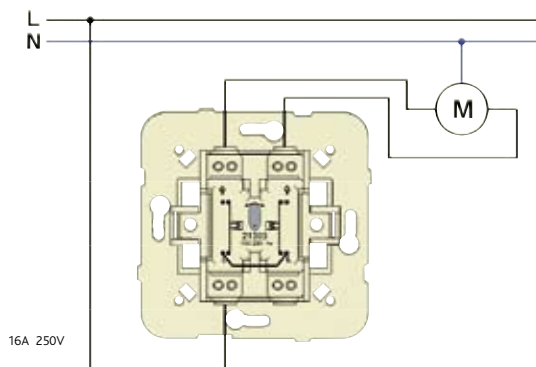
### VENETIAN DOUBLE PUSH-BUTTON FOR MULTIPLE POINT BLIND'S CONTROL with electrical blockage (control of the motor from 1 point)



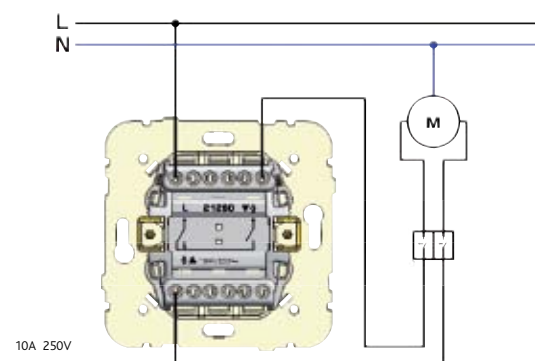
### VENETIAN DOUBLE PUSH-BUTTON FOR MULTIPLE POINT BLIND'S CONTROL with electrical blockage (control of the motor from 2 or several points)



### ROTARY VENETIAN PUSH-BUTTON



### VENETIAN SWITCH

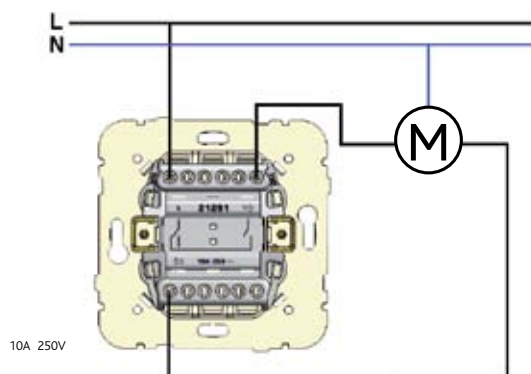


# Wiring Diagrams

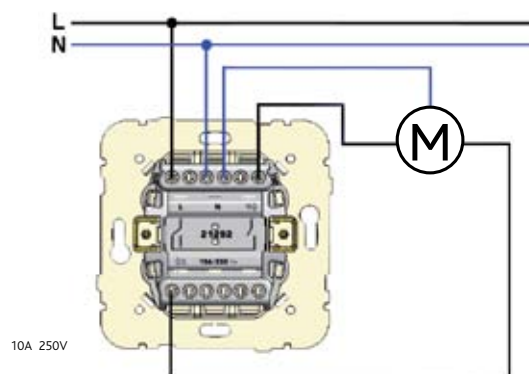
**mec 21**  
series

Mechanisms used in LOGUS 90, Sirius 70 and Apolo 5000 Series

VENETIAN SWITCH WITH  
MECHANICAL BLOCKAGE



VENETIAN SWITCH WITH MECHANICAL BLOCKAGE  
AND NEUTRAL CONNECTION



Connectors used in LOGUS 90, Sirius 70, Apolo 5000, 3700, QUADRO 45 and 47 series

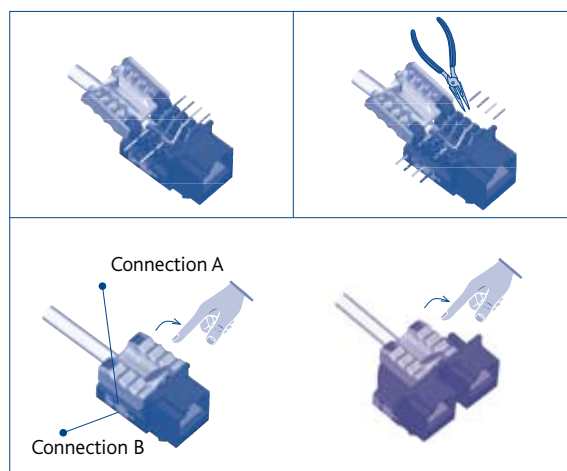
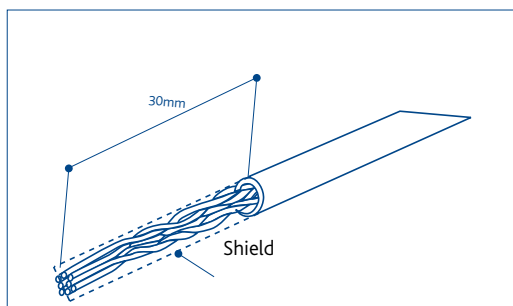
### RJ45 CONNECTORS

#### Cat 5e UTP and Cat 6 UTP

Ref. 21975 and Ref. 21978

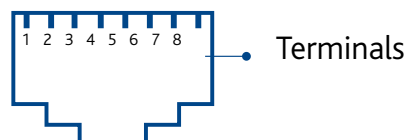
#### CABLES

Unifilar cables with 4 pairs 24 to 26 AWG.

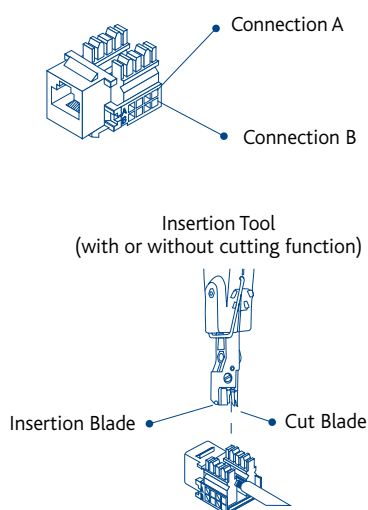


#### Cat 5e FTP and Cat 6 FTP

Ref. 21985 and Ref. 21988



#### STANDARD 568 A/B



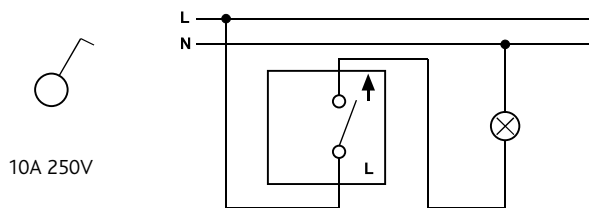
| IDC<br>Terminals | EIA / TIA 568 A |              | EIA / TIA 568 B |              |
|------------------|-----------------|--------------|-----------------|--------------|
|                  | Pair            | Wire Colour  | Pair            | Wire Colour  |
| PIN 5            | 1               | White/Blue   | 1               | White/Blue   |
| PIN 4            |                 | Blue         |                 | Blue         |
| PIN 1            | 3               | White/Green  | 2               | White/Orange |
| PIN 2            |                 | Green        |                 | Orange       |
| PIN 3            | 2               | White/Orange | 3               | White/Green  |
| PIN 6            |                 | Orange       |                 | Green        |
| PIN 7            | 4               | White/Brown  | 4               | White/Brown  |
| PIN 8            |                 | Brown        |                 | Brown        |

**WARNING:** In order to guarantee the performance or category of the installation, ALL the indications and prescriptions of the EIA/TIA 568 A/B standard must be respected along the entire installation.

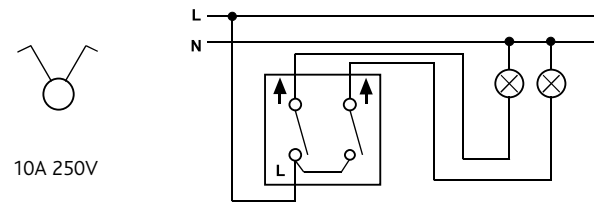
# Wiring Diagrams

## 2600, 3700 and 47 Series

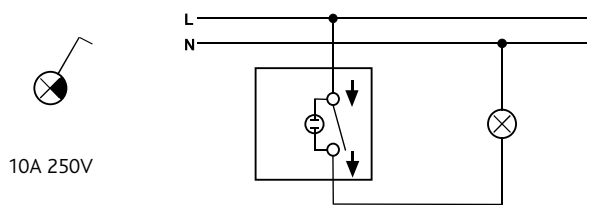
**SINGLE POLE SWITCH**



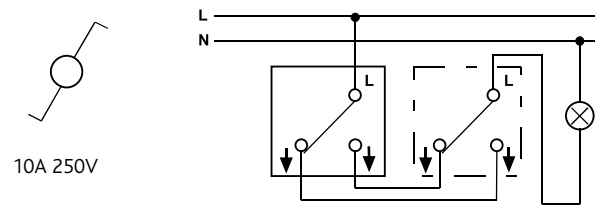
**TWO CIRCUITS SWITCH**



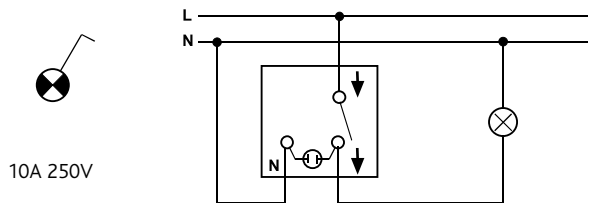
**SINGLE POLE SWITCH WITH ORIENTING LIGHT**



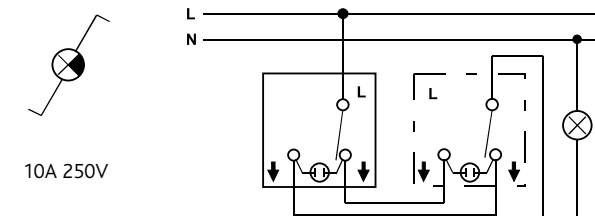
**TWO-WAY SWITCH**



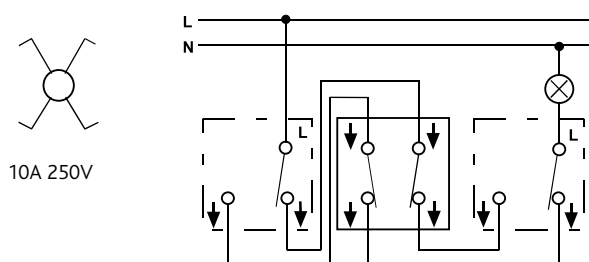
**SINGLE POLE SWITCH WITH PILOT LAMP**



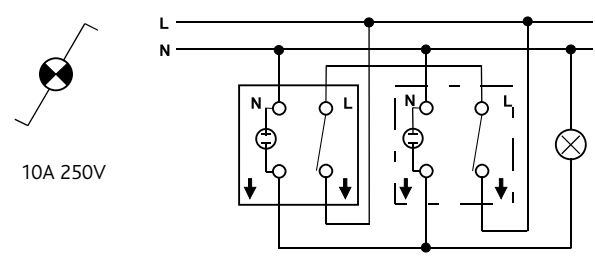
**TWO-WAY SWITCH WITH ORIENTING LIGHT**



**INTERMEDIATE SWITCH**



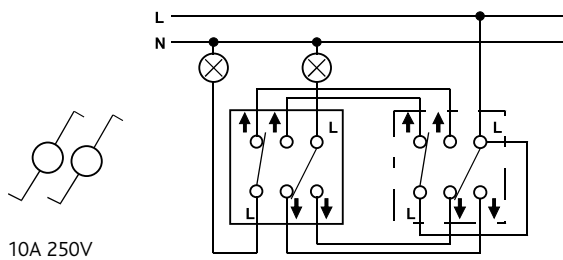
**TWO-WAY SWITCH WITH PILOT LAMP**



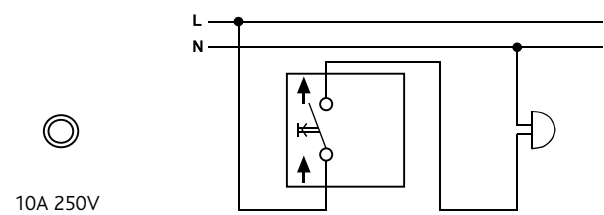
# Wiring Diagrams

## 2600, 3700 and 47 Series

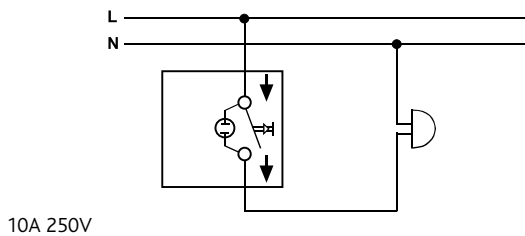
DOUBLE TWO-WAY SWITCH



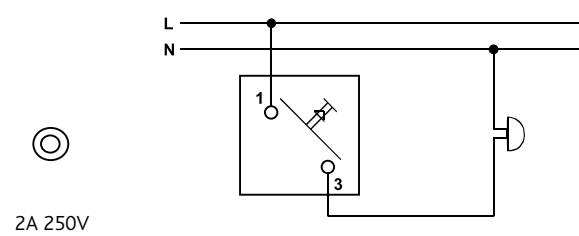
ROCKER PUSH-BUTTON SWITCH



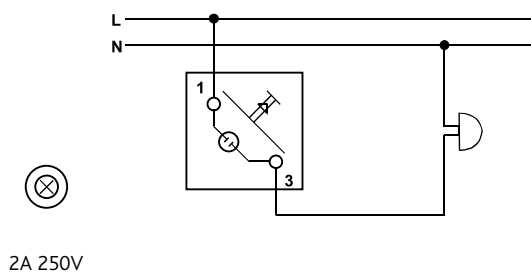
ROCKER PUSH-BUTTON SWITCH WITH ORIENTING LIGHT



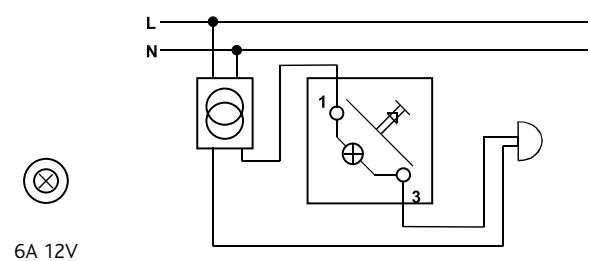
PUSH-BUTTON SWITCH



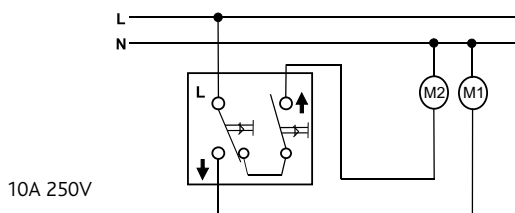
PUSH-BUTTON SWITCH WITH ORIENTING LIGHT (250V)



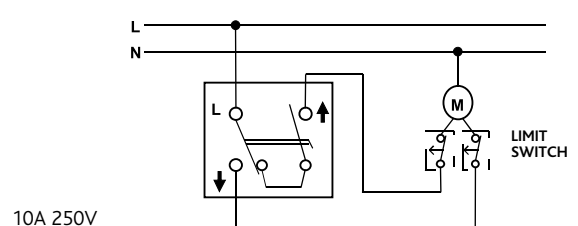
PUSH-BUTTON SWITCH WITH ORIENTING LIGHT (12V)



VENETIAN DOUBLE PUSH-BUTTON SWITCH



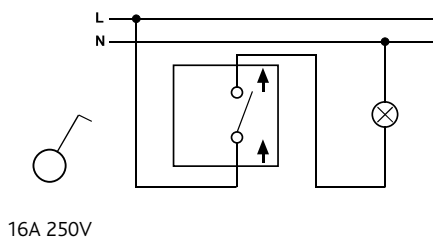
VENETIAN SWITCH



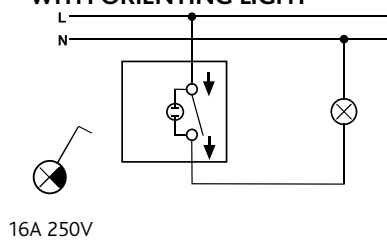
# Wiring Diagrams

## WATERPROOF 48 Series

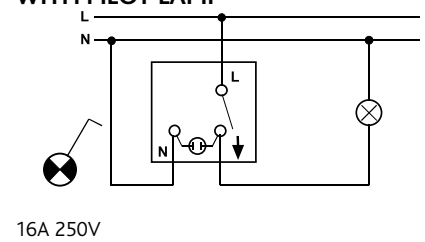
**SINGLE POLE SWITCH**



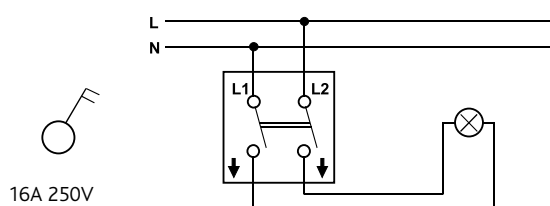
**SINGLE POLE SWITCH WITH ORIENTING LIGHT**



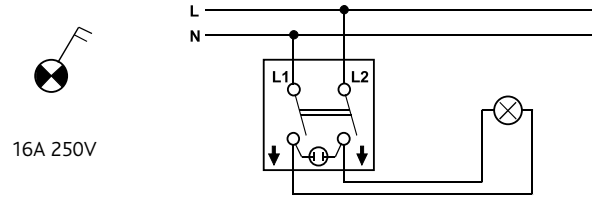
**SINGLE POLE SWITCH WITH PILOT LAMP**



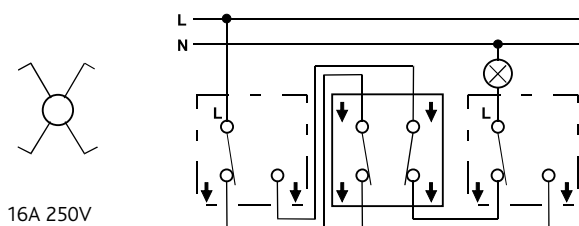
**TWO-POLE SWITCH**



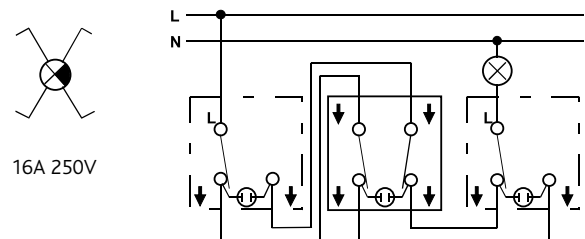
**TWO-POLE SWITCH WITH PILOT LAMP**



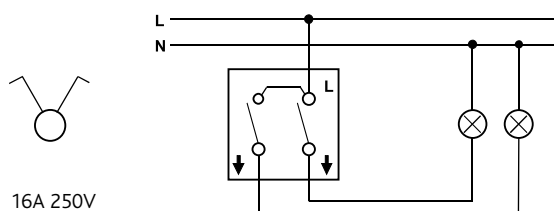
**INTERMEDIATE SWITCH**



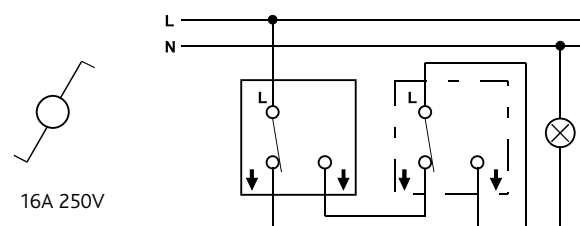
**INTERMEDIATE SWITCH WITH ORIENTING LIGHT**



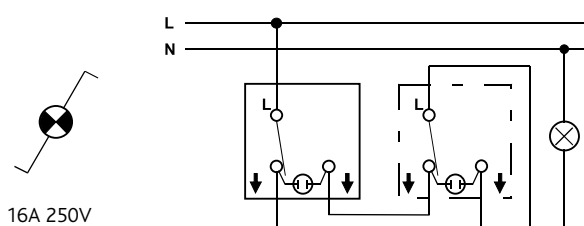
**TWO CIRCUITS SWITCH**



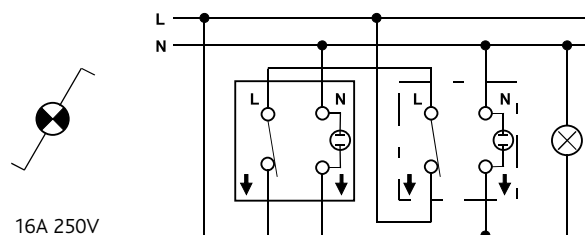
**TWO-WAY SWITCH**



**TWO-WAY SWITCH WITH ORIENTING LIGHT**



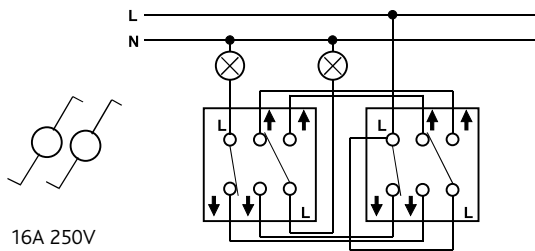
**TWO-WAY SWITCH WITH PILOT LAMP**



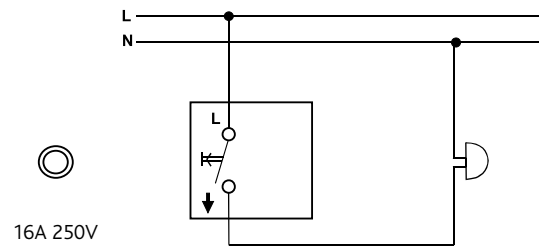
# Wiring Diagrams

## WATERPROOF 48 Series

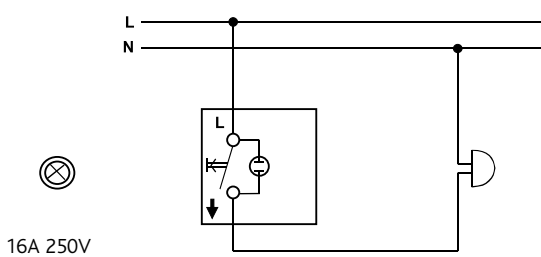
**DOUBLE TWO-WAY SWITCH**



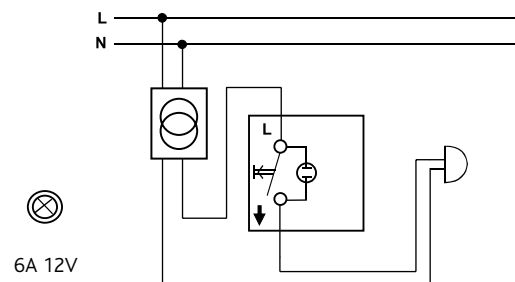
**ROCKER PUSH-BUTTON**



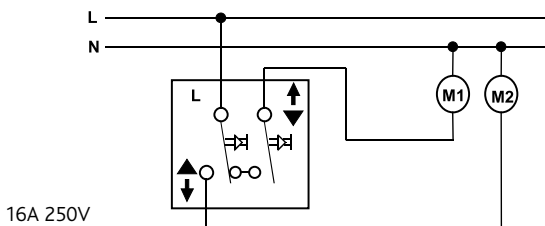
**ROCKER PUSH-BUTTON WITH ORIENTING LIGHT (250V)**



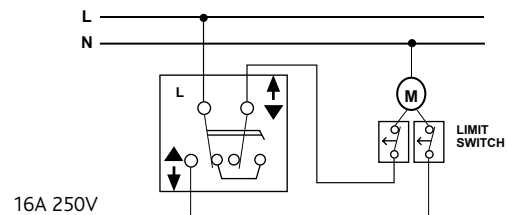
**ROCKER PUSH-BUTTON WITH ORIENTING LIGHT (12V)**



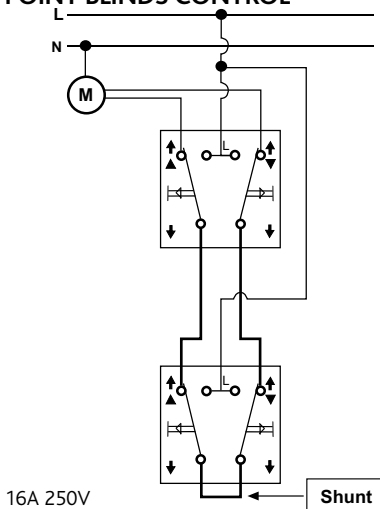
**VENETIAN DOUBLE PUSH-BUTTON**



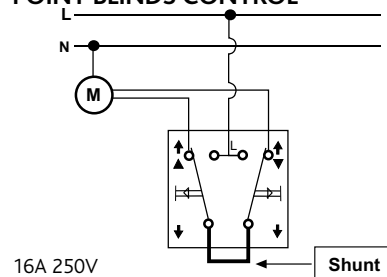
**VENETIAN SWITCH**



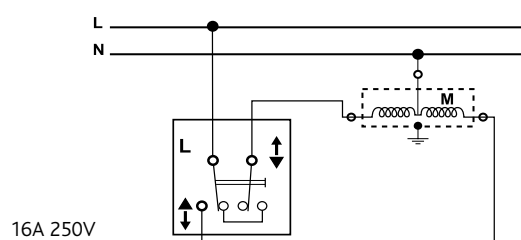
**VENETIAN DOUBLE PUSH-BUTTON FOR MULTIPLE POINT BLINDS CONTROL**



**VENETIAN DOUBLE PUSH-BUTTON FOR MULTIPLE POINT BLINDS CONTROL**



**VENETIAN SWITCH WITH MECHANICAL BLOCKAGE**



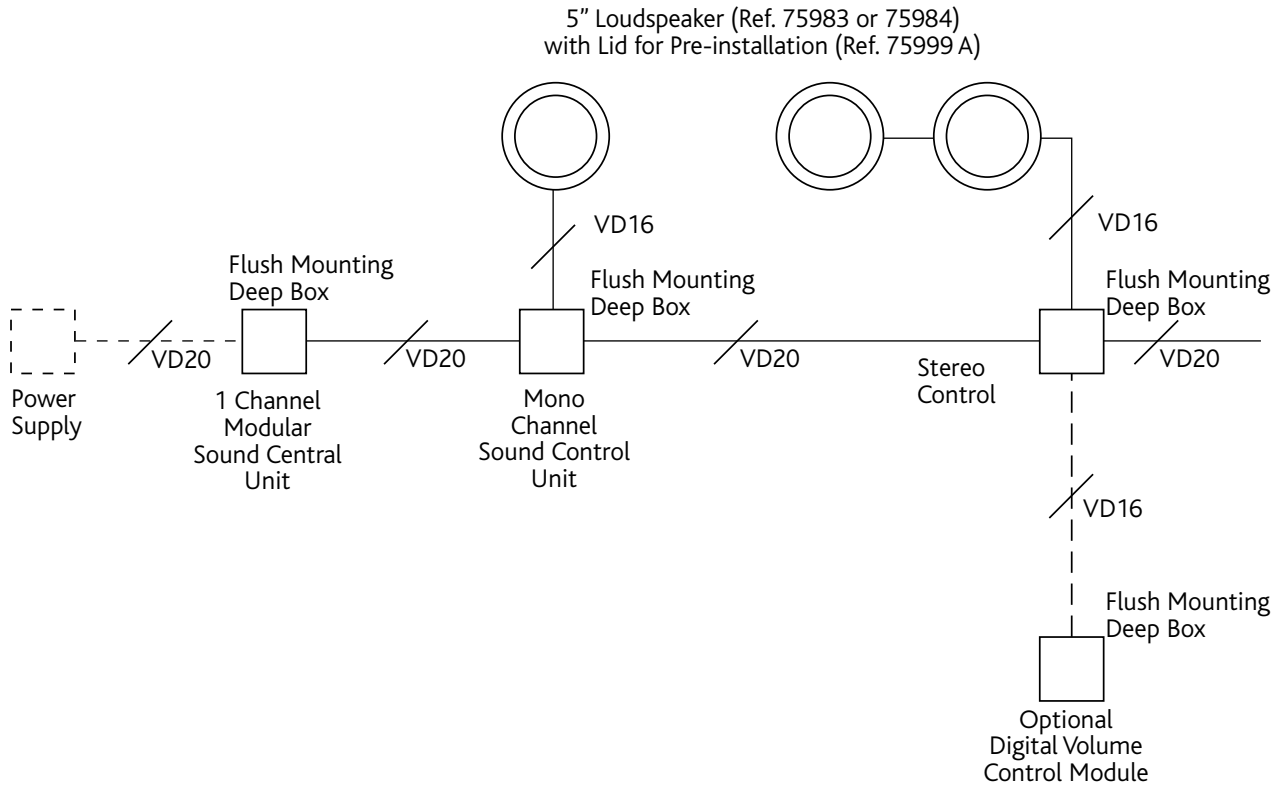
# Wiring Diagrams

**Jazz**  
Light Series

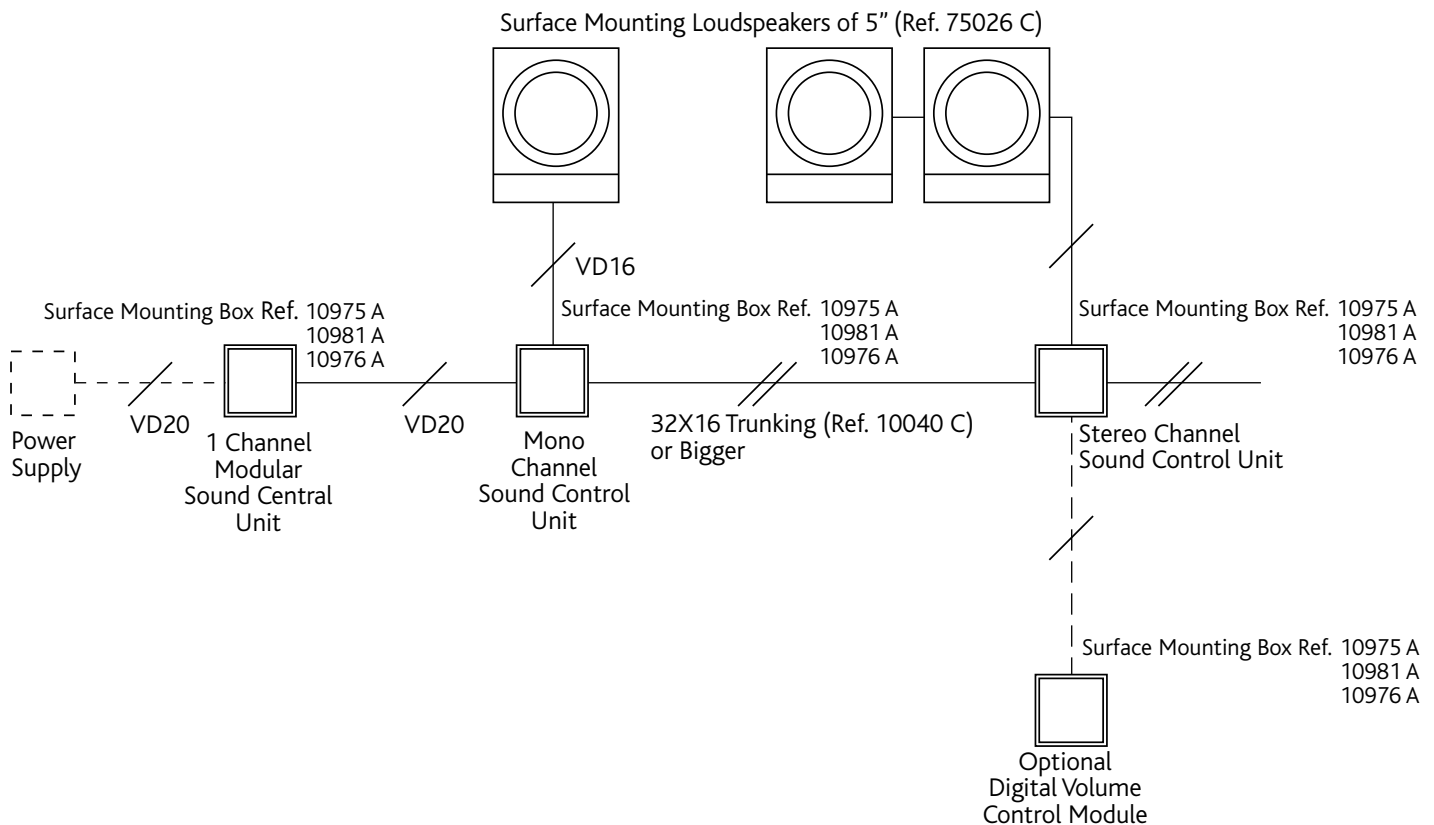
## Surrounding Sound System

### PRE-INSTALLATION

#### FLUSH MOUNTING PRE-INSTALLATION

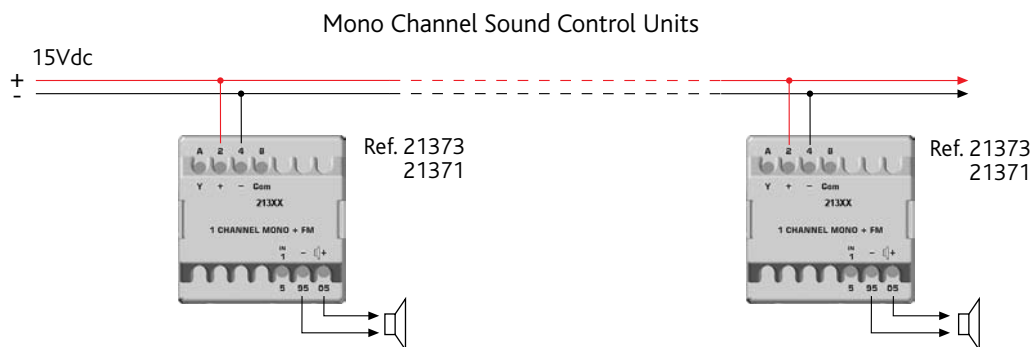
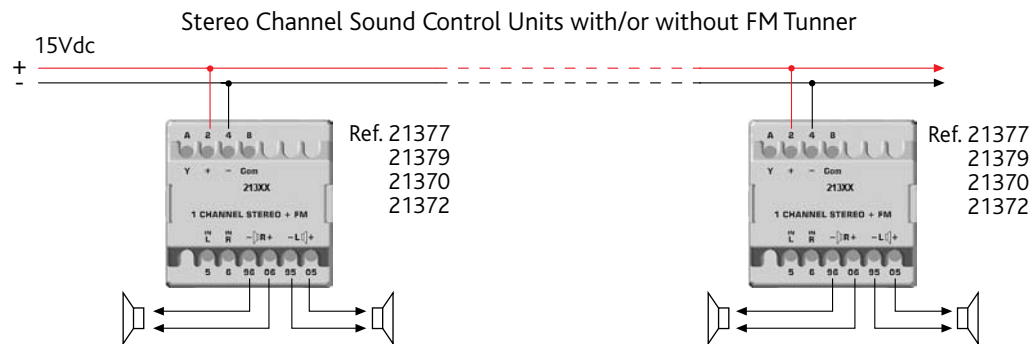


#### SURFACE MOUNTING PRE-INSTALLATION

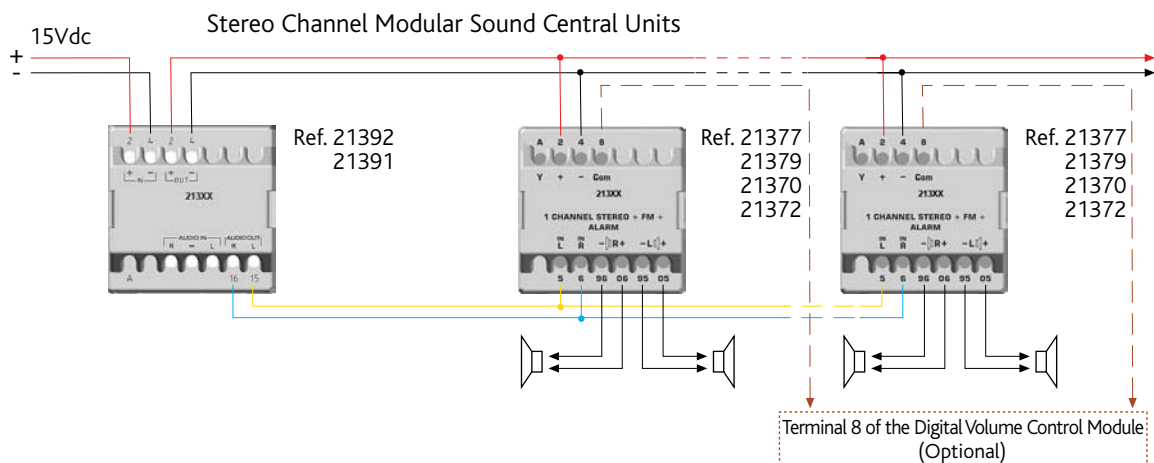


### Surrounding Sound System

#### Non Centralized Installation



#### Centralized Installation



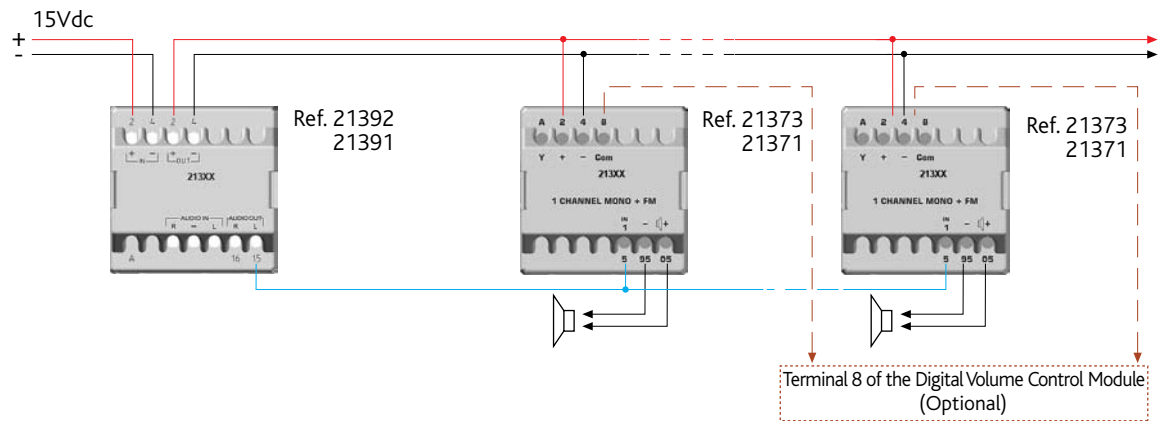
# Wiring Diagrams

**Jazz**  
Light Series

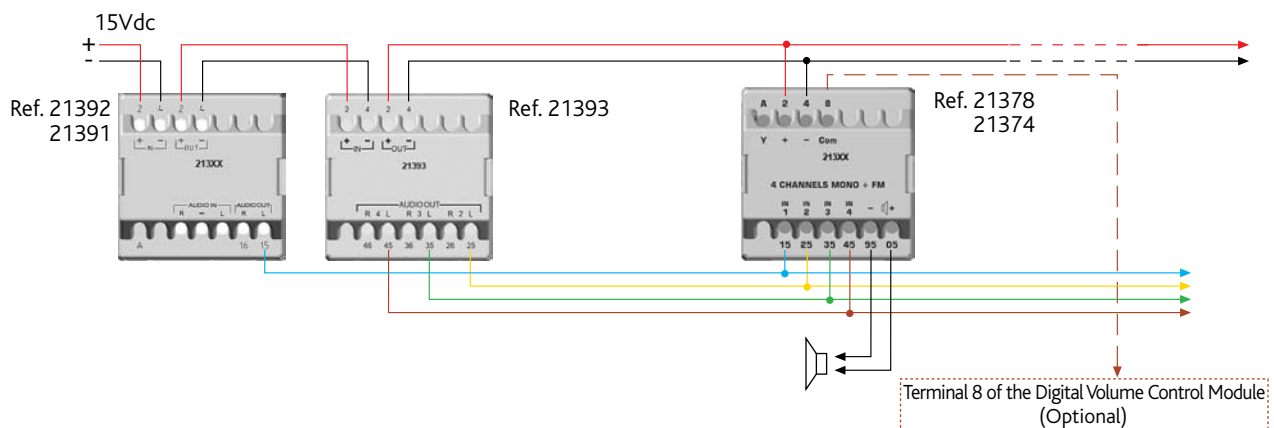
## Surrounding Sound System

### Centralized Installation

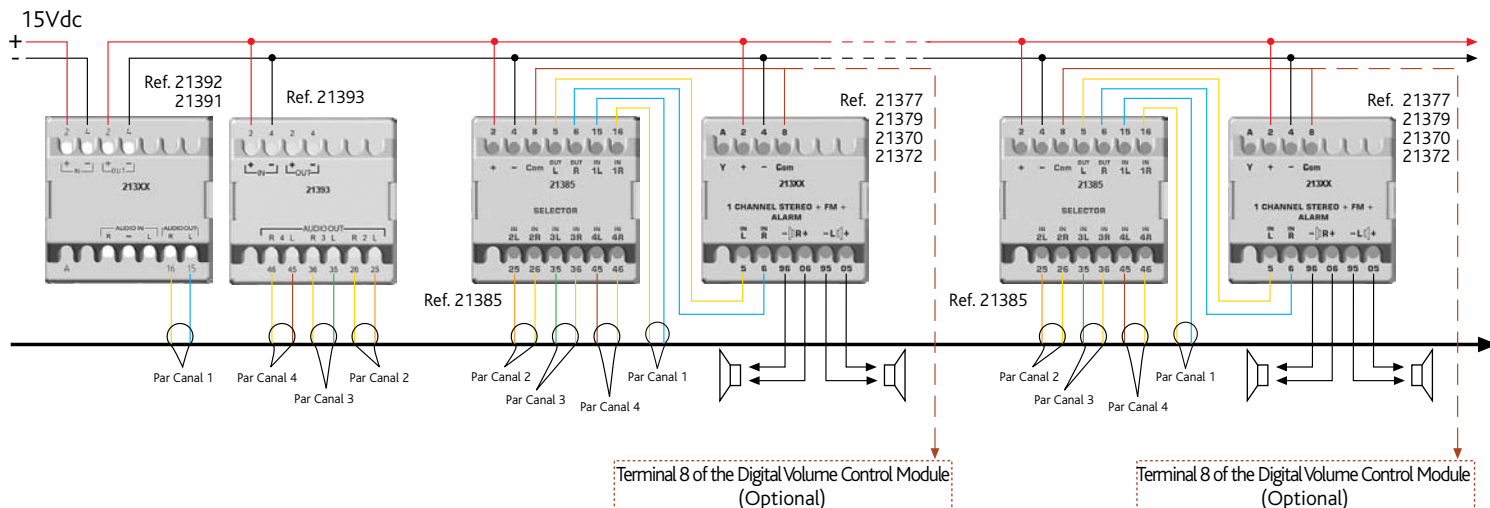
#### Mono Channel Sound Control Units



#### 4 Mono Channel Sound Control Units



#### 4 Stereo Channel Sound Control Units

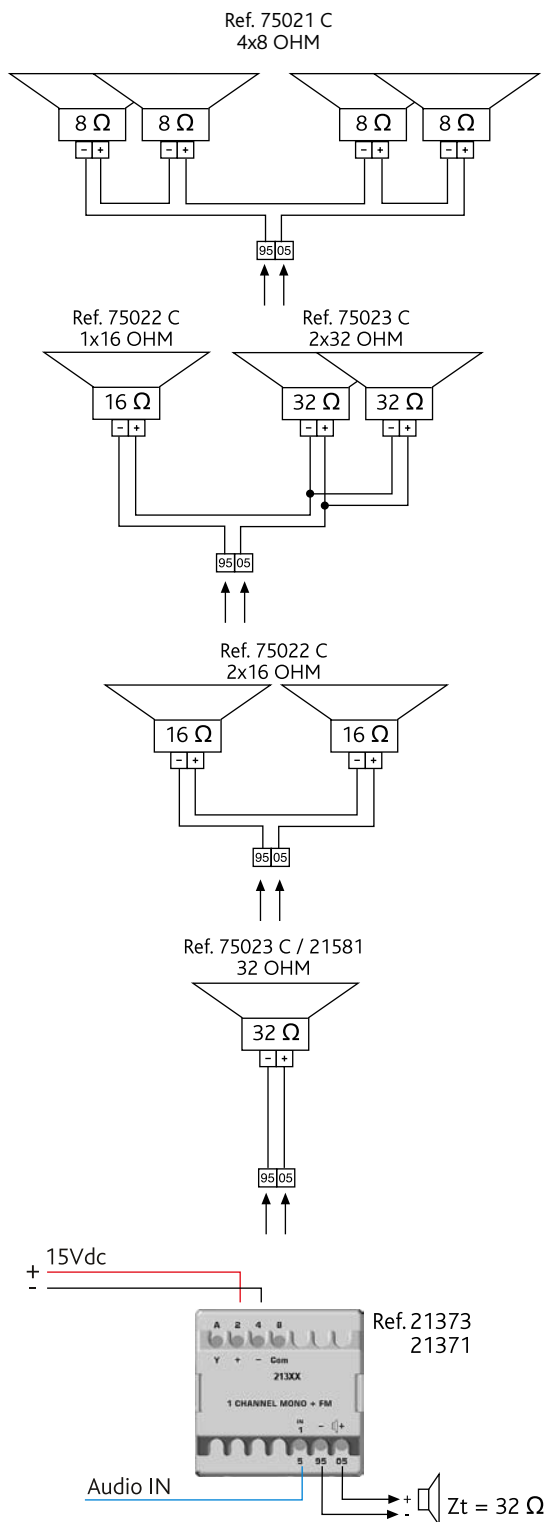


### Surrounding Sound System

#### SELECTION GUIDE OF LOUDSPEAKERS

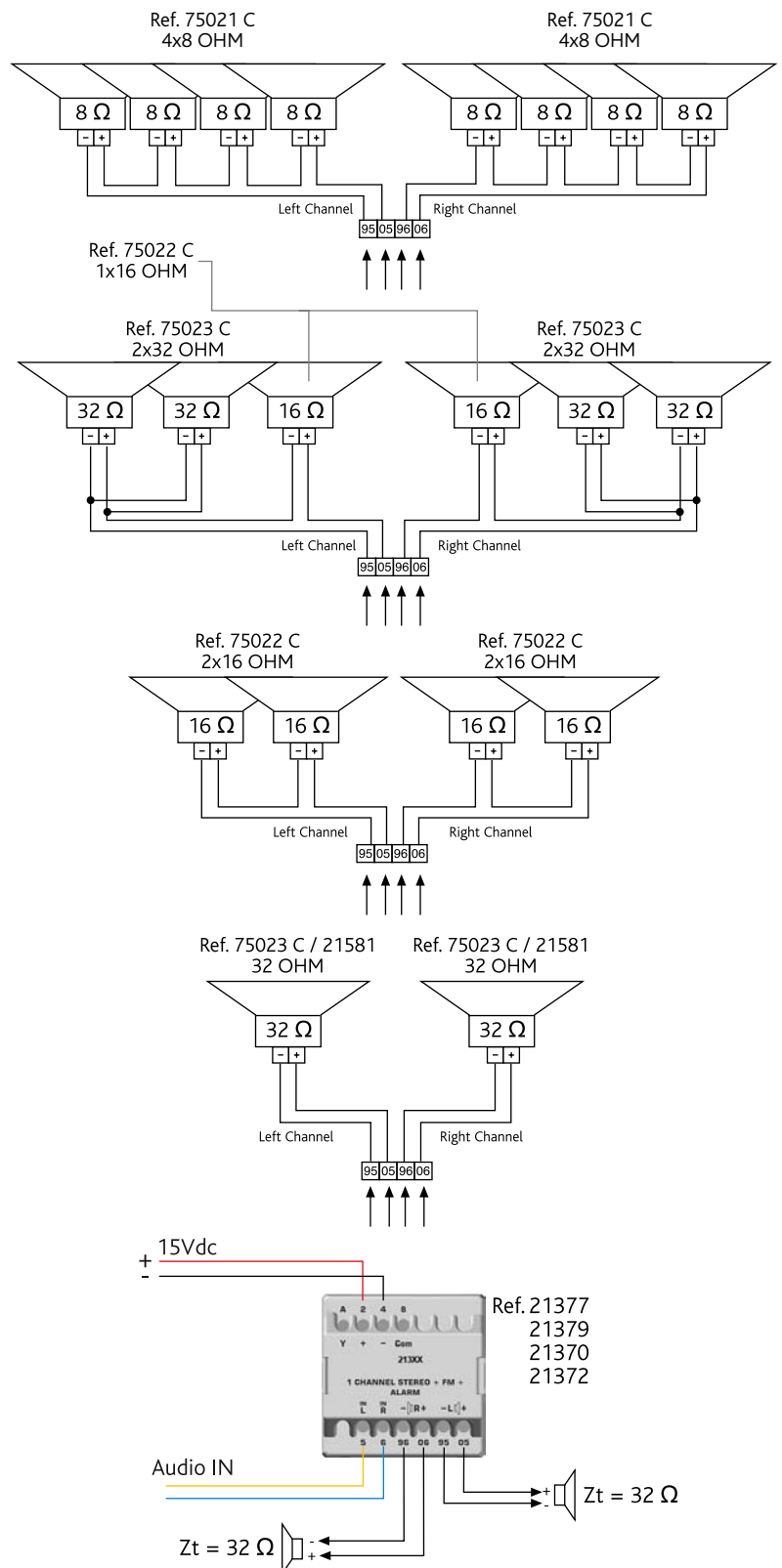
##### MONO INSTALATION

The total impedance of the serial connection must be equal to 32 OHM



##### STEREO INSTALATION

The total impedance of the serial connection per channel must be equal to 32 OHM



# Wiring Diagrams

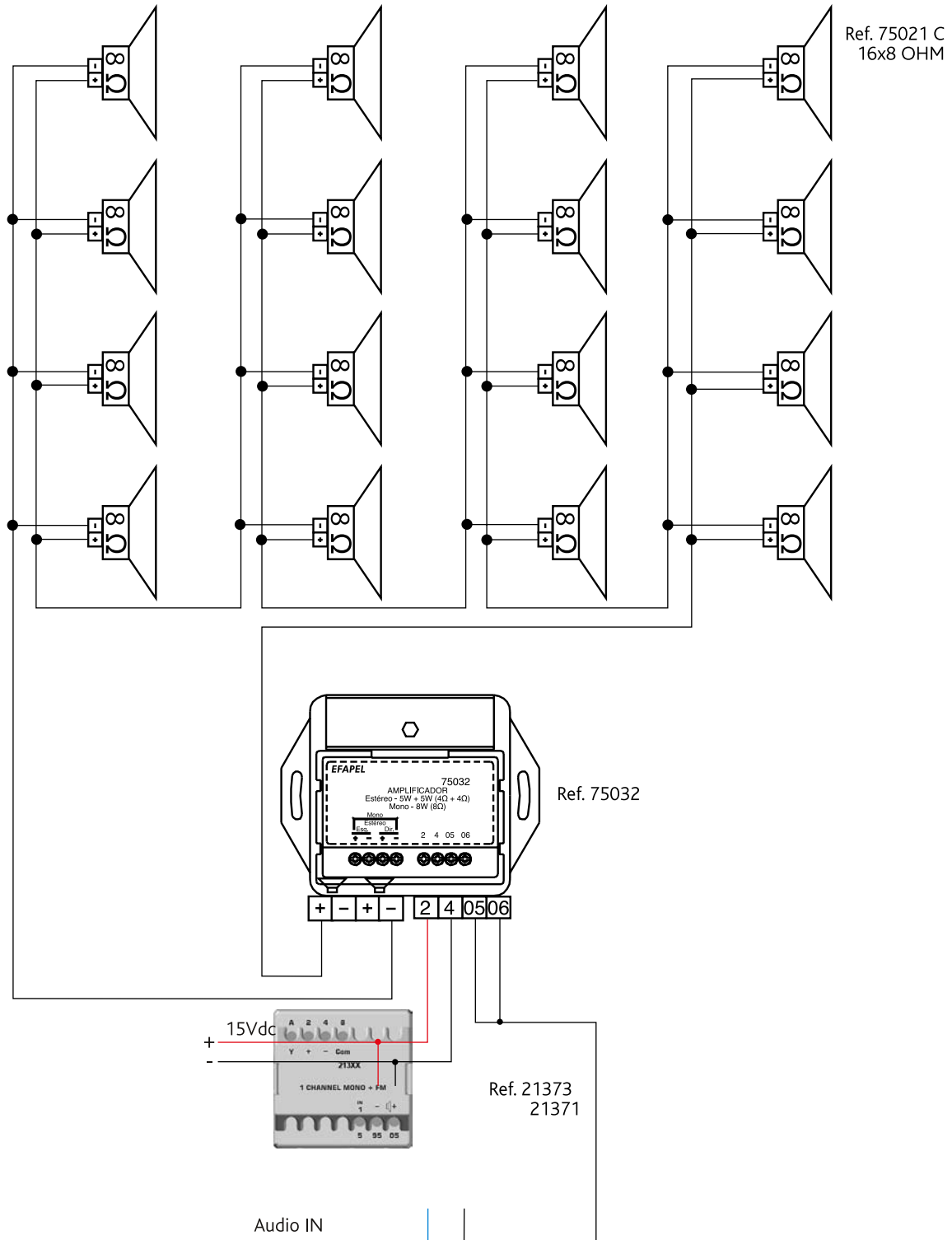
**Jazz**  
Light Series

## Surrounding Sound System

### SELECTION GUIDE OF LOUDSPEAKERS

#### MONO INSTALLATION OF 16 LOUDSPEAKERS WITH AMPLIFIER

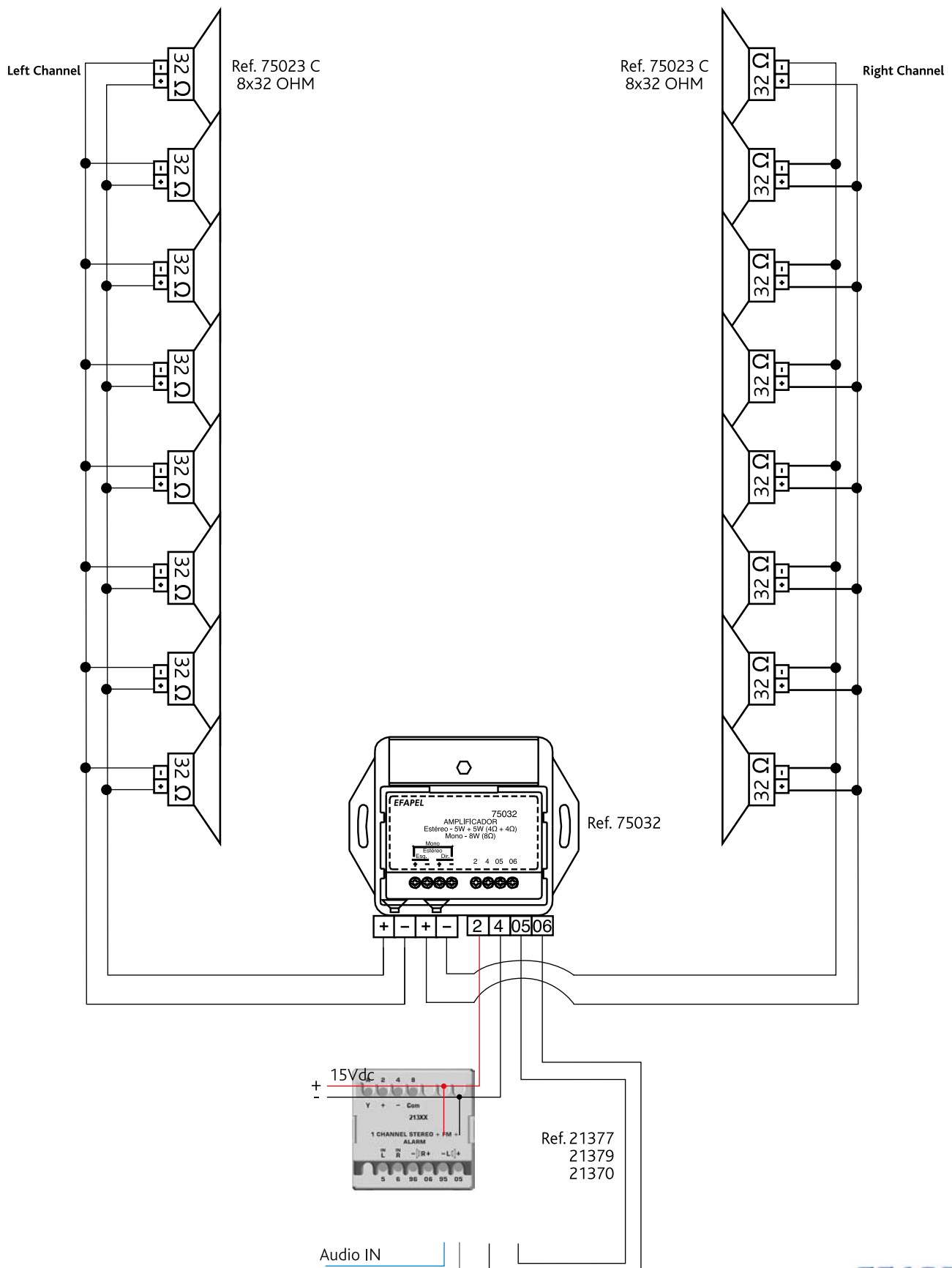
4 groups in series of 4 Loudspeakers of 8 OHM in parallel (= 8 OHM)



### Surrounding Sound System

#### SELECTION GUIDE OF LOUDSPEAKERS

#### STEREO INSTALLATION OF 10 TO 16 LOUDSPEAKERS WITH AMPLIFIER



# Wiring Diagrams

## MODUS 55 Series

### STAIRCASES TIME SWITCH - 10A

**Description:** It allows the manually connecting and automatically disconnecting a lighting installation after a programmed time delay. The activation is made by means of standard or luminous push-buttons (Max 500 mA).

**Characteristics:**

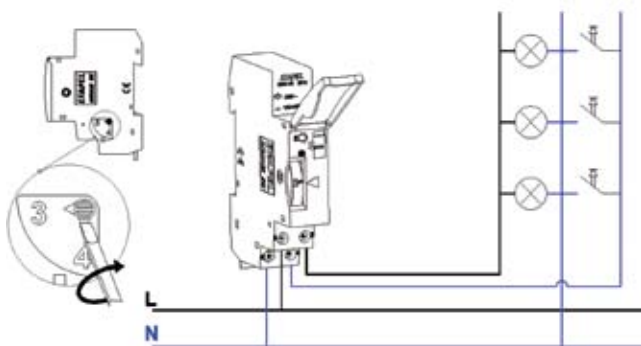
- Rated Voltage: 230V/50Hz
- Rated Current: 10A
- Time Adjustment: from 45s to 7 minutes
- Dimension: 1 module (18mm)
- Operating Temperature Range: from -10°C to +60°C
- Protection Index: IP20
- Insulation Class: II

**Installation:**

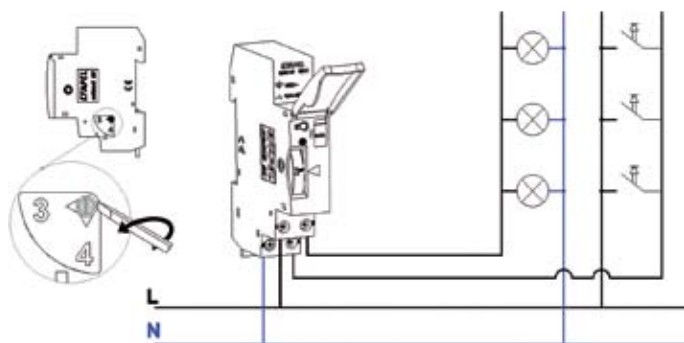
In electrical or distribution panels with symmetrical DIN track of 35mm (DIN 46277).

**Connection Diagrams:**

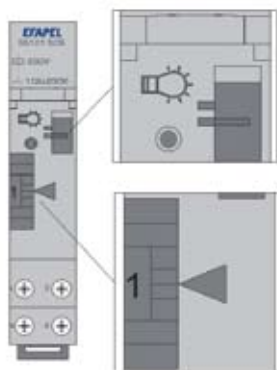
**a) With 3 wires**



**b) With 4 wires**



**Operation:**



**- Manual Control**



Always ON



Automatic Operation

**- Automatic Control**

- Time Adjustment: turn the knob until it points to the desired value of time.

- The staircases time delay switch is provided with the command circuit closed (the light will turn on when is connected for the first time) and the first interruption will happen after finalized the first timing cycle.

### STAIRCASE TIME SWITCH 16A WITH ADVANCED WARNING OF DISCONNECTION

**Description:** It allows the manually connecting and automatically disconnecting a lighting installation after a programmed time delay. The activation is made by means of standard or luminous push-buttons (Max 500 mA). It produces a blinking effect over the lamps after accomplishing the final of the time period and before the lights go off.

**Characteristics:**

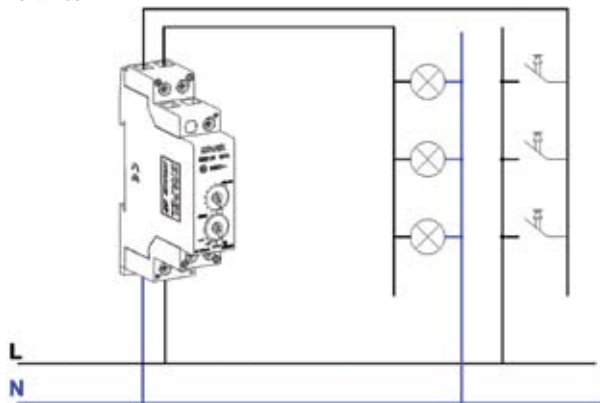
- Rated Voltage: 230V/50Hz
- Maximum Rated Current: 16A
- Recommended Maximum Loads:
  - Incandescent Lamps: 3000 W
  - Fluorescent Lamps: 500 W
  - Halogen Lamps VLV: 650 VA
  - Halogen Lamps 230 V: 2500 W
  - Energy Saving Lamps: 10 x 23 W
- Time Adjustment: from 45s to 12 minutes.
- Dimension: 1 module (18mm)
- Operating temperature range: from -10°C to +45°C
- Protection Index: IP20
- Insulation class: I

**Installation:**

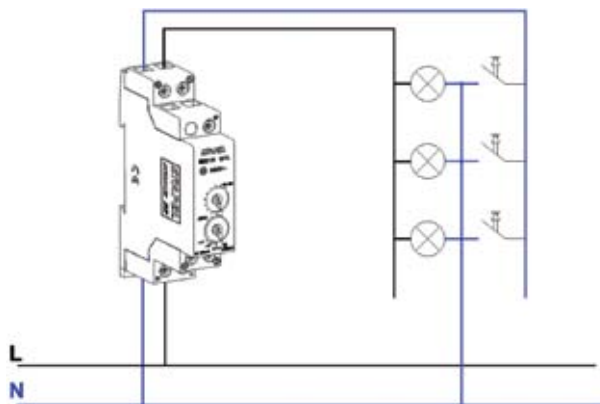
In electrical or distribution panels with symmetrical DIN track of 35mm (DIN 46277)

**Connection Diagrams:**

a) With 3 wires



b) With 4 wires



# Wiring Diagrams

## MODUS 55 Series

### ANALOGUE DAILY CLOCK SWITCH OF 1 CHANNEL

**Description:** It allows to control the operation of an electric installation or an equipment according with a daily program. The minimum time of a program is 15 minutes and the battery back-up time in case of energy blackout is 100 hours.

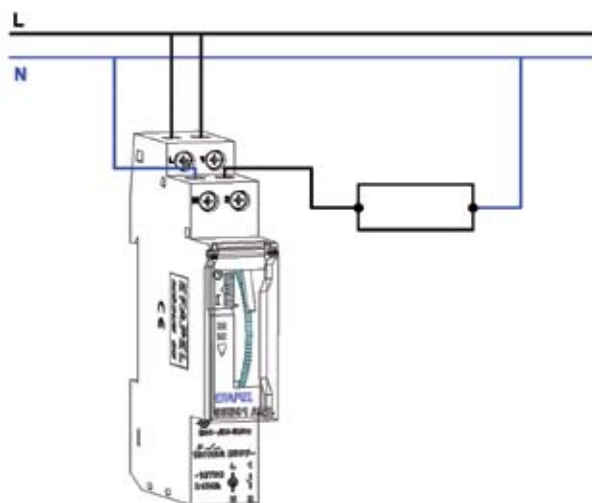
**Characteristics:**

- Rated Voltage: 230V/50Hz
- Maximum Rated Current: 16A / 250V
- Battery Back-up Time: 100 hours
- Precision:  $\pm 1\text{sec} / \text{day}$
- Programming: 24 hours with minimum program intervals of 15 min each
- Dimension: 1 module (18mm)
- Power Consumption: 0,5 W
- Operating temperature range: from  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Protection Index: IP20
- Insulation Class: II

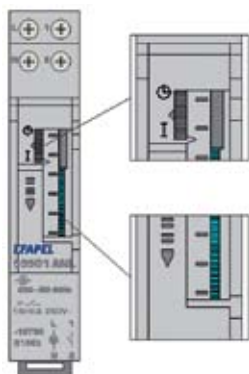
**Installation:**

In electrical or distribution panels with symmetrical DIN track of 35mm (DIN 46277).

**Connection Diagrams:**



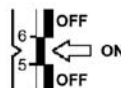
**Operation:**



- Manual Control - 2 Positions

- ⌚ - Automatic Operation
- I - Always ON

- Programming: Shift to the left all the cams corresponding to the time periods needed for the operation.



# Wiring Diagrams

## MODUS 55 Series

### DIGITAL DAILY/WEEKLY CLOCK SWITCH OF 1 CHANNEL

**Description:** It allows to control the operation of an electric installation or an equipment according with a daily or a weekly program. It can memorize the programs with a maximum capacity of 32 operations. The output functions are ON, OFF and Impulse from 1 to 59 seconds. It produces the automatic adjustment of the time in Summer and Winter. Is possible to program a Stand By period.

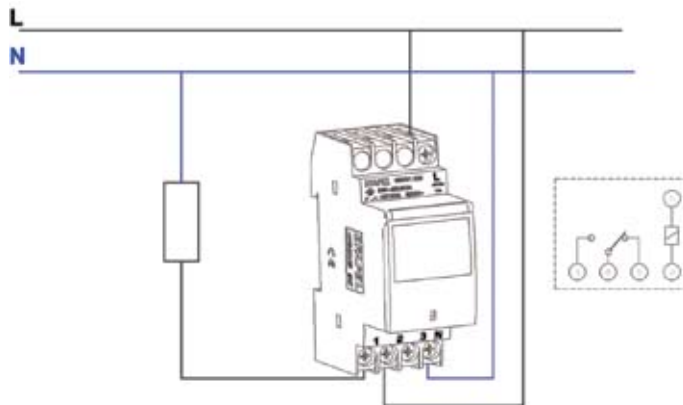
#### Characteristics:

- Rated Voltage: 230V/50Hz
- Maximum Rated Current: 16A
- Recommended Maximum Loads:
  - Incandescent Lamps: 3000W
  - Fluorescent Lamps: 1200W
  - Halogen Lamps VLV: 1000VA
  - Halogen Lamps 230V: 2500W
  - Energy Saving Lamps: 10 x 20W
- Power Consumption: 1 W
- Memory Capacity: 32 programs
- Output Functions: ON - OFF - Impulse (from 1 to 59s)
- Minimum programming interval: 1s
- Precision:  $\leq 1\text{sec/day}$
- Dimension: 2 modules (35mm)
- Operating Temperature Range: from  $-10^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$
- Protection Index: IP20
- Insulation Class: II

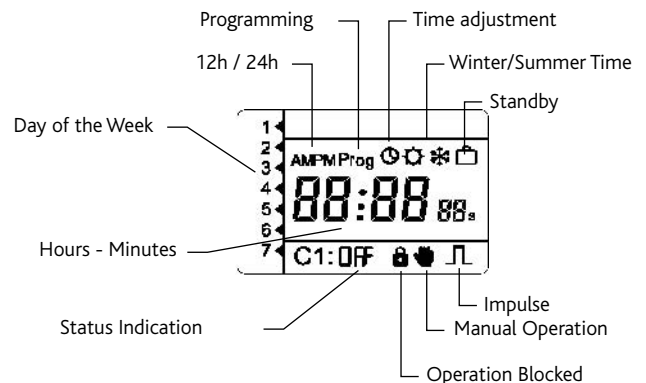
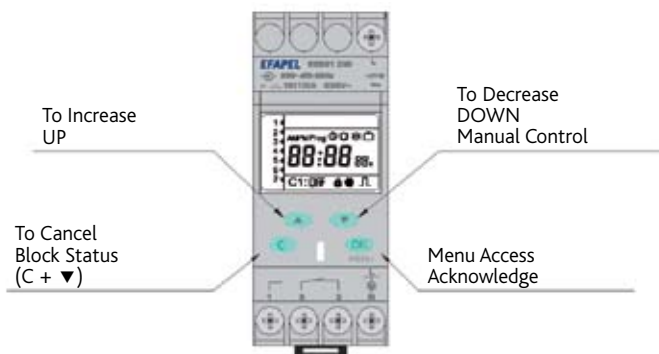
#### Installation:

In electrical or distribution panels with symmetrical DIN track of 35mm (DIN 46277).

#### Connection Diagrams:



#### Operation:



# Technical Characteristics

## Radio, Television, Satellite and Data Sockets

### 1. General Introduction

The signals of Radio and Television that propagates through the space are electromagnetic waves, travelling at the speed of the light (300000 km/s), with a specified value of power or intensity and period or frequency.

The nature of these signals can be analogical or digital. The transmitting media can be physical (cables) or not physical (the space). In this last case the origin of the signal could be a terrestrial emitter or a space satellite.

Due to the great variety of the systems and services that use the electromagnetic waves as a transmitting media, they are distributed in ranges of frequencies, constituting the **electromagnetic spectrum**, which is distributed in the following classification:

|                 |     |                          |                          |
|-----------------|-----|--------------------------|--------------------------|
| 30 - 300 kHz    | LF  | (Low Frequencies)        | (Low Frequencies)        |
| 0,3 - 3 MHz     | MF  | (Medium Frequencies)     | (Medium Frequencies)     |
| 3 - 30 MHz      | HF  | (High Frequencies)       | (High Frequencies)       |
| 30 - 300 MHz    | VHF | (Very High Frequencies)  | (Very High Frequencies)  |
| 300 MHz - 3 GHz | UHF | (Ultra High Frequencies) | (Ultra High Frequencies) |
| >3 GHz          | SHF | (Super High Frequencies) | (Super High Frequencies) |

Between the spectrums of electromagnetic frequencies, the range reserved for the service of Radio and TV transmission are the ranges of VHF and UHF, and they are divided in many bands.

Thus, for almost all the European countries, the bands have the following distribution:

|     |           |          |                   |
|-----|-----------|----------|-------------------|
| VHF | 45 - 68   | Band I   | Channels 2, 3, 4  |
| VHF | 88 - 108  | Band II  | FM Radio          |
| VHF | 175 - 230 | Band III | Channels 5 to 12  |
| UHF | 470 - 606 | Band IV  | Channels 23 to 37 |
| UHF | 606 - 862 | Band V   | Channels 38 to 69 |

### 2. Installation Elements

#### 2.1. Antennas

They are the elements that receive the electromagnetic waves and introduce them into the electrical media.

They are specified by their amplification factor along their rated bandwidth.



#### 2.2. Amplifiers

They are active elements (they need energy supply to work) and they are used to amplify the signal received by the antenna. Usually they are placed near the receptor for the best performance.

They are specified by their amplification factor along their rated bandwidth.

# Technical Characteristics

## Radio, Television, Satellite and Data Sockets

### 2.3. Coaxial Cables

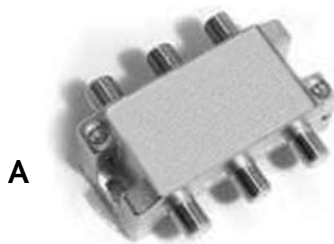
This cable is the main element of the installation and conduces the electromagnetic waves to the receptor. It comes in different types and shapes, and the most common cable has 75 OHM of impedance. The selection of the coaxial cable must consider the losses of the signal per meter and the bandwidth of the signals to be transmitted.



### 2.4. Dividers and Splitters

The dividers (A) are used to divide the signal along the line between the antenna and the installation.

The splitters (B) are used to distribute the signal at the output of the line amplifier.

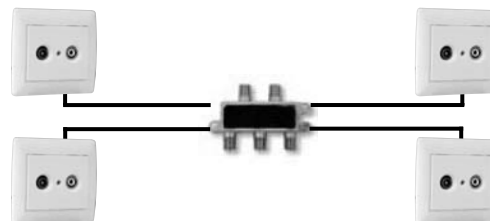


## 3. Signal Sockets

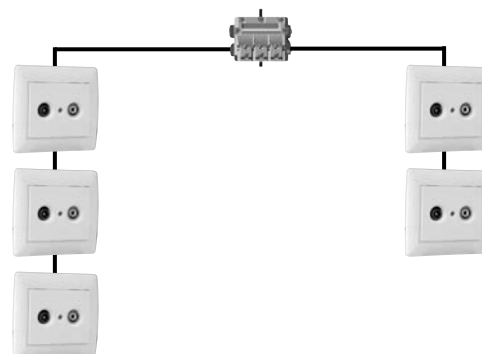
The signal sockets are the elements that will give the signal to the end user or equipment.

There are two types of sockets depending on the type of installations where they will be used:

**Sockets for Star Connection** - They are specially designed for individual installations with one socket or for multi-user installations, where the connections between the different sockets are made by the use of splitters. They are specified by their derivation losses, that is the attenuation of the input signal along the rated bandwidth measured at the output for the socket.

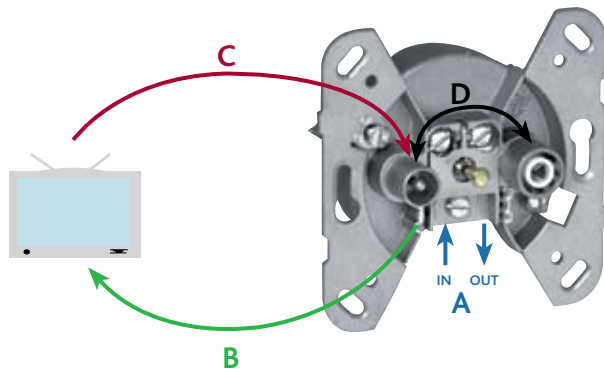


**Sockets for Series Connection** - They are specially designed for installation with multiple sockets and where the signal is transmitted from one socket to the other (direct connection). There are two types of sockets: **Terminal and Crossover sockets**. The first type is designed to be connected at the end of the line and they are defined by their value of derivation losses. The second type is designed to be connected in series with others and they are defined by their insertion losses, that is to say, the attenuation between the input and the output for the next socket.



# Technical Characteristics

## Radio, Television, Satellite and Data Sockets



|     |                           |
|-----|---------------------------|
| A - | Insertion Losses          |
| B - | Derivation Losses         |
| C - | Return Losses             |
| D - | Isolation between Outputs |

According to the type of the signal that the signal sockets were designed for, they can be of three types:

**R - TV Sockets (NQ 2a)** - Designed for the distribution of the signals from the Band I to the Band V (45 –862 MHz), and with two individual outputs for radio and television. In this type of sockets, EFAPEL has **Equalized Sockets** that filter the Band II (FM) to the radio output, and **Low Losses Sockets**, which are broadband sockets where it is not necessary to filter the radio signal.

**R TV - SAT Sockets (NQ 2b)** - Designed for the distribution of signals up to the Band FI (2400 MHz), they allow the distribution of the signals at the same time of radio, television, and intermediate frequency (FI) from the parabolic antenna. They have two outputs, one for the radio and television (male socket) and the other for the filtered signal coming from the parabolic antenna (female socket). They also allow the passage of DC current through the FI circuit to the control of modulators and motorized parabolic antennas.

**R TV - DAT Sockets** - Designed specially for the distribution of signals through coaxial cables, they allow the separation of radio and television signals (male socket) and data signals (female socket).

### 3.1 R - TV Sockets (MEC 21 Series)

Star/Series Connection  
Equalized

Low Losses

| Ref.       |                   | Outputs                                                                             |                                                                                           | Derivation Losses (dB) |             |              |               |               |               |                | Insertion Losses<br>dB | Isolation between Outputs<br>dB | Return Losses<br>dB | DC Current Passage<br>mA (DC) |                 |
|------------|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------|-------------|--------------|---------------|---------------|---------------|----------------|------------------------|---------------------------------|---------------------|-------------------------------|-----------------|
|            |                   | CEI →9.5 Male                                                                       |        | Return                 | BI          | FM           | VHF           | UHF           | Digital TV    | SAT            |                        |                                 |                     |                               |                 |
|            |                   | CEI →9.5 Female                                                                     |        | 4 - 47 MHz             | 47 - 68 MHz | 87 - 108 MHz | 118 - 470 MHz | 470 - 822 MHz | 822 - 862 MHz | 950 - 2150 MHz |                        |                                 |                     |                               | 2150 - 2400 MHz |
| Equalized  | STAR (NQ 2a)      |  | TV<br> | 0.4±0.2                | 0.4±0.2     |              | 0.4±0.2       | 0.8±0.3       | 0.8±0.3       |                |                        | >9                              |                     |                               |                 |
|            | 21530             |  | R<br>  |                        |             | 2±0.2        |               |               |               |                |                        |                                 |                     |                               |                 |
|            | SERIES            |  | TV<br> | 5±1                    | 5±1         |              | 5±1           | 5±1           | 5±1           |                |                        | >23                             | >18                 |                               |                 |
|            | 21531 (Terminal)  |  | R<br>  |                        |             | 13±1         |               |               |               |                |                        |                                 |                     |                               |                 |
|            | 21532 (Crossover) |  | TV<br> | 9±1                    | 9±1         |              | 9±1           | 9±1           | 9±1           |                |                        | 1.2±0.2                         | >25                 | >13                           | 600 (IN/OUT)    |
|            |                   |  | R<br>  |                        |             | 15±1         |               |               |               |                |                        |                                 | >18                 | >13                           |                 |
| Low Losses | STAR (NQ 2a)      |  | TV<br> | 0.6±0.2                | 0.6±0.2     | 0.6±0.2      | 1.5±0.5       | 2.0±0.4       | 2.0±0.4       |                |                        | >10                             |                     |                               |                 |
|            | 21540             |  | R<br>  |                        | 11±1        | 11±1         | 11±1          | 11±1          | 11±1          |                |                        |                                 |                     |                               |                 |
|            | SERIES            |  | TV<br> | 5±1                    | 5±1         | 5±1          | 5±1           | 5±1           | 5±1           |                |                        | >16                             | >18                 |                               |                 |
|            | 21541 (Terminal)  |  | R<br>  |                        | 23±1        | 23±1         | 23±1          | 23±1          | 23±1          |                |                        |                                 | >18                 | >16                           |                 |
|            | 21542 (Crossover) |  | TV<br> | 9±1                    | 9±1         | 9±1          | 9±1           | 9±1           | 9±1           |                |                        | 1.0                             | >16                 | >14                           |                 |
|            |                   |  | R<br>  |                        | 26±1        | 26±1         | 26±1          | 26±1          | 26±1          |                |                        |                                 | >16                 | >14                           |                 |

# Technical Characteristics

## Radio, Television, Satellite and Data Sockets

### 3.2 R - TV Sockets (3700, 45 and 47 Series)

Star/Series Connection  
Equalized

| Ref.        |                                                         | Outputs                                                                           |                                                                                      | Derivation Losses (dB) |             |              |               |               |               | Insertion Losses<br>dB | Isolation between Outputs<br>dB | Return Losses<br>dB | DC Current Passage<br>mA (DC) |                |                 |
|-------------|---------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------|-------------|--------------|---------------|---------------|---------------|------------------------|---------------------------------|---------------------|-------------------------------|----------------|-----------------|
|             |                                                         | CEI →9.5 Male                                                                     |     | Retorno                | BI          | FM           | VHF           | UHF           | TV Digital    |                        |                                 |                     |                               | SAT            |                 |
|             |                                                         | CEI →9.5 Female                                                                   |     | 4 - 47 MHz             | 47 - 68 MHz | 87 - 108 MHz | 118 - 470 MHz | 470 - 822 MHz | 822 - 862 MHz |                        |                                 |                     |                               | 950 - 2150 MHz | 2150 - 2400 MHz |
| Equalizadas | SERIES (NQ 2a)<br>37531<br>45531<br>47531<br>(Terminal) |  | TV  | 0.5                    | 0.5         |              | 0.5           | 0.5           | 0.5           |                        |                                 |                     |                               |                |                 |
|             |                                                         |                                                                                   | R   |                        |             | 1            |               |               |               |                        |                                 |                     |                               |                |                 |
|             | 37532<br>45532<br>47532<br>(Crossover)                  |  | TV  | 6.0                    | 6.0         |              | 6.0           | 6.0           | 6.0           |                        | 2.0                             |                     |                               |                |                 |
|             |                                                         |                                                                                   | R   |                        |             | 6.0          |               |               |               |                        |                                 | 2.0                 |                               |                |                 |

### 3.3 R TV - SAT Sockets (MEC 21 Series)

Star/Series Connection  
Equalized

| Ref.      |                   | Outputs                                                                             |                                                                                             | Derivation Losses (dB) |             |              |               |               |               |                | Insertion Losses<br>dB | Isolation between Outputs<br>dB | Return Losses<br>dB | DC Current Passage<br>mA (DC) |                 |
|-----------|-------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------|-------------|--------------|---------------|---------------|---------------|----------------|------------------------|---------------------------------|---------------------|-------------------------------|-----------------|
|           |                   | CEI →9.5 Male                                                                       |            | Return                 | BI          | FM           | VHF           | UHF           | Digital TV    | SAT            |                        |                                 |                     |                               |                 |
|           |                   | CEI →9.5 Female                                                                     |            | 4 - 47 MHz             | 47 - 68 MHz | 87 - 108 MHz | 118 - 470 MHz | 470 - 822 MHz | 822 - 862 MHz | 950 - 2150 MHz |                        |                                 |                     |                               | 2150 - 2400 MHz |
| Equalized | STAR (NQ 2a)      |    | R TV<br>   |                        | 1.0±0.5     | 1.0±0.5      | 1.0±0.5       | 1.5±0.5       | 1.5±0.5       |                |                        |                                 | >10                 |                               |                 |
|           | 21550             |                                                                                     | SAT<br>    |                        |             |              |               |               |               | 3.0±0.2        | 3.0±0.2                |                                 | >10                 |                               | 600             |
|           | SERIES            |  | R TV<br> |                        | 5±1         | 5±1          | 5±1           | 5±1           | 5±1           |                |                        |                                 | >12                 | >12                           |                 |
|           | 21551 (Terminal)  |                                                                                     | SAT<br>  |                        |             |              |               |               |               | 5±1            | 5±1                    |                                 | >12                 | >13                           | 600             |
|           | 21552 (Crossover) |  | R TV<br> |                        | 8±1         | 8±1          | 8±1           | 8±1           | 8±1           |                |                        | 1.5±0.5                         | >16                 | >11                           |                 |
|           |                   |                                                                                     | SAT<br>  |                        |             |              |               |               |               | 10±2           | 10±2                   | 3.5                             | >8                  | >5                            | 600             |

### 3.4 R TV - SAT Sockets (3700, 45 and 47 Series)

Star/Series Connection  
Equalized

| Ref.      |                                                         | Outputs                                                                             |                                                                                             | Derivation Losses (dB) |             |              |               |               |               | Insertion Losses<br>dB | Isolation between Outputs<br>dB | Return Losses<br>dB | DC Current Passage<br>mA (DC) |                |                 |
|-----------|---------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------|-------------|--------------|---------------|---------------|---------------|------------------------|---------------------------------|---------------------|-------------------------------|----------------|-----------------|
|           |                                                         | CEI →9.5 Male                                                                       |          | Return                 | BI          | FM           | VHF           | UHF           | Digital TV    |                        |                                 |                     |                               | SAT            |                 |
|           |                                                         | CEI →9.5 Female                                                                     |          | 4 - 47 MHz             | 47 - 68 MHz | 87 - 108 MHz | 118 - 470 MHz | 470 - 822 MHz | 822 - 862 MHz |                        |                                 |                     |                               | 950 - 2150 MHz | 2150 - 2400 MHz |
| Equalized | SERIES (NQ 2a)<br>37550<br>45550<br>47550<br>(Terminal) |  | R TV<br> | 1                      | 1           | 1            | 1             | 2             | 3             |                        |                                 |                     |                               |                |                 |
|           |                                                         |                                                                                     | SAT<br>  |                        |             |              |               |               |               |                        | 6                               | 6                   |                               | 500            |                 |

### 3.5 R TV - DAT Sockets (MEC 21 Series)

Star/Series Connection  
Equalized

| Ref.      |                                   | Outputs                                                                             |                                                                                     | Derivation Losses (dB) |                  |                  |                  |                  |                  |                | Insertion Losses<br>dB | Isolation between Outputs<br>dB | Return Losses<br>dB | DC Current Passage<br>mA (DC) |                 |
|-----------|-----------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|------------------|------------------|------------------|------------------|------------------|----------------|------------------------|---------------------------------|---------------------|-------------------------------|-----------------|
|           |                                   | CEI →9.5 Male                                                                       |  | Return                 | BI               | FM               | VHF              | UHF              | Digital TV       | SAT            |                        |                                 |                     |                               |                 |
|           |                                   | CEI →9.5 Female                                                                     |  | 4 - 47 MHz             | 47 - 68 MHz      | 87 - 108 MHz     | 118 - 470 MHz    | 470 - 822 MHz    | 822 - 862 MHz    | 950 - 2150 MHz |                        |                                 |                     |                               | 2150 - 2400 MHz |
| Equalized | STAR<br>(NQ 2a)<br><br>21560      |  |  | 50                     | 50               | 5 <sup>±1</sup>  | 4 <sup>±1</sup>  | 5 <sup>±1</sup>  | 5 <sup>±1</sup>  |                |                        | >10                             |                     |                               |                 |
|           |                                   |                                                                                     |  | 4 <sup>±2</sup>        | 4 <sup>±2</sup>  | 4 <sup>±2</sup>  | 4 <sup>±2</sup>  | 4 <sup>±2</sup>  | 4 <sup>±2</sup>  |                |                        |                                 |                     |                               |                 |
|           | SERIES<br><br>21561<br>(Terminal) |  |  | 50                     | 50               | 5 <sup>±1</sup>  | 4 <sup>±1</sup>  | 5 <sup>±1</sup>  | 5 <sup>±1</sup>  |                |                        | >12                             | >13                 |                               |                 |
|           |                                   |                                                                                     |  | 1 <sup>±1</sup>        | 4 <sup>±1</sup>  | 4 <sup>±1</sup>  | 3 <sup>±1</sup>  | 3 <sup>±1</sup>  | 3 <sup>±1</sup>  |                |                        |                                 |                     |                               |                 |
|           | 21562<br>(Crossover)              |  |  | 50                     | 50               | 10 <sup>±2</sup> | 10 <sup>±2</sup> | 10 <sup>±2</sup> | 10 <sup>±2</sup> |                |                        | 2 <sup>±0.2</sup>               | >11                 | >13                           |                 |
|           |                                   |                                                                                     |  | 10 <sup>±2</sup>       | 10 <sup>±2</sup> | 10 <sup>±2</sup> | 10 <sup>±2</sup> | 10 <sup>±2</sup> | 10 <sup>±2</sup> |                |                        |                                 |                     |                               |                 |

# Technical Characteristics

## Voice and Data Sockets

### 1. Communication Networks

A communication network is the link that connects a set of passive elements (sockets, cables, patch-panels, etc) with the active equipments (hubs, switches, routers, bridges, etc.), allowing the sending and receiving of data between them.

In this type of networks always exists two classes of components:

- **Passive Components.** They are a set of elements responsible for the data transportation through a physical media, and being constituted by the cables, terminal sockets, accessories, etc.
- **Active Components.** They are a set of electronic equipments (hubs, switches, routers, etc.) and their technologies of data transmission between the different work-stations or points of the network.

In this chapter, only the passive components will be treated.

#### 1.1 Structured Cabling Network

There are different types of networks. The most common to find are:

- **LAN** (Local Area Network) IEEE 802.3. This is the name given to a local network and where the different systems and equipments are connected in a small area, such as: an office, a building, etc.
- **MAN** (Metropolitan Area Network). This is a type of network resulting of the interconnection of several LANs in a city constituting a network of more importance and power.
- **WAN** (Wide Area Network). This is a network distributed in a big geographical area.

In this document, only the LANs will be treated.

When a network is under projection, it must be defined at first which is its destination or use. For example: security, alarms, telephone, fax machines, television, computers, etc. Each application must work at the necessary speed for the optimum data transference. This speed is measured in Megabits per Second (Mbit/s), with a bandwidth value measured in Megahertz (MHz).

### 2. STANDARDS

They are a set of rules that specify which are the values and parameters that could exist in a structured cabling network, in order to allow the standardization of the telecommunication networks.

| Standards           |                                                                                                                                                                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANSI EIA/ TIA 568 A | American Standard where all the parameters needed for the Cat 5e are defined.                                                                                                                                                                                      |
| ISO/ IEC 11 081     | International Standard where the parameters are defined with more precision, because it establishes a separation between categories (sockets, panels, etc) and classes (connections). For example, this situation makes an association between Cat 5e and Class D. |
| EN 50173            | European Standard that defines only the parameters for the Classes D and E.                                                                                                                                                                                        |

### 3. Categories

In the last years, there were great changes in the way of dimensioning a communication network due to the high increasing of the network traffic, being necessary to create new standards for the components and for the solutions to be used in the communication networks. These new standards define which are the requirements that the cabling systems composed by stranded cables must accomplish in accordance with the following categories:

- Category 3 – Band of 16 MHz
- Category 4 – Band of 20 MHz
- Category 5 – Band of 100 MHz
- Category 5e – Band of 100 MHz in the four pairs of conductors. It supports the Gigabit Ethernet transmission technology.
- Category 6 – Band of 250 MHz in the four pairs of conductors. This standard is under discussion. Actually it is recommended that this type of networks follows is the minimum requirements imposed for the Category 5e.
- Category 7 – Band of 600 MHz in the four pairs of conductors. This standard is under discussion.

### 4. Physical Media

#### 4.1 Cables

The cables used for data transmission are:

- **Copper Cables**

These cables are constituted by pairs of stranded copper conductors of 24 AWG size, with 100 OHM of impedance, designed for the transmission of information (data and/or voice) in a specific bandwidth (100 MHz, 250 MHz, etc.). The copper cables can be:

- **Without Shielding**

- **UTP (Unshielded Twisted Pair)**, they are pairs of conductors without any class of shield.

- **Shielded**

- **FTP (Foiled Twisted Pair)**, they are pairs of conductors covered by a general shielding system.
    - **S/FTP (Shielded Foiled Twisted Pair)**, they are pairs of conductors covered by a general shielding system, and where the entire set of conductors is covered by a metallic mesh.
    - **STP (Shielded Twisted Pair)**, they are pairs of conductors shielded individually and where the set of conductors is also covered with a general shielding system.

- **Fibre-Optic Cables**

- **Multi-mode fibre optics cables 50 (or 62,5) / 125µm (core/case)**

- They allow data transmissions with high reliability in short distances and having a low cost.
    - They have lower cost.
    - They can be used in indoor and outdoor installations.
    - They have protection against the mechanical impacts, the mice attacks and the humidity.

# Technical Characteristics

## Voice and Data Sockets

---

- **Fibre-Optic Cables (cont.)**

- **Single mode fibre optics cables** 10/ 125  $\mu\text{m}$  (core /case)
  - Allow the transmission of data through long distances but with a high cost.
  - Used in either indoors or outdoors installations.
  - Protection against the mechanical impacts, the mice attacks and the humidity.
- **Wireless**
  - Wireless transmission media (WLAN), very useful in installations where the data transmission through copper wires is impossible.

---

## 4.2 Signal Sockets

In a communication network, the distribution of the information made by distribution cables (copper or fibre optics) must be ended in signal sockets:

- With RJ45, ISO 8877 connectors for the copper wires.
- With ST or SC connectors for the fibre optics cables.

The RJ45 (ISO 8877) sockets must have all the same category (Cat 5e, Cat 6, etc) as the copper wires and they must have the same type of shielding.

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## 5. LAN's Technology

The most used technologies in Local Area Networks are:

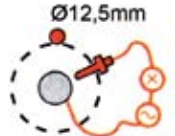
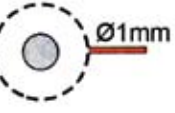
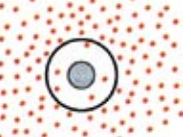
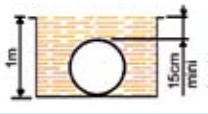
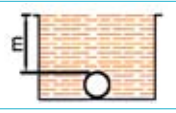
- Ethernet, specified by the standard IEEE 802.3. An Ethernet network using copper wires with stranded conductors, allowing a transmission speed up to 10 Mbps, 10-Base-T (copper wires) or 10-Base-FL (fibre optics cables). This technology is used in the Category 3, Category 4 and Category 5.
- Fast Ethernet, also designated as 100-Base-T (copper wires) or 100-Base-FX (multi-mode fibre optics cables), that allows a transmission speed of 10 Mbps or 100 Mbps, in accordance with the traffic level that is going through the network. The commutation of the speed is made automatically. This technology is used in the Category 5.
- Gigabit Ethernet, also known as 1000-Base-T or 802.3z (copper wires) and 1000-Base-SX, 1000-Base-LX (fibre optics cables), that allows transmission speeds of 1000 Mbps through copper wires. It was developed for working with the same copper wires as the 100-Base-T networks, allowing to make easy and low cost upgrades. In this case and in order to enable a transmission speed of 1000 Mbps, it is necessary to use four pairs of conductors ( $250 \text{ Mbps} \times 4 = 1000 \text{ Mbps}$ ). In view of the above considerations, it was needed to review all the requirements for the installations of Category 5, producing a new standard designed as Category 5e.

# Technical Characteristics

## Protection Indexes

### 1. Protection index against the penetration of solid objects and against the water (IP)

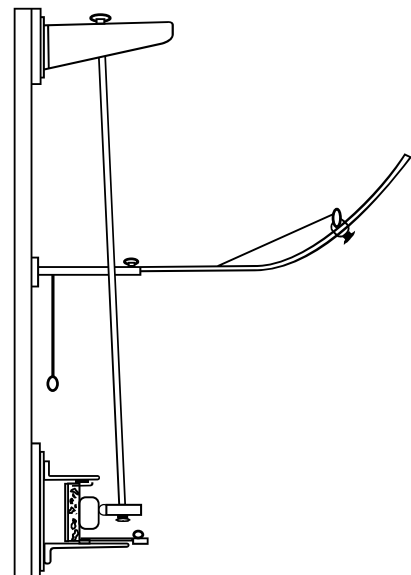
Protection degree of the enclosures of the electrical equipments in accordance with the standards EN 60529 and IEC 60529

| 1st digit (Protection against solid bodies) |                                                                                    |                                                                                     | 2nd digit (Protection against water) |                                                                                                  |                                                                                       |
|---------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| IP                                          |                                                                                    | Test                                                                                | IP                                   |                                                                                                  | Test                                                                                  |
| 0                                           | No protection.                                                                     |                                                                                     | 0                                    | No protection.                                                                                   |                                                                                       |
| 1                                           | Protected against solid objects whose diameter is greater than or equal to 50mm.   |    | 1                                    | Protected against drops of water falling vertically.                                             |    |
| 2                                           | Protected against solid objects whose diameter is greater than or equal to 12,5mm. |    | 2                                    | Protected against drops of water falling vertically with the covering inclined, at most, at 15°. |    |
| 3                                           | Protected against solid objects whose diameter is greater than or equal to 2,5mm.  |    | 3                                    | Protected against rain up to 60° from the vertical.                                              |    |
| 4                                           | Protected against solid objects whose diameter is greater than or equal to 1mm.    |   | 4                                    | Protected against priming.                                                                       |    |
| 5                                           | Protected against dust.                                                            |  | 5                                    | Protected against jets of water from all directions.                                             |    |
| 6                                           | Dustproof.                                                                         |  | 6                                    | Protected against strong jets of water similar to a sea wave.                                    |   |
|                                             |                                                                                    |                                                                                     | 7                                    | Protected against the effects of temporary immersion between 15cm to 1m.                         |  |
|                                             |                                                                                    |                                                                                     | 8                                    | Protected against the effects of constant immersion in water under pressure.                     |  |

### 2. Protection index against the mechanical shocks (IK)

Protection degree of the enclosures of the electrical equipments in accordance with the standard EN 50102

| IK | Energy of impact<br>Joule | Used Mass<br>Kg |
|----|---------------------------|-----------------|
| 00 | 0                         | 0               |
| 01 | 0,15                      | 0,2             |
| 02 | 0,20                      | 0,2             |
| 03 | 0,35                      | 0,2             |
| 04 | 0,50                      | 0,2             |
| 05 | 0,70                      | 0,2             |
| 06 | 1                         | 0,5             |
| 07 | 2                         | 0,5             |
| 08 | 5                         | 1,7             |
| 09 | 10                        | 5               |
| 10 | 20                        | 5               |



# Technical Characteristics Tables of Cables and Criteria for Trunkings Selection

## Tables of Cables

### Energie Cables

Diameter and Section Table of some common use cables.  
(The dimensions may vary according to the manufacturer.)

| Type of Cable | Nominal Section (mm) | Diameter (mm) | Section (mm²) |
|---------------|----------------------|---------------|---------------|
| H05 VV-F      | 2x0,75               | 7,6           | 58            |
| H05 VV-F      | 2x1                  | 8,0           | 64            |
| H05 VV-F      | 2x1,5                | 9,0           | 81            |
| H05 VV-F      | 2x2,5                | 11,0          | 121           |
| H05 VV-F      | 3 G 0,75             | 8,0           | 64            |
| H05 VV-F      | 3 G 1                | 8,4           | 71            |
| H05 VV-F      | 3 G 1,5              | 9,8           | 96            |
| H05 VV-F      | 3 G 2,5              | 12,0          | 144           |
| H07 V-U       | 1x1,5                | 2,8           | 7,84          |
| H07 V-U       | 1x2,5                | 3,4           | 11,56         |
| H07 V-U       | 1x4                  | 3,8           | 14,44         |
| H07 V-U       | 1x6                  | 4,4           | 19,36         |
| H07 V-K       | 1x1,5                | 3,5           | 12            |
| H07 V-K       | 1x2,5                | 4,2           | 18            |
| H07 V-K       | 1x4                  | 4,8           | 23            |
| H07 V-K       | 1x6                  | 6,3           | 40            |
| H07 V-K       | 1x10                 | 7,6           | 58            |
| VV-0,6/1 kV   | 3x16+10              | 20,7          | 428           |
| VV-0,6/1 kV   | 3x25+16              | 23,0          | 529           |
| VV-0,6/1 kV   | 3x35+16              | 25,0          | 625           |
| VV-0,6/1 kV   | 4 G 1,5              | 11,4          | 130           |

### Data / telephone cables

Diameter and Section Table of some common use data cable, UTP, STP, FTP and Coaxial type.  
(The dimensions may vary according to the manufacturer.)

| Type                     | Diameter (mm) | Section (mm²) |
|--------------------------|---------------|---------------|
| 4 Pairs UTP Cat 5e Cable | 6,2           | 37,5          |
| 4 Pairs FTP Cat 5e Cable | 6,9           | 47,2          |
| 4 Pairs UTP Cat 6 Cable  | 7,6           | 57            |
| 4 Pairs FTP Cat 6 Cable  | 8,3           | 68            |
| RG 59 Coaxial Cable      | 6,2           | 38,4          |
| RG 58 Coaxial Cable      | 5             | 25            |
| RG 11 Coaxial Cable      | 10,5          | 110,3         |
| RG 8 Coaxial Cable       | 10,3          | 106,1         |
| RG 7 Coaxial Cable       | 8,1           | 65,6          |
| RG 6 Coaxial Cable       | 7             | 49            |
| TVHV 1x2x0,5 Cable       | 4,3           | 18,5          |
| TVHV 2x2x0,5 Cable       | 5,0           | 25            |
| TVHV 3x2x0,5 Cable       | 5,7           | 32,5          |
| TVHV 6x2x0,5 Cable       | 6,5           | 42,3          |
| TVHV 10x2x0,5 Cable      | 7,8           | 60,8          |
| TVHV 15x2x0,5 Cable      | 8,7           | 75,7          |
| TVHV 20x2x0,5 Cable      | 9,7           | 94,1          |
| TVHV 30x2x0,5 Cable      | 12,0          | 144           |
| TVHV 40x2x0,5 Cable      | 13,5          | 182,3         |
| TVHV 50x2x0,5 Cable      | 15,0          | 225           |
| TVHV 100x2x0,5 Cable     | 20,0          | 400           |

## Criteria for Trunkings Selection

### Examples for common installations:

#### Cables to be Installed

| Type   | Quantity (Q) | Nominal Section (S) | Outside Diameter (d) (mm) | Unitary Section (Su) (Su=d x d) | Total Section (St) (mm²) (Su x Q) |
|--------|--------------|---------------------|---------------------------|---------------------------------|-----------------------------------|
| H07V-U | 20           | 1 x 4               | 3,8                       | 14,44                           | 288,8                             |
| H07V-U | 15           | 1 x 6               | 4,4                       | 19,36                           | 290,4                             |
| H07V-U | 10           | 1 x 2,5             | 3,4                       | 11,56                           | 115,6                             |
| H07V-U | 10           | 1 x 4               | 3,8                       | 14,44                           | 144,4                             |

Cables Total Section (St) **839,2mm²**

Minimum Trunking Section = Cables Total Section (St) x K = **839,2 x 1,4 = 1174,88mm²**

Typical K values to ensure better ventilation, crossings and possible augmentations:

K = Filling Coefficient

K = 1,4 for Low Voltage, Power Cables  
K = 1,3 for Data and Telephone Cables  
K = 1,2 for Tubes

### We may choose one of the following EFAPEL's trunkings:

| Trunkings |                 |                        |                         |
|-----------|-----------------|------------------------|-------------------------|
| Ref.      | Description     | Internal Section (mm²) | Available Section (mm²) |
| 10080 CBR | 110x34 Trunking | 3111,2                 | 2222                    |
| 13030 CBR | 60x40 Trunking  | 1973,7                 | 1410                    |
| 16020 CBR | 90x50 Trunking  | 3956                   | 2826                    |

# Technical Characteristics Technical Trunkings and Accessories

## General Technical Characteristics

### Raw Material (Rigid PVC - M1)

#### 1 - Trunkings

##### Hardness (shore D)

Din 53 505

80,0 Degrees

##### Specific Weight

ISO 1183

1,40 gr/cm<sup>3</sup>

##### Gelling Time

Manufacturer's procedure

130s

##### Fire Behaviour

UL Inflammability Test of Plastic Materials

UL94

Grade V0

##### Specification LNEC-E365:1990

M1

#### 2 - Accessories

##### Hardness (shore D)

Din 53 505

77,0 Degrees

##### Specific Weight

ISO 1183

1,46 gr/cm<sup>3</sup>

##### Melt Flow Index

NP 2914

34,0 gr/600s

##### Fire Behaviour

UL Inflammability Test of Plastic Materials

UL94

Grade V0

##### Gelling Time

Manufacturer's procedure

145s

##### Application

Indoor Installations

##### Mechanical Properties

Subject to light mechanical loads

##### Operating Temperature

NF C 68 - 104

-5° C a + 60°C

##### Continuity of Insulating Characteristics

NF C 68 - 104

Continuity of the insulating characteristics is maintained

##### Cover Dismantling

NF C 68 - 104

The cover can be removed without tools

##### Protection Against Penetration of Solid Objects

NF C 68 - 104

IP 4X

##### Protection Against Water Penetration

NF C 68 - 104

IP X2

##### Protection Against Mechanical Stresses and Impacts

NF C 68 - 104 e EN 50102

– 110X34 and 110X50 Trunking

Impact energy 5 Joule - IK08

– 16 Series trunking

Impact energy 10 Joule - IK09

– Accessories and other trunkings

Impact energy 0,70 Joule - IK05

##### Heat Resistance

(Ball pressure test)

NF C 68 - 104

Trunkings and accessories resistant to 60°C

##### Fire Resistance

(Glow wire test - extinction of flame)

NF C 68 - 104 e IEC 60695-2-1

Accessories are resistant to the test at 650°C

##### Fire Resistance

(Burner test - ability to extinguish flame)

NF C 68 - 104

Trunkings are resistant to the burner test

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

#### General Characteristics

|                            | Ranges   |          |          |          |          |          |          |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|
| Electrical Characteristics | PLUS     | SUPER    |          |          | ULTRA    |          |          |
| Rated Voltage (50Hz)       | 230/400V | 230/400V |          |          | 230/400V |          |          |
| Breaking Capacity          | 4,5kA    | 6kA      |          |          | 10kA     |          |          |
| Tripping Characteristics   | C        | C        | B        | D        | C        | B        | D        |
| Rated Current              | 6 to 63A | 1 to 63A | 1 to 63A | 1 to 63A | 1 to 63A | 1 to 63A | 1 to 63A |
| Energy Limitation Class    | 3        | 3        |          |          | 3        |          |          |
| Isolation Voltage          | 660V     |          |          |          |          |          |          |
| Protection Index           | IP 21    |          |          |          |          |          |          |
| Certification              | SEMKO    |          |          |          |          |          |          |

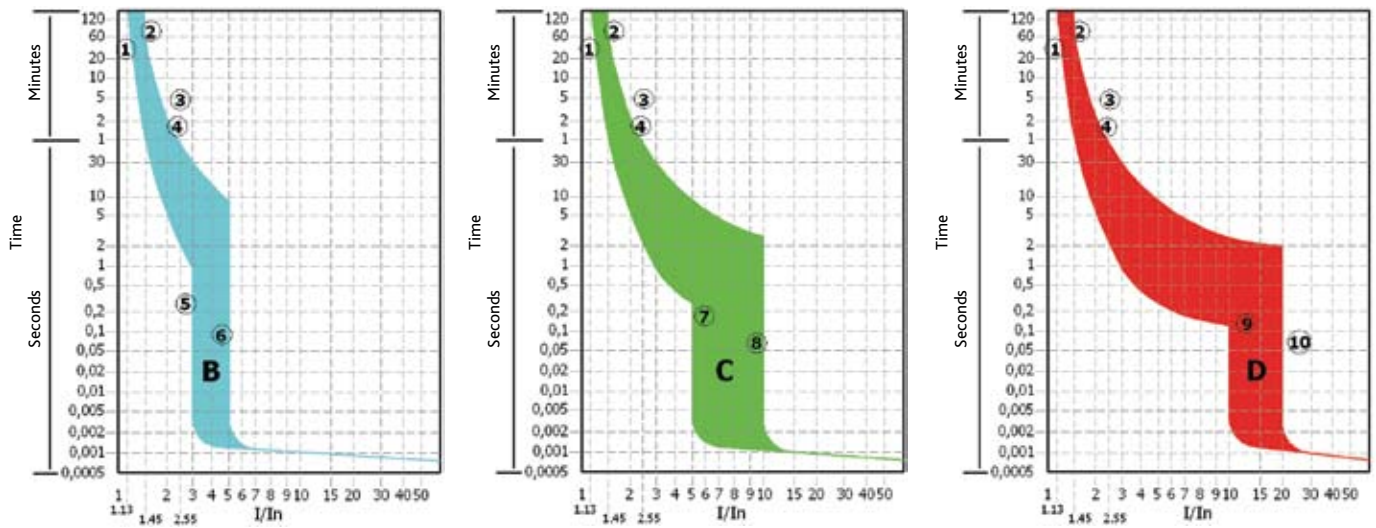
#### Overload Protection

| Current | Operating Time                                    |   |
|---------|---------------------------------------------------|---|
| 1,13 In | $t \geq 1 \text{ hour}$                           | ① |
| 1,45 In | $t < 1 \text{ hour}$                              | ② |
| 2,55 In | $I_n \leq 32A \Rightarrow t < 60 \text{ seconds}$ | ③ |
|         | $I_n > 32A \Rightarrow t < 120 \text{ seconds}$   | ④ |

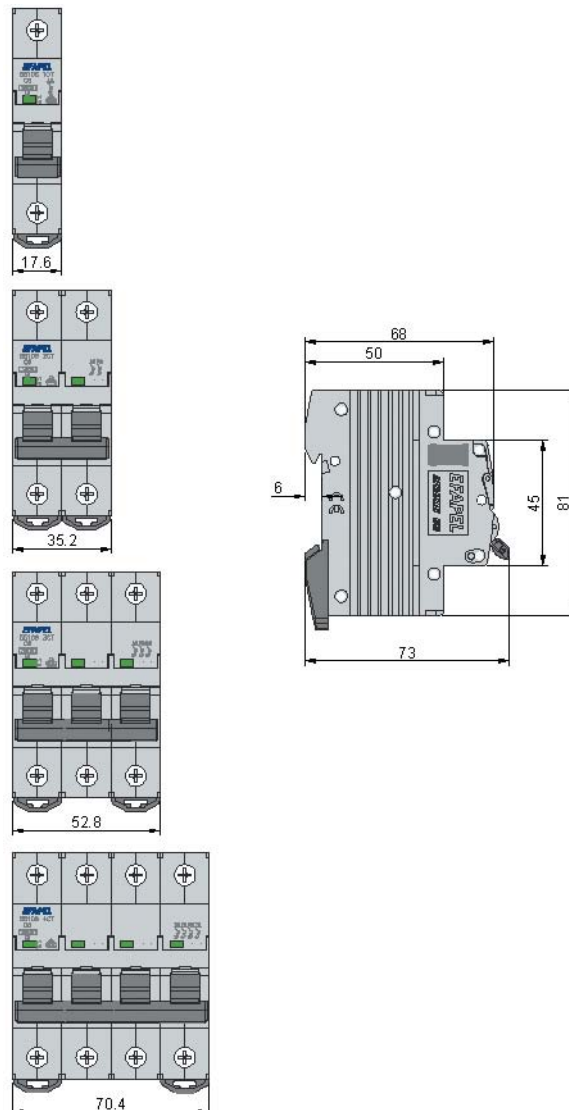
#### Short Circuit Protection

| Tripping Characteristic | Current | Operating Time               |   | Use                                                                               |
|-------------------------|---------|------------------------------|---|-----------------------------------------------------------------------------------|
| B                       | 3 In    | $t \geq 0,1 \text{ seconds}$ | ⑤ | Protection of electrical circuits with resistive loads                            |
|                         | 5 In    | $t < 0,1 \text{ seconds}$    | ⑥ |                                                                                   |
| C                       | 5 In    | $t \geq 0,1 \text{ seconds}$ | ⑦ | Protection of general electrical circuits                                         |
|                         | 10 In   | $t < 0,1 \text{ seconds}$    | ⑧ |                                                                                   |
| D                       | 10 In   | $t \geq 0,1 \text{ seconds}$ | ⑨ | Protection of electrical circuits with loads that produce high transient currents |
|                         | 20 In   | $t < 0,1 \text{ seconds}$    | ⑩ |                                                                                   |

### Tripping Characteristics (IEC 60898)



### Dimensions

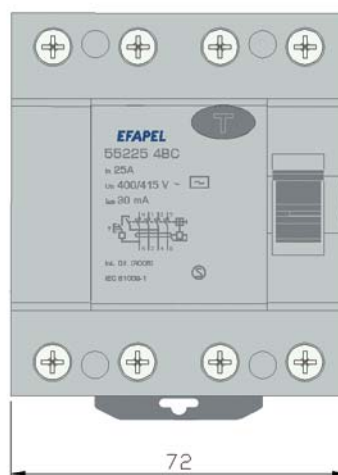
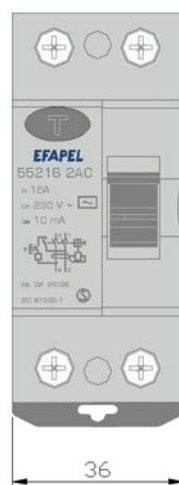
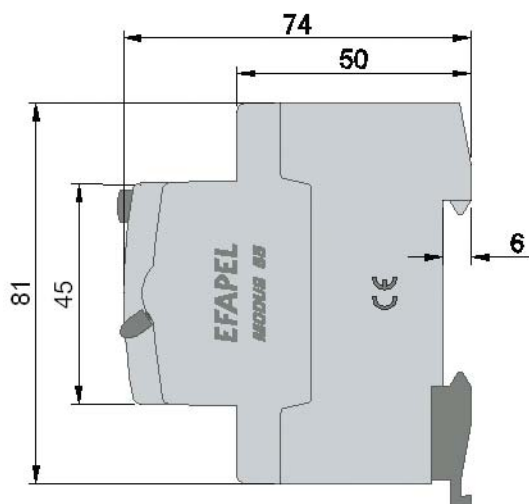


### Residual Current Circuit Breakers (RCCB) DIF TYPE

#### General Characteristics

| Electrical Characteristics | Ranges                                      |                   |
|----------------------------|---------------------------------------------|-------------------|
|                            | DIF                                         |                   |
| Poles                      | 2P                                          | 4P                |
| Rated Voltage (50/60Hz)    | 230V                                        | 400V              |
| Class                      | A Class and AC Class                        | AC Class          |
| Tripping Characteristics   | --                                          | --                |
| Sensibility                | 10, 30, 300 and 500mA                       | 30, 300 and 500mA |
| Rated Current              | 16, 25, 40 and 63A                          | 25,40 and 63A     |
| Poder de Corte             | 500A - $I_n \leq 50A$<br>630A - $I_n = 63A$ |                   |
| Isolation Voltage          | 660V                                        |                   |
| Protection Index           | IP 21                                       |                   |
| Certification              | SEMKO                                       |                   |

#### Dimensions



### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### General Characteristics

| Electrical Characteristics                                        | References                                 |        |        |        |
|-------------------------------------------------------------------|--------------------------------------------|--------|--------|--------|
|                                                                   | 55410                                      | 55420  | 55440  | 55460  |
| <b>U<sub>n</sub></b> - Rated Voltage                              | 230V~                                      | 230V~  | 230V~  | 230V~  |
| <b>U<sub>c</sub></b> - Maximum Continuous Operating Voltage       | 320V~                                      | 320V~  | 320V~  | 320V~  |
| <b>U<sub>p</sub></b> - Protection Level (8/20 µsecond)            | 1,0kVp                                     | 1,2kVp | 1,5kVp | 2,0kVp |
| <b>I<sub>n</sub></b> - Rated Discharge Current (8/20 µsecond)     | 5kA                                        | 10kA   | 20kA   | 30kA   |
| <b>I<sub>max</sub></b> - Maximum Discharge Current (8/20 µsecond) | 10kA                                       | 20kA   | 40kA   | 60kA   |
| <b>T<sub>r</sub></b> - Response Time                              | < 25ns                                     |        |        |        |
| <b>T</b> - Operating Temperature                                  | -40°C to +80°C                             |        |        |        |
| <b>P</b> - Number of Poles                                        | 1                                          |        |        |        |
| Terminal's Capacity                                               | 1x50mm <sup>2</sup> or 2x20mm <sup>2</sup> |        |        |        |
| Colour of the Cartridge                                           | Orange                                     | Yellow | White  | Brown  |

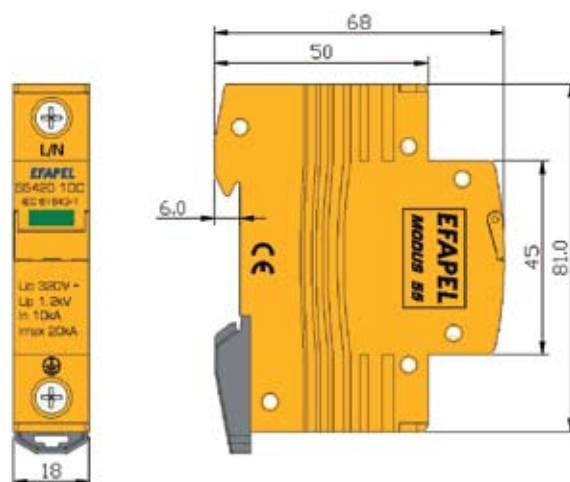
#### Standards

- IEC 61643-1

#### Other characteristics and advantages of the Over-Voltage and Surge Protection Devices POWER TYPE:

- Pillar type terminals for a better connection
- Possibility of interconnection with miniature circuit current breakers or residual circuit breakers through bus bars
- Optical status indicator (Green - OK, Red - N OK)
- Equipped with internal protection fuses
- Supplied with cartridges
- Supplied in 1 Pole version, allowing making all the possible arrangements and connections (one, two, three and four poles installations, in common or differential modes)
- Complete range
- Immunity to the variations of the voltage of the power line from 85% to 110%

#### Dimensions



# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

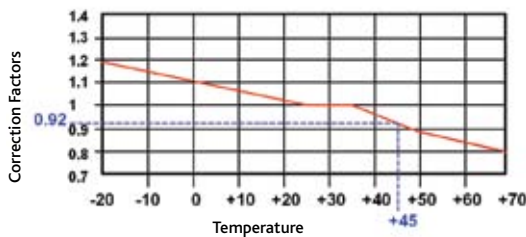
#### Operating Conditions

##### Influence of the humidity and the room temperature

Normal operating conditions:

- Room temperature:  $-5^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$
- Maximum relative humidity: 50% ( $+40^{\circ}\text{C}$ )
- The rated current ( $I_n$ ) was established for a room temperature of  $30^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .

For different values of room temperature the Rated Current must be corrected in accordance with the factors obtained from the following chart:



Example:

Circuit Breaker of 10 A of rated current under a room temperature of  $45^{\circ}\text{C}$

- Correction Factor: 0,92
- Corrected Rated Current:  $10 \times 0,92 = 9,2\text{A}$

Notes:

1. The Circuit Breakers could work with values of humidity greater than 50% while the room temperature is lower than  $40^{\circ}\text{C}$ . (Example, is acceptable a value of humidity of 90% at a room temperature of  $+20^{\circ}\text{C}$ ).
2. During the transportation and the storage, the room temperature doesn't be lower than  $-25^{\circ}\text{C}$  and greater than  $+70^{\circ}\text{C}$ . For short periods of time of not more than 24 hours, it is possible to reach temperatures of  $+85^{\circ}\text{C}$  with a value of humidity of 30%, being important to avoid the condensation of water inside of the circuit breakers.

##### Influence of the altitude:

- Maximum Operating Altitude: 2.000 metros

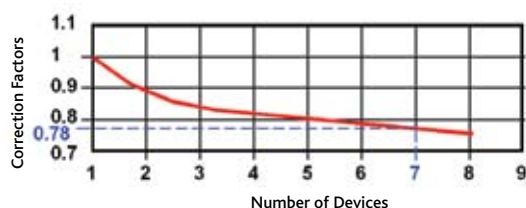
For values of altitude greater than 2.000 m over the sea level, it must be observed the reduction of the dielectric strength and the heat dissipation capacity. For this instance, the following correction factors (IEC) for the rated current in a steady state and the insulation voltage, must be applied:

| Altitude      | $I_n$ max. (continuous) | Insulation voltage    |
|---------------|-------------------------|-----------------------|
| up to 2.600 m | $0,99 \times I_n$       | $0,95 \times U_{max}$ |
| up to 3.900 m | $0,96 \times I_n$       | $0,80 \times U_{max}$ |

##### Influence of the proximity of other miniature circuit breakers (installation in electrical panels):

When many circuit breakers are installed very near one to the other, and all of them are working at their rated current inside of an electrical panel or where the ventilation is limited, the rated current of the different circuit breakers must be corrected because of the increase of the temperature produced by them.

Thus, the following criteria could be used:



Example:

An electrical panel has 7 circuit breakers of 30A working at the rated current and in steady state:

- Correction Factor - 0,78
- Corrected Rated Current -  $30 \times 0,78 = 23,4\text{A}$

In electrical panels with two rows of circuit breakers, the rated current must be reduced in 25 % more.

In electrical panels with three rows of circuit breakers, the rated current must be reduced in 30% more.

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

#### Selection of a Circuit Breaker

The selection of the protective device against over-currents (overloads and short-circuits) is based in the following principle:

- The automatic operation in the case of an overload or in a short-circuit will be produced in a time elapse where the insulation characteristics and the integrity or the operation of the electrical installation does not affected.

#### Protection against Overloads

The protection of an electrical installation against overloads is guaranteed when:

1. The rated current of the circuit breaker ( $I_n$ ), eventually corrected by the operating conditions (page 233) is greater or equal than the service current ( $I_s$ ) of the electrical installation and less or equal than the maximum current accepted by the cables ( $I_z$ ):

$$I_s \leq I_n \leq I_z$$

2. The conventional Non Tripping Current of the circuit breaker ( $I_{nf}$ ) must be equal or less than 1,5 times the maximum current accepted by the cables ( $I_z$ ):

$$I_{nf} \leq 1,15 \times I_z$$

#### Protection against Short-circuits

The protection of an electrical installation against short-circuits is guaranteed when:

##### 1. Heating level of the cables

The tripping time of a circuit breaker when a short-circuit appears in any point of the electric installation, must be lower than the time elapse needed for increasing the temperature of the cable over the maximum value permitted by its insulation with that value of current. So, the maximum energy resisted by the conductor must be equal or greater than the value of energy limited by the circuit breaker.

$$k^2 \times S^2 \geq I^2 t$$

Where:

$k^2 \times S^2$ : Maximum value of the energy resisted by conductor (see table 1).

$I^2 t$ : Maximum energy limited by the circuit breaker (see tables 2 and 3).

#### Maximun value of Energy resisted by Copper cables ( $k^2 \times S^2$ )

Table 1

| Secção [mm <sup>2</sup> ] | PVC<br>k = 115 | PVC<br>k = 141 | EPR - IDA 132<br>K=143 |
|---------------------------|----------------|----------------|------------------------|
| 0,5                       | 3.306          | 4.970          | 5.112                  |
| 0,75                      | 7.439          | 11.183         | 11.503                 |
| 1                         | 13.225         | 19.881         | 20.449                 |
| 1,5                       | 29.756         | 44.732         | 46.010                 |
| 2,5                       | 82.656         | 124.256        | 127.806                |
| 4                         | 211.600        | 318.096        | 327.184                |
| 6                         | 476.100        | 715.716        | 736.164                |
| 10                        | 1,322.500      | 1,988.100      | 2,044.900              |
| 16                        | 3,385.600      | 5,089.536      | 5,234.900              |
| 25                        | 8,265.625      | 12,425.625     | 12,780.625             |
| 35                        | 16,200.625     | 24,354.225     | 25,050.025             |

Note:

The previous table is only for reference. If values of energy with a high accuracy are needed, it is better to consult the tables and charts provided by the cables manufacturers.

# Instructions for the Selection, Installation and Use

# MODUS 55

series

## Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

### Maximum Energy limited by the Circuit Breakers (IEC 60898)

Table 2

| Breaking Capacity<br>[kA] | Rated Current<br>[A]     | I <sup>2</sup> t max (A <sup>2</sup> .seconds) |         |
|---------------------------|--------------------------|------------------------------------------------|---------|
|                           |                          | Curve B                                        | Curve C |
| 4.500                     | I <sub>n</sub> ≤ 16      | 25.000                                         | 30.000  |
|                           | 16 < I <sub>n</sub> ≤ 32 | 32.000                                         | 39.000  |
| 6.000                     | I <sub>n</sub> ≤ 16      | 35.000                                         | 42.000  |
|                           | 16 < I <sub>n</sub> ≤ 32 | 45.000                                         | 55.000  |
| 10.000                    | I <sub>n</sub> ≤ 16      | 70.000                                         | 84.000  |
|                           | 16 < I <sub>n</sub> ≤ 32 | 90.000                                         | 110.000 |

The IEC 60898 Standard doesn't specify values of the I<sup>2</sup>t for Circuit Breakers of rated currents over 32 A and D curve. For these cases, it could be used the values referred in the following table and which were obtained from the corresponding tests:

Table 3

| Breaking Capacity<br>[kA] | Rated Current<br>[A] | I <sup>2</sup> t max (A <sup>2</sup> .seconds) |         |         |
|---------------------------|----------------------|------------------------------------------------|---------|---------|
|                           |                      | Curve B                                        | Curve C | Curve D |
| 3.000                     | 40                   | --                                             | 32.000  | --      |
|                           | 63                   | --                                             | 35.000  | --      |
| 4.500                     | 40                   | 43.000                                         | 76.000  | 78.000  |
|                           | 63                   | 55.000                                         | 80.000  | 85.000  |

### 2.Operation under the minimum Short Circuit current condition:

The minimum Short Circuit current, is produced when a short circuit appears in the farrest point of an electrical installation or circuit (maximum lenght of the cables). The Circuit Breaker must guarantee the instantaneous operation of the magnetic tripping in the above condition, due to the attenuation effect of the impedance of the conductors in the value of the short circuit current.

Table 4

| Cross Section<br>of the Copper<br>Cable [mm <sup>2</sup> ] | Rated<br>Current<br>[A] | Curve | Lmáx (m)        |                |                 |
|------------------------------------------------------------|-------------------------|-------|-----------------|----------------|-----------------|
|                                                            |                         |       | PLUS<br>(4,5kA) | SUPER<br>(6kA) | ULTRA<br>(10kA) |
| 1,5                                                        | 10                      | B     | 160             | 160            | 160             |
|                                                            |                         | C     | 80              | 80             | 80              |
|                                                            |                         | D     | 40              | 40             | 40              |
| 2,5                                                        | 16                      | B     | 170             | 170            | 170             |
|                                                            |                         | C     | 83              | 83             | 83              |
|                                                            |                         | D     | 40              | 41             | 41              |
| 4                                                          | 25                      | B     | 172             | 173            | 174             |
|                                                            |                         | C     | 83              | 84             | 85              |
|                                                            |                         | D     | 40              | 41             | 41              |
| 6                                                          | 32                      | B     | 200             | 201            | 203             |
|                                                            |                         | C     | 95              | 96             | 98              |
|                                                            |                         | D     | 43              | 45             | 46              |
| 10                                                         | 40                      | B     | 272             | 275            | 278             |
|                                                            |                         | C     | 129             | 132            | 134             |
|                                                            |                         | D     | 60              | 61             | 62              |
| 16                                                         | 50                      | B     | 343             | 345            | 348             |
|                                                            |                         | C     | 158             | 164            | 166             |
|                                                            |                         | D     | 73              | 74             | 75              |
| 25                                                         | 63                      | B     | 343             | 345            | 348             |
|                                                            |                         | C     | 187             | 192            | 199             |
|                                                            |                         | D     | 83              | 85             | 87              |

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

#### 3. Breaking Capacity of the Circuit Breaker

The value of the Breaking Capacity of the Circuit Breaker ( $P_{dc}$ ) must be equal or greater than the value of the prospective short circuit current ( $I_{cc}$ ) in the point of its installation:

$$P_{dc} \geq I_{cc}$$

In the case of the domestic electrical installations and others without their own power transformer (i.e.: public distribution networks), the value of the maximum prospective short circuit current in the point of the installation of the circuit breaker ( $I_{cc}$ ) must be informed by the local energy distribution company.

In electrical installations with their own distribution transformer, the maximum prospective short circuit current must be determined by calculation; by the use of tables, abacuses or specific calculation software. For that instance, it is necessary to know the length and cross section of the cables of the circuit until the point of installation of the circuit breaker, and the value of the short circuit current at the secondary of the power transformer ( $I_k$ ), calculated by the following way:

$$I_k = I_{nt} / Z_t$$

Where:

$I_k$ : Maximum prospective short circuit current at the secondary of the power transformer (kA).

$I_{nt}$ : Rated current at the secondary of the power transformer (kA).

$Z_t$ : Short circuit Impedance of the power transformer expressed in percentage (%).

Approximated values of the Short circuit currents at the secondary of power transformers are shown in the following table.

Table 5

| Power of the Transformer (kVA) | Short Circuit Current $I_k$ (kA) |
|--------------------------------|----------------------------------|
| 15                             | 0.4                              |
| 25                             | 0.7                              |
| 30                             | 0.8                              |
| 50                             | 1.5                              |
| 63                             | 1.8                              |
| 75                             | 2.2                              |
| 100                            | 3.0                              |
| 150                            | 4.4                              |
| 200                            | 6.0                              |
| 250                            | 7.0                              |
| 300                            | 9.0                              |
| 400                            | 12                               |
| 500                            | 14                               |
| 1000                           | 28                               |

Note:

When the  $I_k$  is unknown, it must be considered as an infinite value.

However, in the normal cases, the value of  $I_k$  depends of the impedance of the transformer ( $Z_t$ ). This value is equal in percentage to the value of the short circuit voltage of the transformer ( $U_{cc}$ ).

The value of the short circuit voltage of a transformer ( $U_{cc}$ ) is usually given by its manufacturer and generally it is established in the respective standards.

In example, the IEC standard establishes a value for the short circuit voltage of 4% for distribution power transformers with oil refrigeration and with rated powers from 25 to 630 kVA, and 5% for transformers from 800 to 1000 kVA

# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

If the above information is available, then it is possible to determine the value of the Icc in the point of the installation of the circuit breaker by using the following tables:

Table 6

| Cross Section of the phase conductors (mm <sup>2</sup> ) |       | Length of the circuit (m)                                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |
|----------------------------------------------------------|-------|---------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| Cu                                                       | Al    |                                                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |
| 1,5                                                      |       |                                                                     |     |     |     |     |     |     |     |     |     |     |     | 1   | 1,2 | 1,5 | 2   | 2,5 | 3    | 4   | 5   | 6   | 8   | 12  | 25  |
| 2,5                                                      |       |                                                                     |     |     |     |     |     |     |     |     |     | 1   | 1,2 | 1,5 | 2   | 2,5 | 3,5 | 4   | 5    | 7   | 8   | 10  | 14  | 20  | 40  |
| 4                                                        |       |                                                                     |     |     |     |     |     |     |     | 0,8 | 1,1 | 1,5 | 2   | 2,5 | 3,5 | 4   | 5,5 | 6,5 | 8    | 11  | 13  | 16  | 22  | 30  | 60  |
| 6                                                        | 10    |                                                                     |     |     |     |     |     |     | 1   | 1,5 | 2   | 2,5 | 3   | 4   | 5   | 6   | 8   | 10  | 12,5 | 16  | 20  | 25  | 33  | 50  | 100 |
| 10                                                       | 16    |                                                                     |     |     |     |     |     | 1   | 1,5 | 2   | 3   | 4   | 5   | 6   | 8   | 10  | 14  | 16  | 20   | 27  | 32  | 40  | 55  | 80  | 150 |
| 16                                                       | 25    |                                                                     |     |     |     |     | 1   | 1,5 | 2,5 | 3,5 | 5   | 6,5 | 8   | 10  | 13  | 16  | 22  | 25  | 32   | 43  | 50  | 65  | 90  | 130 | 250 |
| 25                                                       | 35    |                                                                     |     |     |     | 1   | 1,5 | 2,5 | 3,5 | 5   | 7   | 10  | 12  | 15  | 19  | 24  | 32  | 40  | 50   | 65  | 80  | 100 | 130 | 190 | 380 |
| 35                                                       | 50    |                                                                     |     |     | 1   | 1,5 | 2,5 | 3,5 | 5   | 7   | 10  | 14  | 17  | 21  | 28  | 35  | 45  | 55  | 70   | 90  | 110 | 140 | 180 | 280 |     |
| 50                                                       | 70    |                                                                     |     | 0,8 | 1,2 | 2   | 3,5 | 5   | 7   | 10  | 14  | 19  | 24  | 30  | 40  | 50  | 65  | 80  | 100  | 130 | 150 | 190 | 260 | 380 |     |
| (A)                                                      | 95    |                                                                     |     | 1   | 1,5 | 4,5 | 4   | 6   | 9   | 12  | 18  | 24  | 30  | 37  | 50  | 60  | 80  | 100 | 120  | 160 | 200 | 240 | 320 |     |     |
| 220/380V                                                 | 70    | 120                                                                 |     | 0,8 | 1,2 | 2   | 3   | 5   | 7,5 | 11  | 15  | 22  | 30  | 37  | 45  | 60  | 75  | 100 | 120  | 150 | 200 | 230 | 290 | 390 |     |
|                                                          | 95    | 150                                                                 |     | 1   | 1,5 | 2,5 | 4   | 6,5 | 10  | 14  | 19  | 28  | 38  | 47  | 60  | 75  | 95  | 125 | 150  | 190 | 250 | 300 | 380 |     |     |
|                                                          | 120   | 185                                                                 | 0,7 | 1,2 | 2   | 3   | 5   | 7,5 | 11  | 17  | 23  | 34  | 46  | 57  | 70  | 90  | 115 | 150 | 180  | 230 | 310 | 370 |     |     |     |
|                                                          | 150   | 240<br>2x120                                                        | 0,9 | 1,5 | 3,5 | 5   | 10  | 14  | 21  | 29  | 43  | 58  | 70  | 90  | 115 | 140 | 190 | 230 | 290  | 390 |     |     |     |     |     |
|                                                          | 185   | 2x150                                                               | 1   | 2   | 3   | 4,5 | 7   | 11  | 17  | 25  | 35  | 50  | 70  | 85  | 105 | 140 | 170 | 230 | 270  | 340 |     |     |     |     |     |
|                                                          | 240   | 2x185                                                               | 1,3 | 2,2 | 3,5 | 5,5 | 9   | 14  | 21  | 31  | 42  | 65  | 85  | 105 | 130 | 170 | 210 | 280 | 340  |     |     |     |     |     |     |
|                                                          | 2x120 | 3x120                                                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |
|                                                          | 2x150 | 3x150                                                               | 1,5 | 2,5 | 4   | 6   | 10  | 17  | 25  | 36  | 50  | 75  | 100 | 125 | 150 | 200 | 250 | 330 | 400  |     |     |     |     |     |     |
|                                                          | 2x185 | 3x185                                                               | 1,6 | 2,7 | 4,5 | 6,3 | 11  | 18  | 26  | 37  | 52  | 80  | 105 | 130 | 160 | 210 | 260 | 340 |      |     |     |     |     |     |     |
|                                                          | 3x150 | 3x240                                                               | 1,7 | 3   | 5   | 7   | 12  | 19  | 28  | 41  | 56  | 85  | 115 | 140 | 170 | 230 | 280 | 380 |      |     |     |     |     |     |     |
|                                                          | 3x185 | -----                                                               | 1,9 | 3   | 5   | 8   | 13  | 21  | 30  | 45  | 60  | 90  | 125 | 160 | 190 | 250 | 310 |     |      |     |     |     |     |     |     |
| Value of the short circuit current to the mains (kA)     |       | Value of the short circuit current in the point under analysis (kA) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |
| (B)                                                      | 100   | 93                                                                  | 88  | 83  | 76  | 65  | 55  | 44  | 35  | 28  | 21  | 17  | 14  | 12  | 9   | 7,5 | 5,5 | 5   | 4    | 2,9 | 2,4 | 2   | 1,5 | 1   | 0,5 |
|                                                          | 90    | 84                                                                  | 80  | 76  | 70  | 61  | 51  | 41  | 34  | 27  | 21  | 16  | 13  | 11  | 9   | 7,5 | 5,5 | 4,5 | 4    | 2,9 | 2,4 | 2   | 1,5 | 1   | 0,5 |
|                                                          | 80    | 75                                                                  | 72  | 68  | 64  | 56  | 48  | 39  | 32  | 26  | 20  | 16  | 13  | 11  | 9   | 7,5 | 5,5 | 4,5 | 4    | 2,9 | 2,4 | 2   | 1,5 | 1   | 0,5 |
|                                                          | 70    | 66                                                                  | 64  | 61  | 57  | 51  | 44  | 37  | 31  | 25  | 20  | 15  | 13  | 11  | 8,5 | 7   | 5,5 | 4,5 | 4    | 2,9 | 2,4 | 1,9 | 1,5 | 1   | 0,5 |
|                                                          | 60    | 57                                                                  | 55  | 53  | 50  | 46  | 40  | 34  | 29  | 24  | 19  | 15  | 12  | 11  | 8,5 | 7   | 5,5 | 4,5 | 3,5  | 2,8 | 2,4 | 1,9 | 1,5 | 1   | 0,5 |
|                                                          | 50    | 48                                                                  | 47  | 45  | 43  | 40  | 35  | 30  | 26  | 22  | 17  | 14  | 12  | 10  | 8,5 | 7   | 5,5 | 4,5 | 3,5  | 2,8 | 2,4 | 1,9 | 1,5 | 1   | 0,5 |
|                                                          | 40    | 39                                                                  | 38  | 37  | 36  | 33  | 30  | 26  | 23  | 20  | 16  | 13  | 11  | 10  | 8   | 6,5 | 5   | 4,5 | 3,5  | 2,8 | 2,3 | 1,9 | 1,4 | 1   | 0,5 |
|                                                          | 35    | 34                                                                  | 33  | 32  | 31  | 30  | 27  | 24  | 21  | 18  | 15  | 13  | 11  | 9,5 | 8   | 6,5 | 5   | 4,5 | 3,5  | 2,8 | 2,3 | 1,9 | 1,4 | 1   | 0,5 |
|                                                          | 30    | 29                                                                  | 29  | 28  | 27  | 26  | 24  | 22  | 19  | 17  | 14  | 12  | 10  | 9   | 7,5 | 6,5 | 5   | 4,5 | 3,5  | 2,7 | 2,3 | 1,9 | 1,4 | 1   | 0,5 |
|                                                          | 25    | 24                                                                  | 24  | 24  | 23  | 22  | 21  | 19  | 17  | 15  | 13  | 11  | 10  | 8,5 | 7   | 6   | 5   | 4   | 3,5  | 2,7 | 2,3 | 1,8 | 1,4 | 1   | 0,5 |
|                                                          | 20    | 20                                                                  | 19  | 19  | 19  | 18  | 17  | 16  | 15  | 13  | 12  | 10  | 9   | 8   | 6,5 | 5,5 | 4,5 | 4   | 3,5  | 2,6 | 2,2 | 1,8 | 1,4 | 1   | 0,5 |
|                                                          | 15    | 15                                                                  | 15  | 14  | 14  | 14  | 13  | 12  | 12  | 11  | 9,5 | 8,5 | 7,5 | 7   | 6   | 5   | 4,5 | 3,5 | 3    | 2,5 | 2,1 | 1,8 | 1,4 | 0,9 | 0,5 |
|                                                          | 10    | 10                                                                  | 10  | 10  | 10  | 10  | 9   | 9   | 8,5 | 8   | 7,5 | 6,5 | 6   | 5,5 | 5   | 4,5 | 3,5 | 3,5 | 2,8  | 2,3 | 2   | 1,7 | 1,3 | 0,9 | 0,5 |
|                                                          | 7     | 7                                                                   | 7   | 7   | 7   | 6,5 | 6,5 | 6,5 | 6   | 6   | 5,5 | 5   | 4,5 | 4   | 3,5 | 3   | 2,9 | 2,5 | 2,1  | 1,8 | 1,5 | 1,2 | 0,9 | 0,5 |     |
|                                                          | 5     | 5                                                                   | 5   | 5   | 5   | 5   | 5   | 4,5 | 4,5 | 4,5 | 4   | 4   | 4   | 3,5 | 3,5 | 3   | 2,7 | 2,5 | 2,2  | 1,9 | 1,7 | 1,4 | 1,1 | 0,8 | 0,5 |
|                                                          | 4     | 4                                                                   | 4   | 4   | 4   | 4   | 4   | 4   | 3,5 | 3,5 | 3,5 | 3,5 | 3   | 3   | 2,8 | 2,7 | 2,4 | 2,2 | 2    | 1,7 | 1,5 | 1,3 | 1,1 | 0,8 | 0,4 |
|                                                          | 3     | 3                                                                   | 3   | 3   | 3   | 2,9 | 2,9 | 2,8 | 2,8 | 2,7 | 2,6 | 2,5 | 2,4 | 2,3 | 2,2 | 2   | 1,9 | 1,7 | 1,5  | 1,4 | 1,2 | 1   | 0,7 | 0,4 |     |
|                                                          | 2     | 2                                                                   | 2   | 2   | 2   | 2   | 2   | 2   | 1,9 | 1,9 | 1,9 | 1,8 | 1,8 | 1,7 | 1,7 | 1,6 | 1,5 | 1,4 | 1,3  | 1,2 | 1,1 | 1   | 0,8 | 0,6 | 0,4 |
|                                                          | 1     | 1                                                                   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,8 | 0,8  | 0,7 | 0,7 | 0,6 | 0,5 | 0,5 | 0,3 |

Example:

Transformer of: 20.000V / 380V - 250kVA

Cable: Copper Conductor of 240mm<sup>2</sup>

Distance to the circuit breaker: 100m



### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

In accordance with the table 5, for a power transformer of 250kVA, the value of the maximum prospective short circuit current at the secondary is:

$$I_k = 7\text{kA}$$

In the Table 6 (part A), a copper cable of 240mm<sup>2</sup> of cross section with a length of 100 m (adopted 85 m because is the closer inferior value), and in the part B of the table, with the value of the short circuit current of the transformer of 7kA, they point to a value of 5kA for the maximum prospective short circuit current at that point of the electrical installation.

In this way, the breaking capacity of the circuit breaker is:

$$P_{dc} \geq 5\text{kA}$$

### Motor Protection

The protection of electric motors against the effects of an internal short circuit must be guaranteed by the use of a circuit breaker which not trips under the presence of short duration overload currents, similar to the transient current that appears during the connection of the motor to the power line (Type D Circuit Breaker).

Also, the circuit breaker must guarantee the protection of the cables of the power line, the AC contactor and the thermal relay associated to the motor.

The appropriated circuit breakers for protection of electric motors, are indicated in the following for their different values of rated power:

Table 7

| Rated Power of the Motor [KW] | Rated Power of the Motor [HP] | Rated Current of the Circuit Breaker [A] |
|-------------------------------|-------------------------------|------------------------------------------|
| 0,37                          | 0,5                           | 1,6                                      |
| 0,55                          | 0,75                          | 2                                        |
| 0,75                          | 1                             | 2.5                                      |
| 1,1                           | 1,5                           | 3                                        |
| 1,5                           | 2                             | 4                                        |
| 2,2                           | 3                             | 6                                        |
| 3,7                           | 5                             | 10                                       |
| 4                             | 5,5                           | 10                                       |
| 7,5                           | 10                            | 20                                       |
| 9                             | 12                            | 20                                       |
| 10                            | 13,5                          | 25                                       |
| 11                            | 15                            | 25                                       |
| 15                            | 20                            | 32                                       |
| 18,5                          | 25                            | 40                                       |
| 22                            | 30                            | 50                                       |
| 25                            | 34                            | 50                                       |
| 30                            | 40                            | 63                                       |

# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Miniature Circuit Breakers (MCB) PLUS, SUPER and ULTRA

#### Method for the selection of Circuit Breakers

| Steps                                                                                                                                                                                                                                                                                                                                         | Example                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Calculation of the rated current of the circuit breaker.<br>2) Type of curve selection.<br>3) Breaking Capacity selection.<br>4) Verification of the minimum cross section of the cables.<br>5) Verification of the functionality of the circuit breaker under the minimum short circuit current.                                          | Data:<br>• Family house T4 (three bedrooms and a living room)<br>• Single phase electrical installation 230 V / 50 Hz<br>• Value of the power contracted to the electrical utility: 6,9 kVA<br>• Value of the power consumed by the washing machine: 3300 W<br>• Length of the circuit: 25m<br>• Value of the short circuit current at the main electrical panel (information given by the electrical utility): 2300 A (Icc) |
| <b>1) Calculation of the rated current of the circuit breaker</b><br>It must be guaranteed that:<br>$I_s \leq I_n \leq I_z$<br>Where:<br>Is: Service Current of the electric installation<br>In: Rated Current of the circuit breaker<br>Iz: Maximum Current withstood by the cable.                                                          | With the above data, it's possible to calculate Is:<br>$I_s = 3300/230 (\cos \varphi = 1) ; I_s = 14,3A$<br>With the value of the current calculated previously, the cable must be a H07V-U type of 2,5mm <sup>2</sup> of cross section (Maximum Current: 20A)<br><br>So, the first condition to verify is: $14,3 \leq I_n \leq 20$<br>Thus, the rated current of the MCB will be 16 A: $I_n = 16A$                          |
| <b>2) Type of curve selection</b><br>B Curve: Circuits with resistive loads.<br>C Curve: Circuits with general-purpose loads.<br>D Curve: Circuits with loads that produce transients of current.                                                                                                                                             | As the circuit will be loaded with a washing machine (general purpose load), the curve of the MCB will be – C Curve                                                                                                                                                                                                                                                                                                          |
| <b>3) Breaking capacity selection</b><br>It must be guaranteed that:<br>$P_{dc} \geq I_{cc}$<br>Where:<br>Icc: Prospective value of the short circuit current in the point of the electric installation under consideration.                                                                                                                  | If $I_{cc} = 2300A$<br><br>The Breaking Capacity of the MCB must be greater than the above value – $P_{dc} \geq 2300A$<br><br>So, the selected breaking capacity will be 3000 A – $P_{dc} = 3000A$ (3kA)                                                                                                                                                                                                                     |
| <b>4) Verification of the minimum cross section of the cables</b><br>It must be guaranteed that:<br>$k^2 \times S^2 \geq I^2 t$<br>Where:<br>$k^2 \times S^2$ : Maximum Pass Through Energy withstood by the cables.<br>$I^2 t$ : Maximum Pass Through Energy limited by the circuit breaker.                                                 | $K^2 \times S^2 = 82.656A^2 \times \text{sec}$ (Table 1)<br><br>$I^2 t = 18.000 A^2 \times \text{sec}$ (Table 2)<br><br>So, $82.656 A^2 \times \text{sec} \geq 18.000 A^2 \times \text{sec}$ ✓ – Condition assured                                                                                                                                                                                                           |
| <b>5) Verification of the functionality of the circuit breaker under the minimum short circuit current.</b><br>It must be guaranteed that:<br>$L < L_{max}$<br>Where:<br>L: Length of the cables of the circuit.<br>Lmax.: Maximum Length of the cables which produces the minimum value of the short circuit current for the selected curve. | $L = 25m$<br><br>$L_{max} = 81m$ (Table 4)<br><br>$25 m < 81m$ ✓ – Condition assured                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                               | Finally the selected MCB is:<br>Miniature Circuit Breaker MT - 1P - 3kA - C - 16A – Ref. 55116 1CM                                                                                                                                                                                                                                                                                                                           |

### Residual Current Circuit Breakers (RCCB) DIF TYPE

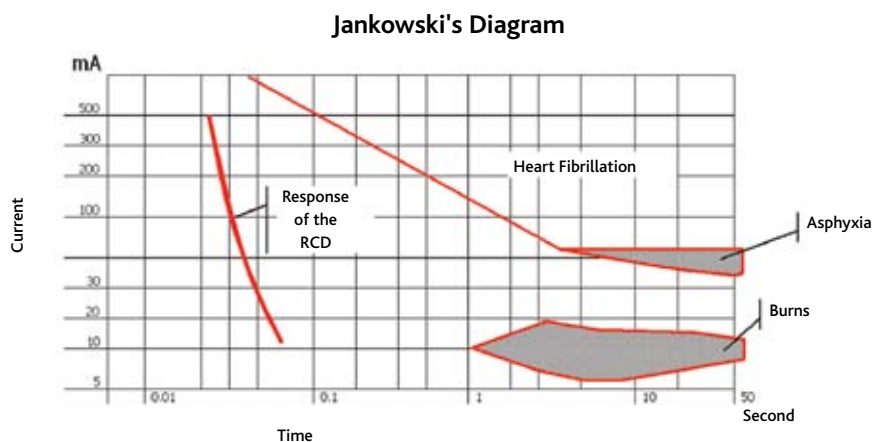
#### Effects of the passage of the electrical current through the human body

The passage of the electrical current through the human body could produce skin burns until muscular paralysis, depending on the value of the intensity of the current and the time of the exposition. In an extreme case, the passage of the current could produce heart fibrillation with irreversible damages and lethal effects.

$$\text{EFFECT} = \text{Intensity of the Current} \times \text{Time}$$

This relation could be analysed in the following diagram.

With the installation of a differential protection, the effects of the passage of the electrical current through a human body will not reach a dangerous level for the life.



#### Working principle of the Residual Current Devices (RCDs)

The following figure shows the internal structure of a Single Phase RCCB. In normal conditions, the current consumed by the load flows between the phase and neutral conductors, producing opposite magnetic fields in the toroidal core. These magnetic fields are directly proportional to the value of those currents. In the case of having a Four Pole RCD for a three-phase electrical distribution system, the internal construction is similar as before, existing a coil for each phase and the neutral, where the sum of the magnetic fields created by them is equal to zero in normal conditions.

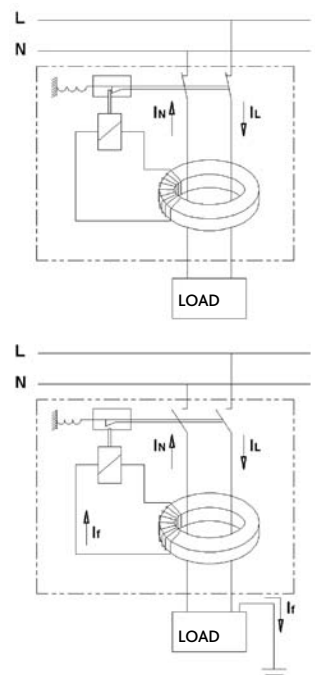
##### Working behaviour without a leakage current

When there is not any leakage current, the current flowing through the phase conductor will be equal to that flowing through the neutral conductor in a single-phase installation. In the case of a three-phase installation, the situation is the similar as before but considering the sum of the instantaneous phase currents, which is equal to the neutral current. The above situations create a magnetic field whose magnetic flux is equal to zero, thus there will be not any induced electromotive force in the secondary coil, the polarized relay will be not energized and the breaker will remain with the contact closed.

##### Working behaviour under a leakage current

In the single-phase case, when a leakage current flowing to ground appears (in example. And electrical shock), the current flowing through the phase conductor will be the sum of the load current plus the leakage current. Though the neutral conductor, the current flowing will be the load current due to the leakage current flows through the ground circuit. In the three-phase case appears a similar situation compared with the single-phase case, but here the leakage current creates an unbalance of the currents in the three-phase system, where the instantaneous sum of all the currents will be not equal to zero. In the above two conditions, the magnetic fields present in the toroidal cores will produce an effective magnetic flux. This magnetic flux will produce an induced electromotive force in the secondary coil of the toroidal transformer. If the value of the unbalance of the currents is greater than the sensibility of the RCD, the mechanism of the RCD will trip.

Usually, the RCDs have a tripping time with effective values less than 0,015s (10ms).



# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Residual Current Circuit Breakers (RCCB) DIF TYPE

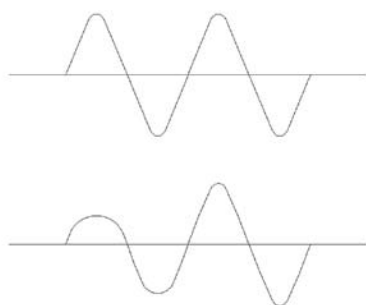
#### Operation Classes according with the behaviour in presence of D.C. components

##### A Class

The RCCB Class A guarantees the differential protection under the presence of leakage currents with A.C. or pulsating D.C. components applied in an instantaneous or a gradual way.

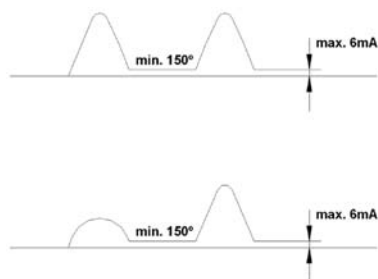
The appearance of pulsating D.C. components in the electrical installations is originated by the massive presence of electronic elements and equipments.

Alternating Current:



| C Fault Current           | Tripping Time        |
|---------------------------|----------------------|
| $0,5 \times I_{\Delta n}$ | $t = \infty$         |
| $1 \times I_{\Delta n}$   | $t < 200 \text{ ms}$ |
| $2 \times I_{\Delta n}$   | $t < 100 \text{ ms}$ |
| $10 \times I_{\Delta n}$  | $t < 30 \text{ ms}$  |

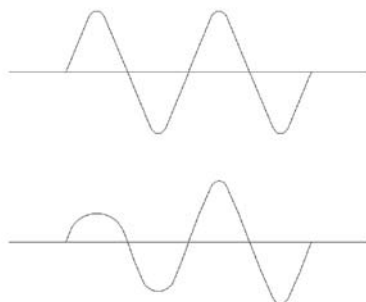
Pulsating D.C. for a zero degree phase-angle:



| Fault Current              | Tripping Time        |
|----------------------------|----------------------|
| $0,35 \times I_{\Delta n}$ | $t = \infty$         |
| $1,4 \times I_{\Delta n}$  | $t < 200 \text{ ms}$ |
| $2,8 \times I_{\Delta n}$  | $t < 100 \text{ ms}$ |
| $14 \times I_{\Delta n}$   | $t < 30 \text{ ms}$  |

##### AC Class

The RCCB Class AC guarantees the differential protection under the presence of leakage currents with sine wave A.C. components applied in an instantaneous or a gradual way.



| Fault Current             | Tripping Time        |
|---------------------------|----------------------|
| $0,5 \times I_{\Delta n}$ | $t = \infty$         |
| $1 \times I_{\Delta n}$   | $t < 200 \text{ ms}$ |
| $2 \times I_{\Delta n}$   | $t < 100 \text{ ms}$ |
| $10 \times I_{\Delta n}$  | $t < 30 \text{ ms}$  |

$I_{\Delta n}$  - Value of the Sensibility of the RCD  
(Rated Residual Operating Current)

### Residual Current Circuit Breakers (RCCB) DIF TYPE

#### Which type of PROTECTION is given by a RCCB?

##### Protection against direct contacts

A direct contact occurs when somebody makes a direct contact with active or live parts of an electrical installation or an electrical equipment.

When the risk of appearance of a direct contact is highly potential, it is necessary to introduce additional security like the following:

- The use of Type or Class 2 insulated electrical equipments.
- The use of special protections that create electrical separation between the power source and the user, in example: isolating transformers.
- The use of security low voltage circuits and equipments.



The use of RCCB with high sensibility (10 mA or 30 mA) is an active security, that must be always complemented with passive security methods, except in the cases where their inclusion could affect the correct working or performance of an electrical installation or equipment.

##### Protection against indirect contacts

An indirect contact occurs when somebody makes contact with conductive parts (metallic or others) that could be accidentally under voltage due to an insulation fault.

The protection against indirect contacts is made by the introduction of active security that means the interruption of the power supply to the defective electrical circuits.

The RCCB have the capacity of detect and isolate the fault produced by the defect of the electrical insulation before the appearance of dangerous effects.



#### SELECTION of a RCCB

In the selection of a RCCB it must be considered the number of poles, the rated current of the installation or the circuit to be protected and the conditions of use.

##### Protection against direct contacts

It must be used RCCBs with a sensibility of 30 mA ( $I_{\Delta N} \leq 30\text{mA}$ ) (DIF Type).

##### Protection against indirect contacts

The protection is assured if the following conditions are present:

1. The rated current of the RCCB ( $I_n$ ) is greater or equal than the service current of the installation ( $I_s$ ):

$$I_n \geq I_s$$

2. The Maximum Conventional Contact Voltage ( $U_L$ ) must be not exceeded:

$$R \times I_a \leq U_L$$

Where:

- R - value of the protective ground electrical resistance expressed in OHM.
- $I_a$  - value of the current that guarantee the automatic tripping of the differential protection (sensibility  $I_{\Delta n}$ ) expressed in Amper.
- $U_L$  - maximum value of the contact voltage expressed in Volt. This value is established in accordance with the characteristics of the installations and their use. For places with presence of water and where the conditions of the electrical resistance of the human body could be reduced, combined with a high risk of the existence of direct contacts (in example: bathrooms, kitchens, wet and damp places), it must be considered a value of  $U_L = 25\text{V}$ . For the rest of the cases  $U_L$  must be equal to  $50\text{V}$   $U_L = 50\text{V}$ .

# Instructions for the Selection, Installation and Use

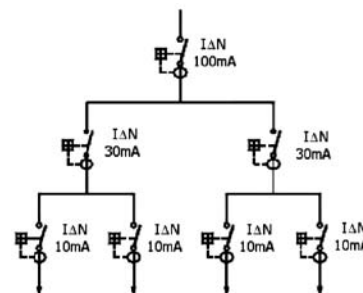
## MODUS 55 series

### Residual Current Circuit Breakers (RCCB) DIF TYPE

#### Selectivity

Other factor to be considered in the selection of a RCCB is its selective behaviour in an electrical installation where exist several RCCB distributed in different levels in the same or different electrical panels. The selectivity is accomplished when the RCCB that open the circuit in presence of a fault, is those which is more close to this fault.

For obtain a good selectivity, the RCCB installed more close to the mains must have a sensibility at least two (2) times greater than the RCCB that are more close to the load.



#### Type Selection

A RCCB AC Type must be used when the loads are resistive or inductive with less content of harmonics or with a low influence of harmonics produced by electronic equipments.

When the amount of installed electronic equipments is important (in example: more than 8 computers in the same circuit), is convenient to use a A Type RCCB.

#### Protection against short circuits

The RCCB are not prepared for protect an electrical installation against a short circuit.

The breaking capacity of this elements is limited to 500 A ( $I_n$  50A) or 10 times its rated current if the rated current is greater than 50 A ( $I_n > 50A$ ) (according with the IEC 61008 standard).

For guarantee a protection against short circuits and no damage of the RCCB, is necessary to install fuses or an appropriate MCB (see the following table).

| RCD - Rated Current [A] | Protection against Short Circuits |         |         |
|-------------------------|-----------------------------------|---------|---------|
|                         | Fuses gL type                     | MCB     |         |
|                         |                                   | Curve B | Curve C |
| 16                      | 25                                | 50      | 32      |
| 25                      | 40                                | 63      | 40      |
| 40                      | 63                                | 63      | 40      |
| 63                      | 80                                | 63      | 63      |

### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### Working principle of the Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

The principal function of a SPD is to deviate the electrical charge or energy of the over voltage surge from the line to the earth (ground).

The working principle of the POWER SPDs is based in the use of MOV varistors (Metal Oxide Varistor).

In normal operation, the SPD MOV type acts in the installation like an electrical element with a high impedance, draining an electrical current with a value of a few microamps.

In presence of an electrical surge with a value greater than the Maximum Continuous Operation Voltage ( $U_c$ ) of the SPD, produced by a lighting or by a switching in the electrical network, the SPD will conduct to ground all the excess of the electrical charge or energy of the transient.

This happens because of the non-linear Voltage Vs. Current characteristic of the MOV devices. Due to this special property, the internal impedance (\*) may vary from very high values in normal operation, to very low values (less than one OHM) when they are submitted to high voltages. In this way, they let pass through high current values (thousand of Amper) during very short time periods without any damage, protecting the electrical installation and the equipments.

The SPDs with MOV technology are defined by the following parameters:

- **$U_c$  - Maximum Continuous Operating Voltage (MCOV)**

Is the maximum value of voltage that is possible to apply to the SPD in continuous way without the appearance of any irreversible damage inside it.

- **$U_p$  - Protection Level**

Is the peak value of the voltage measured on the terminals of the SPD when it is submitted to a current discharge similar to those that appears during a lighting.

- **$I_n$  - Rated Discharge Current**

Is the maximum value of the discharge current that the SPD could drain only one time.

- **$I_{max}$  - Maximum Discharge Current**

Is the maximum value of the discharge current that the SPD could drain only one time.

(\*) Impedance: Is the total opposition produced by an electrical circuit to the circulation of an alternating current, and it is composed by the electrical resistance and the inductive and capacitive reactance.

Note:

The POWER SPDs have a unique indication of their internal status: Green – OK - Red – Replace

When the SPD is damaged, it is better to replace the entire product (base and cartridge). This is the explanation of why the POWER SPDs are commercialised only in one pole devices and in complete units.



# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### Selection of a SPD

The selection of the appropriate SPD is made by using the following criteria:

##### 1. Definition of the MCOV - $U_c$

The MCOV must be selected in accordance with the connection of the SPD and the type of the network configuration:

| Connection of the SPD | Type of Distribution Network | MCOV ( $U_c$ ) |
|-----------------------|------------------------------|----------------|
| Phase - Ground        | TT ou TN                     | 240V           |
| Phase - Neutral       |                              |                |
| Phase - Ground        | IT                           | 420V           |

Note:

In Portugal, the common type of distribution network is the TT and the connection of the SPD is made between the phase and the ground.

##### 2. Definition of the Maximum Discharge Current - $I_{max}$

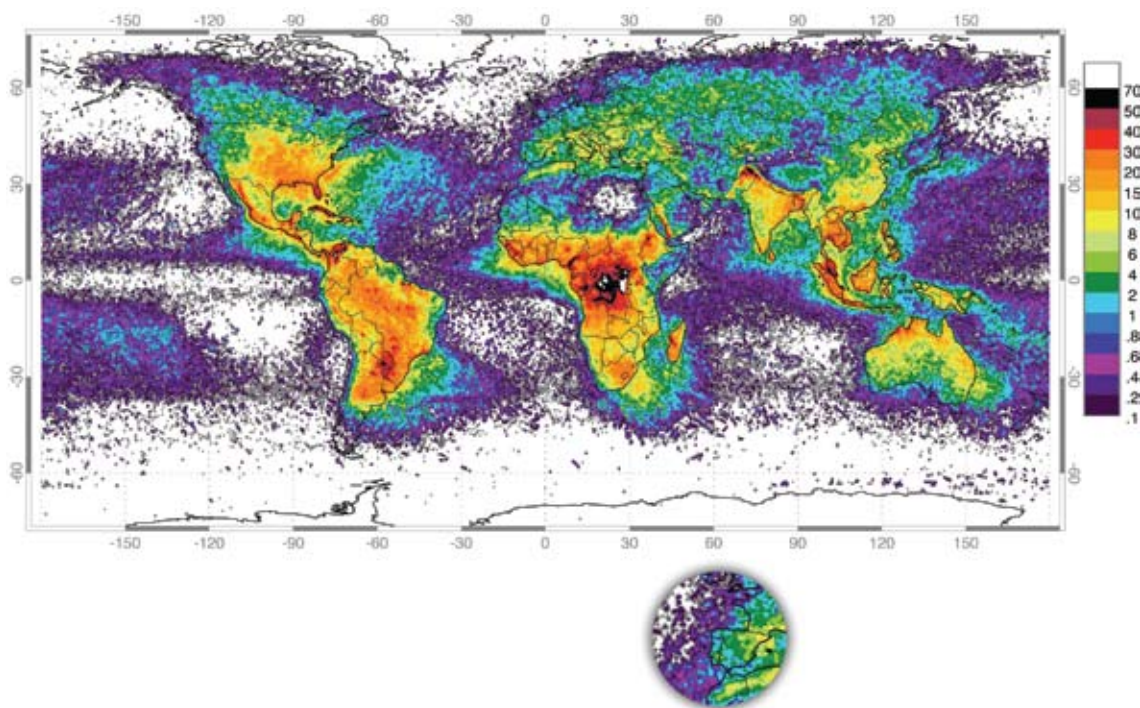
The definition of the Maximum Discharge Current is based in two main factors: The level of risk related with the appearance of a lightning and the importance of the damages produced by the over voltage.

###### A) Definition of the Risk Related with the Lighting Discharge

For the definition of this risk it must be analysed:

##### 1. Number of days with lightnings along the year (Keraunic Level)

The following map shows which is the number of days with thunderstorms per year in each region of the planet. For more detailed data and for each region, is better to contact with the local Weather Service. In Portugal the average Keraunic Level is less than 30 days / year.



| Keraunic Level    | Risk   |
|-------------------|--------|
| Greater than 60   | High   |
| Between 30 and 60 | Medium |
| Less than 30      | Low    |

### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### 2. Type of Construction

| Type of Construction                                  | Risk   |
|-------------------------------------------------------|--------|
| Building with several floors                          | High   |
| Family house with an average height greater than 10 m | Medium |
| Family house                                          | Low    |

#### 3. Open Area

| Open Area                           | Risk   |
|-------------------------------------|--------|
| Greater than 3500m <sup>2</sup>     | High   |
| Between 1000 and 3500m <sup>2</sup> | Medium |
| Less than 1000m <sup>2</sup>        | Low    |

#### 4. Localization of the Installation

| Localization of the Installation | Risk   |
|----------------------------------|--------|
| Rural                            | High   |
| Downtown surrounding areas       | Medium |
| Downtown                         | Low    |

#### 5. Type of Electrical Distribution

| Type of Electrical Distribution | Risk   |
|---------------------------------|--------|
| Aerial Line                     | High   |
| Underground Line (Star)         | Medium |
| Underground Line (Ring)         | Low    |

#### 6. Proximity to the Substation

| Proximity to the Substation | Risk   |
|-----------------------------|--------|
| Between 600 m and 3 km      | High   |
| Between 300 m and 600 m     | Medium |
| Less than 300 m             | Low    |

Calculation of the **Risk Level Related with the Lightning Discharge (RLRLD)**:

$$\text{RLRLD} = (\text{Nbr. High Risks} \times 4) + (\text{Nbr. Medium Risks} \times 2) + \text{Nbr. Low Risks}$$

| If the RLRLD is:         | RISK   |
|--------------------------|--------|
| Equal or less than 10    | LOW    |
| Between 11 and 17        | MEDIUM |
| Equal or greater than 17 | HIGH   |

# Instructions for the Selection, Installation and Use

## MODUS 55 series

### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### B) Definition of the Importance of the Damages Produced by the Over Voltage

For the definition of this factor, it must be analysed:

##### 1. Working time of the installation

| Working time                            | Importance |
|-----------------------------------------|------------|
| Very Critical - 24 hours                | 4          |
| Critical - between 8 hours and 24 hours | 2          |
| Not critical - less than 8 hours        | 1          |

##### 2. Amount of sensible equipments

| Amount of sensible equipments                | Importance |
|----------------------------------------------|------------|
| Great concentration of sensible equipments   | 4          |
| Sensible equipments present in certain areas | 2          |
| Few sensible equipments                      | 1          |

##### 3. Cost of the equipments

| Cost of the equipments         | Importance |
|--------------------------------|------------|
| Greater than de 100.000 €      | 4          |
| Between 100.000 € and 30.000 € | 3          |
| Between 30.000 € and 10.000 €  | 2          |
| Less than 10.000 €             | 1          |

##### 4. History of damages

| History of Damages                                                        | Importance |
|---------------------------------------------------------------------------|------------|
| Existence of previous over voltages with damages in the equipments        | 4          |
| Existence of previous over voltages without any damages in the equipments | 2          |
| No existence of previous over voltages                                    | 1          |

The value of the IMPORTANCE OF THE DAMAGES PRODUCED BY THE OVER VOLTAGE (IDPOV) is calculated by the sum of the above item:

| If the total is:         | Importance |
|--------------------------|------------|
| Equal or less than 6     | LEVEL 3    |
| Between 7 and 11         | LEVEL 2    |
| Equal or greater than 12 | LEVEL 1    |

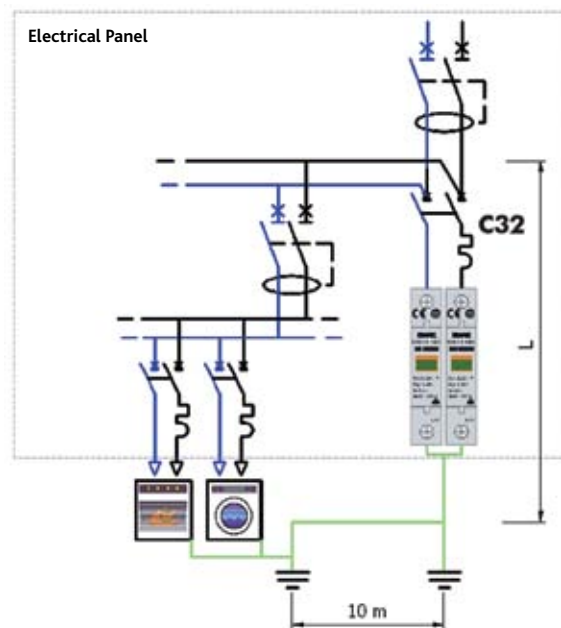
Based on the values of RISK and IMPORTANCE previously calculated, and considering the TYPE OF INSTALLATION and the level of the electrical panel into the installation, it is possible to determine the value of the Maximum Current (Imax) using the following table:

| RISK   | IMPORTANCE | TYPE OF INSTALLATION |                 |            |                 |            |                 |
|--------|------------|----------------------|-----------------|------------|-----------------|------------|-----------------|
|        |            | Residential          |                 | Tertiary   |                 | Industrial |                 |
|        |            | Main Panel           | Secondary Panel | Main Panel | Secondary Panel | Main Panel | Secondary Panel |
| HIGH   | LEVEL 1    | 40kA                 | 20kA            | 40kA       | 20kA            | 60kA       | 20kA            |
|        | LEVEL 2    | 60kA                 | 20kA            | 60kA       | 20kA            | 60kA       | 40kA            |
|        | LEVEL 3    | 60kA                 | 20kA            | 60kA       | 40kA            | 60kA       | 60kA            |
| MEDIUM | LEVEL 1    | 40kA                 | 20kA            | 40kA       | 20kA            | 40kA       | 20kA            |
|        | LEVEL 2    | 40kA                 | 20kA            | 60kA       | 20kA            | 60kA       | 20kA            |
|        | LEVEL 3    | 40kA                 | 20kA            | 60kA       | 40kA            | 60kA       | 40kA            |
| LOW    | LEVEL 1    | 20kA                 | 10kA            | 20kA       | 10kA            | 40kA       | 20kA            |
|        | LEVEL 2    | 20kA                 | 10kA            | 20kA       | 10kA            | 40kA       | 20kA            |
|        | LEVEL 3    | 20kA                 | 10kA            | 40kA       | 20kA            | 40kA       | 20kA            |

### Over-Voltage and Surge Protection Devices (SPD) POWER TYPE

#### Rules for the installation of SPDs

1. The correct operation and performance of the SPDs are assured when the ground installation is made in accordance with the official electrical codes, rules and prescriptions. Determined by the government or by the official entities.
2. The total length of the connection cables to the SPD (L) must be as short as possible (<0,5m).
3. It must be avoided to make derivations in the circuit of the SPD. With currents up to 50 A, the derivations must be made over the same terminals of the SPD (terminal's connection capacity: 2 x 20mm<sup>2</sup> cross section cables).
4. The circuit where the SPDs are connected must be protected against overloads and short circuits. It is recommended the use of a MCB of 32 A - C Curve C (C32).
5. If the installation has different protection levels against over voltages, it is recommended that the length of the cable that connect the main SPD with a secondary SPD is greter than 1m, in order to avoid the simultaneous conduction of both.



# Certifications of the Products



| MEC 21 Series | LOGUS 90 Series          | 2600 Series        | 47 Series               | WATERPROOF 48 Series |
|---------------|--------------------------|--------------------|-------------------------|----------------------|
| 21011         | 90211 C                  | 26011 C            | 47011 S                 | 48011 C              |
| 21012         | 90212 C                  | 26051 C            | 47012 S                 | 48012 C              |
| 21013         | 90331 C                  | 26061 C            | 47013 S                 | 48013 C              |
| 21021         | 90332 C                  | 26071 C            | 47051 S                 | 48051 C              |
| 21023         |                          | 26101 C            | 47052 S                 | 48052 C              |
| 21031         |                          | 26121 C            | 47061 S                 | 48061 C              |
| 21051         | <b>Sirius 70 Series</b>  | 26131 C            | 47071 S                 | 48071 C              |
| 21052         |                          | 26132 C            | 47072 S                 | 48072 C              |
| 21061         | 70211 C                  | 26157 C            | 47073 S                 | 48073 C              |
| 21065         | 70212 C                  | 26158 C            | 47101 S                 | 48101 C              |
| 21071         | 70321 C                  | 26481 C            | 47112 S                 | 48112 C              |
| 21072         | 70322 C                  | 26491 C            | 47121 S                 | 48122 C              |
| 21073         | 70331 C                  |                    | 47122 S                 | 48131 C              |
| 21075         | 70332 C                  |                    | 47131 S                 | 48132 C              |
| 21091         |                          | <b>3700 Series</b> | 47132 S                 | 48151 C              |
| 21092         |                          |                    | 47151 S                 | 48152 C              |
| 21101         | <b>Apolo 5000 Series</b> | 37011 C            | 47152 S                 | 48281 C              |
| 21103         |                          | 37012 C            | 47155 S                 | 48283 C              |
| 21111         |                          | 37013 C            | 47201 S                 | 48290 C              |
| 21121         | 50211 C                  | 37051 C            | 47281 S                 | 48291 C              |
| 21131         | 50212 C                  | 37061 C            | 47290 S                 | 48361 C              |
| 21151         | 50321 C                  | 37071 C            |                         | 48362 C              |
| 21152         | 50322 C                  | 37072 C            | <b>QUADRO 45 Series</b> | 48472 C              |
| 21155         | 50331 C                  | 37073 C            |                         | 48482 C              |
| 21173         | 50332 C                  | 37101 C            |                         | 48491 C              |
| 21174         |                          | 37111 C            | 45111 S                 | 48861 C              |
| 21281         |                          | 37112 C            | 45112 S                 | 48862 C              |
| 21283         |                          | 37121 C            | 45116 S                 | 48865 C              |
| 21290         |                          | 37122 C            | 45117 S                 | 48992 A              |
| 21291         |                          | 37131 C            | 45131 S                 |                      |
| 21292         |                          | 37132 C            | 45132 S                 |                      |
| 21301         |                          | 37151 C            | 45136 S                 |                      |
| 21302         |                          | 37152 C            | 45137 S                 |                      |
| 21303         |                          | 37157 C            |                         |                      |
| 21351         |                          | 37158 C            |                         |                      |
| 21352         |                          | 37201 C            |                         |                      |
| 21471         |                          | 37281 C            |                         |                      |
| 21481         |                          | 37290 C            |                         |                      |
| 21491         |                          | 37991 A            |                         |                      |
|               |                          | 37992 A            |                         |                      |
|               |                          | 37993 A            |                         |                      |

Note: MEC 21 Series - Mechanisms certified with Cover Plates/Rockers and Frames LOGUS 90, Sirius 70 and Apolo 5000 Series

# Certifications of the Products



| 10 Series - Cable-trunkings for Electrical Installations and Telecommunications |         |         |         | 16 Series - Distribution Modular Cable-trunkings |         | 13 Series - Trunkings for Protection of Cables and Pipes |         |
|---------------------------------------------------------------------------------|---------|---------|---------|--------------------------------------------------|---------|----------------------------------------------------------|---------|
| 10010 C                                                                         | 10050 C | 10090 C | 10951 A | 16010 C                                          | 16060 C | 13010 C                                                  | 13070 C |
| 10011 A                                                                         | 10051 A | 10091 A | 10952 A | 16011 A                                          | 16061 A | 13012 A                                                  | 13072 A |
| 10012 A                                                                         | 10052 A | 10092 A | 10953 A | 16012 A                                          | 16062 A | 13013 A                                                  | 13073 A |
| 10013 A                                                                         | 10053 A | 10093 A | 10954 A | 16013 A                                          | 16063 A | 13014 A                                                  | 13074 A |
| 10014 A                                                                         | 10054 A | 10094 A | 10961 A | 16014 A                                          | 16064 A | 13015 A                                                  | 13075 A |
| 10015 A                                                                         | 10055 A | 10095 A | 10962 A | 16015 A                                          | 16065 A | 13016 A                                                  | 13076 A |
| 10016 A                                                                         | 10056 A | 10096 A | 10963 A | 16016 A                                          | 16066 A |                                                          |         |
| 10017 A                                                                         | 10057 A | 10098 A | 10964 A |                                                  |         | 13020 C                                                  | 13080 A |
| 10018 A                                                                         | 10058 A | 10099 A | 10965 A | 16020 C                                          | 16971 A | 13022 A                                                  | 13082 A |
|                                                                                 |         |         | 10966 A | 16021 A                                          | 16972 A | 13023 A                                                  | 13083 A |
| 10020 C                                                                         | 10060 C | 10100 C | 10967 A | 16022 A                                          |         | 13024 A                                                  | 13084 A |
| 10021 A                                                                         | 10061 A | 10101 A | 10968 A | 16023 A                                          |         | 13025 A                                                  | 13085 A |
| 10022 A                                                                         | 10062 A | 10102 A | 10975 A | 16024 A                                          |         | 13026 A                                                  | 13086 A |
| 10023 A                                                                         | 10063 A | 10103 A | 10976 A | 16025 A                                          |         |                                                          |         |
| 10024 A                                                                         | 10064 A | 10104 A | 10981 A | 16026 A                                          |         | 13030 C                                                  |         |
| 10025 A                                                                         | 10065 A | 10105 A | 10982 A |                                                  |         | 13032 A                                                  |         |
| 10026 A                                                                         | 10066 A | 10106 A | 10984 A | 16030 C                                          |         | 13033 A                                                  |         |
| 10027 A                                                                         | 10067 A | 10107 A | 10985 A | 16031 A                                          |         | 13034 A                                                  |         |
| 10028 A                                                                         | 10068 A | 10108 A | 10986 A | 16032 A                                          |         | 13035 A                                                  |         |
|                                                                                 |         |         | 10987 A | 16033 A                                          |         | 13036 A                                                  |         |
| 10030 C                                                                         | 10070 C | 10140 C | 10988 A | 16034 A                                          |         |                                                          |         |
| 10031 A                                                                         | 10071 A | 10141 A | 10989 A | 16035 A                                          |         | 13040 C                                                  |         |
| 10032 A                                                                         | 10072 A | 10142 A |         | 16036 A                                          |         | 13042 A                                                  |         |
| 10033 A                                                                         | 10073 A | 10143 A | 10991 A |                                                  |         | 13043 A                                                  |         |
| 10034 A                                                                         | 10074 A | 10144 A | 10993 A | 16040 C                                          |         | 13044 A                                                  |         |
| 10035 A                                                                         | 10075 A | 10145 A | 10998 A | 16041 A                                          |         | 13045 A                                                  |         |
| 10036 A                                                                         | 10076 A | 10146 A |         | 16042 A                                          |         | 13046 A                                                  |         |
| 10037 A                                                                         | 10077 A | 10147 A |         | 16043 A                                          |         |                                                          |         |
| 10038 A                                                                         | 10078 A | 10148 A |         | 16044 A                                          |         | 13050 C                                                  |         |
|                                                                                 | 10079 A | 10149 A |         | 16045 A                                          |         | 13052 A                                                  |         |
| 10040 C                                                                         |         |         |         | 16046 A                                          |         | 13053 A                                                  |         |
| 10041 A                                                                         | 10080 C | 10150 C |         |                                                  |         | 13054 A                                                  |         |
| 10042 A                                                                         | 10081 A |         |         | 16050 C                                          |         | 13055 A                                                  |         |
| 10043 A                                                                         | 10082 A | 10160 C |         | 16051 A                                          |         | 13056 A                                                  |         |
| 10044 A                                                                         | 10083 A |         |         | 16052 A                                          |         |                                                          |         |
| 10045 A                                                                         | 10084 A | 10170 C |         | 16053 A                                          |         | 13060 C                                                  |         |
| 10046 A                                                                         | 10085 A |         |         | 16054 A                                          |         | 13062 A                                                  |         |
| 10047 A                                                                         | 10086 A |         |         | 16055 A                                          |         | 13063 A                                                  |         |
| 10048 A                                                                         | 10088 A |         |         | 16056 A                                          |         | 13064 A                                                  |         |
|                                                                                 | 10089 A |         |         |                                                  |         | 13065 A                                                  |         |
|                                                                                 |         |         |         |                                                  |         | 13066 A                                                  |         |

## Accessories for Electrical Installations

81211  
81221

## Certifications of the Products



| MEC 21 Series                                                                                                                                                           | 47 Series                                                                                                                                                                                                     | MEC 21 Series                                                                                                                                                                             | 47 Series                                                                                                                                                                               | MEC 21 Series                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 21011<br>21012<br>21013<br>21021<br>21023<br>21051<br>21052<br>21061<br>21071<br>21072<br>21073<br>21101<br>21131<br>21151<br>21152<br>21155<br>21281<br>21283<br>21290 | 47011 S<br>47012 S<br>47061 S<br>47071 S<br>47101 S<br>47131 S<br>47132 S<br>47151 S<br>47152 S<br>47281 S                                                                                                    | 21011<br>21012<br>21013<br>21021<br>21023<br>21051<br>21052<br>21061<br>21071<br>21072<br>21073<br>21101<br>21111<br>21121<br>21151<br>21152<br>21155<br>21281<br>21283<br>21290<br>21291 | 47011 S<br>47012 S<br>47013 S<br>47051 S<br>47061 S<br>47071 S<br>47072 S<br>47073 S<br>47101 S<br>47151 S<br>47281 S<br>47290 S                                                        | 21011<br>21012<br>21013<br>21021<br>21023<br>21051<br>21052<br>21061<br>21071<br>21072<br>21073<br>21101<br>21131<br>21151<br>21152<br>21155<br>21281<br>21283<br>21290<br>21291<br>21491 |
| 3700 Series                                                                                                                                                             | WATERPROOF 48 SERIES                                                                                                                                                                                          |                                                                                                                                                                                           | QUADRO 45 Series                                                                                                                                                                        |                                                                                                                                                                                           |
| 37011 C<br>37012 C<br>37071 C<br>37101 C<br>37131 C<br>37132 C<br>37151 C<br>37157 C<br>37158 C<br>37290 C                                                              | 48011 C<br>48012 C<br>48013 C<br>48051 C<br>48052 C<br>48061 C<br>48071 C<br>48072 C<br>48073 C<br>48101 C<br>48131 C<br>48151 C<br>48152 C<br>48281 C<br>48283 C<br>48290 C<br>48291 C<br>48861 C<br>48862 C | 3700 Series                                                                                                                                                                               | 45112 S                                                                                                                                                                                 |                                                                                                                                                                                           |
| QUADRO 45 Series                                                                                                                                                        |                                                                                                                                                                                                               |                                                                                                                                                                                           | WATERPROOF 48 SERIES                                                                                                                                                                    |                                                                                                                                                                                           |
| 45131 S<br>45132 S                                                                                                                                                      |                                                                                                                                                                                                               | 37011 C<br>37012 C<br>37013 C<br>37051 C<br>37061 C<br>37071 C<br>37072 C<br>37073 C<br>37101 C<br>37112 C<br>37122 C<br>37151 C<br>37157 C<br>37158 C<br>37290 C                         | 48011 C<br>48012 C<br>48013 C<br>48051 C<br>48052 C<br>48061 C<br>48071 C<br>48072 C<br>48073 C<br>48101 C<br>48112 C<br>48151 C<br>48152 C<br>48281 C<br>48283 C<br>48290 C<br>48291 C | Sirius 70 Series<br><br>70331 C<br>70332 C<br><br><br>Apolo 5000 Series<br><br>50183 C<br>50343 C<br>50331 C<br>50332 C                                                                   |

Note: MEC 21 Series - Mechanisms certified with Cover Plates/Rockers and Frames LOGUS 90, Sirius 70 and Apolo 5000 Series

## Certifications of the Products



### 47 Series

47011 S  
47012 S  
47013 S  
47051 S  
47052 S  
47061 S  
47071 S  
47072 S  
47073 S  
47101 S  
47131 S  
47132 S  
47151 S  
47152 S  
47155 S  
47281 S  
47290 S



### MEC 21 Series

21011  
21012  
21013  
21021  
21023  
21051  
21052  
21061  
21071  
21072  
21073  
21101  
21111  
21151  
21152  
21155  
21281  
21283  
21290

### 47 Series

47011 S  
47012 S  
47013 S  
47051 S  
47052 S  
47061 S  
47071 S  
47072 S  
47073 S  
47101 S  
47112 S  
47151 S  
47152 S  
47155 S  
47281 S  
47290 S



### WATERPROOF 48 SERIES

48011 C  
48012 C  
48013 C  
48051 C  
48052 C  
48061 C  
48071 C  
48072 C  
48073 C  
48101 C  
48112 C  
48151 C  
48152 C  
48281 C  
48283 C  
48290 C  
48291 C



### MEC 21 Series

21975  
21978  
21980

# Certifications of the Products



## MODUS 55 Series - Miniature Circuit Breakers (MCB)

|           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|
| 55106 1CP | 55106 4CP | 55101 2CS | 55101 1BS | 55101 3BS | 55101 2DS |
| 55110 1CP | 55110 4CP | 55102 2CS | 55102 1BS | 55102 3BS | 55102 2DS |
| 55116 1CP | 55116 4CP | 55103 2CS | 55103 1BS | 55103 3BS | 55103 2DS |
| 55120 1CP | 55120 4CP | 55104 2CS | 55104 1BS | 55104 3BS | 55104 2DS |
| 55125 1CP | 55125 4CP | 55106 2CS | 55106 1BS | 55106 3BS | 55106 2DS |
| 55132 1CP | 55132 4CP | 55110 2CS | 55110 1BS | 55110 3BS | 55110 2DS |
| 55140 1CP | 55140 4CP | 55116 2CS | 55116 1BS | 55116 3BS | 55116 2DS |
| 55150 1CP | 55150 4CP | 55120 2CS | 55120 1BS | 55120 3BS | 55120 2DS |
| 55163 1CP | 55163 4CP | 55125 2CS | 55125 1BS | 55125 3BS | 55125 2DS |
|           |           | 55132 2CS | 55132 1BS | 55132 3BS | 55132 2DS |
| 55106 5CP | 55101 1CS | 55140 2CS | 55140 1BS | 55140 3BS | 55140 2DS |
| 55110 5CP | 55102 1CS | 55150 2CS | 55150 1BS | 55150 3BS | 55150 2DS |
| 55116 5CP | 55103 1CS | 55163 2CS | 55163 1BS | 55163 3BS | 55163 2DS |
| 55120 5CP | 55104 1CS |           |           |           |           |
| 55125 5CP | 55106 1CS | 55101 3CS | 55101 6BS | 55101 4BS | 55101 3DS |
| 55132 5CP | 55110 1CS | 55102 3CS | 55102 6BS | 55102 4BS | 55102 3DS |
| 55140 5CP | 55116 1CS | 55103 3CS | 55103 6BS | 55103 4BS | 55103 3DS |
| 55150 5CP | 55120 1CS | 55104 3CS | 55104 6BS | 55104 4BS | 55104 3DS |
| 55163 5CP | 55125 1CS | 55106 3CS | 55106 6BS | 55106 4BS | 55106 3DS |
|           | 55132 1CS | 55110 3CS | 55110 6BS | 55110 4BS | 55110 3DS |
| 55106 2CP | 55140 1CS | 55116 3CS | 55116 6BS | 55116 4BS | 55116 3DS |
| 55110 2CP | 55150 1CS | 55120 3CS | 55120 6BS | 55120 4BS | 55120 3DS |
| 55116 2CP | 55163 1CS | 55125 3CS | 55125 6BS | 55125 4BS | 55125 3DS |
| 55120 2CP |           | 55132 3CS | 55132 6BS | 55132 4BS | 55132 3DS |
| 55125 2CP | 55101 6CS | 55140 3CS | 55140 6BS | 55140 4BS | 55140 3DS |
| 55132 2CP | 55102 6CS | 55150 3CS | 55150 6BS | 55150 4BS | 55150 3DS |
| 55140 2CP | 55103 6CS | 55163 3CS | 55163 6BS | 55163 4BS | 55163 3DS |
| 55150 2CP | 55104 6CS |           |           |           |           |
| 55163 2CP | 55106 6CS | 55101 4CS | 55101 2BS | 55101 1DS | 55101 4DS |
|           | 55110 6CS | 55102 4CS | 55102 2BS | 55102 1DS | 55102 4DS |
| 55106 3CP | 55116 6CS | 55103 4CS | 55103 2BS | 55103 1DS | 55103 4DS |
| 55110 3CP | 55120 6CS | 55104 4CS | 55104 2BS | 55104 1DS | 55104 4DS |
| 55116 3CP | 55125 6CS | 55106 4CS | 55106 2BS | 55106 1DS | 55106 4DS |
| 55120 3CP | 55132 6CS | 55110 4CS | 55110 2BS | 55110 1DS | 55110 4DS |
| 55125 3CP | 55140 6CS | 55116 4CS | 55116 2BS | 55116 1DS | 55116 4DS |
| 55132 3CP | 55150 6CS | 55120 4CS | 55120 2BS | 55120 1DS | 55120 4DS |
| 55140 3CP | 55163 6CS | 55125 4CS | 55125 2BS | 55125 1DS | 55125 4DS |
| 55150 3CP |           | 55132 4CS | 55132 2BS | 55132 1DS | 55132 4DS |
| 55163 3CP |           | 55140 4CS | 55140 2BS | 55140 1DS | 55140 4DS |
|           |           | 55150 4CS | 55150 2BS | 55150 1DS | 55150 4DS |
|           |           | 55163 4CS | 55163 2BS | 55163 1DS | 55163 4DS |

# Certifications of the Products



| MODUS 55 Series - Miniature Circuit Breakers (MCB) |           |           |           | MODUS 55 Series - Residual Current Circuit Breakers (RCCB) |  |
|----------------------------------------------------|-----------|-----------|-----------|------------------------------------------------------------|--|
| 55101 1CU                                          | 55101 4CU | 55101 3BU | 55101 2DU | 55216 2AC                                                  |  |
| 55102 1CU                                          | 55102 4CU | 55102 3BU | 55102 2DU | 55225 2AC                                                  |  |
| 55103 1CU                                          | 55103 4CU | 55103 3BU | 55103 2DU |                                                            |  |
| 55104 1CU                                          | 55104 4CU | 55104 3BU | 55104 2DU | 55216 2BC                                                  |  |
| 55106 1CU                                          | 55106 4CU | 55106 3BU | 55106 2DU | 55225 2BC                                                  |  |
| 55110 1CU                                          | 55110 4CU | 55110 3BU | 55110 2DU | 55240 2BC                                                  |  |
| 55116 1CU                                          | 55116 4CU | 55116 3BU | 55116 2DU | 55263 2BC                                                  |  |
| 55120 1CU                                          | 55120 4CU | 55120 3BU | 55120 2DU |                                                            |  |
| 55125 1CU                                          | 55125 4CU | 55125 3BU | 55125 2DU | 55225 4BC                                                  |  |
| 55132 1CU                                          | 55132 4CU | 55132 3BU | 55132 2DU | 55240 4BC                                                  |  |
| 55140 1CU                                          | 55140 4CU | 55140 3BU | 55140 2DU | 55263 4BC                                                  |  |
| 55150 1CU                                          | 55150 4CU | 55150 3BU | 55150 2DU |                                                            |  |
| 55163 1CU                                          | 55163 4CU | 55163 3BU | 55163 2DU | 55225 2DC                                                  |  |
|                                                    |           |           |           | 55240 2DC                                                  |  |
|                                                    |           |           |           | 55263 2DC                                                  |  |
| 55101 2CU                                          | 55101 1BU | 55101 4BU | 55101 3DU |                                                            |  |
| 55102 2CU                                          | 55102 1BU | 55102 4BU | 55102 3DU |                                                            |  |
| 55103 2CU                                          | 55103 1BU | 55103 4BU | 55103 3DU | 55225 4DC                                                  |  |
| 55104 2CU                                          | 55104 1BU | 55104 4BU | 55104 3DU | 55240 4DC                                                  |  |
| 55106 2CU                                          | 55106 1BU | 55106 4BU | 55106 3DU | 55263 4DC                                                  |  |
| 55110 2CU                                          | 55110 1BU | 55110 4BU | 55110 3DU |                                                            |  |
| 55116 2CU                                          | 55116 1BU | 55116 4BU | 55116 3DU | 55225 2EC                                                  |  |
| 55120 2CU                                          | 55120 1BU | 55120 4BU | 55120 3DU | 55240 2EC                                                  |  |
| 55125 2CU                                          | 55125 1BU | 55125 4BU | 55125 3DU | 55263 2EC                                                  |  |
| 55132 2CU                                          | 55132 1BU | 55132 4BU | 55132 3DU |                                                            |  |
| 55140 2CU                                          | 55140 1BU | 55140 4BU | 55140 3DU | 55225 4EC                                                  |  |
| 55150 2CU                                          | 55150 1BU | 55150 4BU | 55150 3DU | 55240 4EC                                                  |  |
| 55163 2CU                                          | 55163 1BU | 55163 4BU | 55163 3DU | 55263 4EC                                                  |  |
|                                                    |           |           |           |                                                            |  |
| 55101 3CU                                          | 55101 2BU | 55101 1DU | 55101 4DU |                                                            |  |
| 55102 3CU                                          | 55102 2BU | 55102 1DU | 55102 4DU |                                                            |  |
| 55103 3CU                                          | 55103 2BU | 55103 1DU | 55103 4DU |                                                            |  |
| 55104 3CU                                          | 55104 2BU | 55104 1DU | 55104 4DU |                                                            |  |
| 55106 3CU                                          | 55106 2BU | 55106 1DU | 55106 4DU |                                                            |  |
| 55110 3CU                                          | 55110 2BU | 55110 1DU | 55110 4DU |                                                            |  |
| 55116 3CU                                          | 55116 2BU | 55116 1DU | 55116 4DU |                                                            |  |
| 55120 3CU                                          | 55120 2BU | 55120 1DU | 55120 4DU |                                                            |  |
| 55125 3CU                                          | 55125 2BU | 55125 1DU | 55125 4DU |                                                            |  |
| 55132 3CU                                          | 55132 2BU | 55132 1DU | 55132 4DU |                                                            |  |
| 55140 3CU                                          | 55140 2BU | 55140 1DU | 55140 4DU |                                                            |  |
| 55150 3CU                                          | 55150 2BU | 55150 1DU | 55150 4DU |                                                            |  |
| 55163 3CU                                          | 55163 2BU | 55163 1DU | 55163 4DU |                                                            |  |

## Certifications of the Company

# ISO 9001



## ISO 14001



## Certifications of the Company

# OHSAS 18001



 **Instituto do Ambiente**  
Associação de Empresas de Ambiente do Continente e das Ilhas

 **Certificado de Registo**



**Organização** EFAPEL - Empresa Fabril de Produtos Eléctricos, S. A.

**Ramo de actividade** Fabrico de material eléctrico de baixa tensão

**Morada** Apartado 3  
3200-959 Serpins

**Nº de registo** P-000005

**Data de registo** 06-05-2003

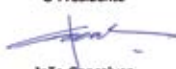
**Data de renovação de registo** 03-08-2006

**Validade do certificado** 03-08-2009

O Instituto do Ambiente, na qualidade de Organismo Competente segundo o Decreto-Lei n.º 142/2002, de 20 de Maio de 2002, certifica que a organização acima indicada tem um sistema de gestão ambiental de acordo com o Regulamento (CE) n.º 761/2001, do Parlamento Europeu e do Conselho, de 19 de Março de 2001, para promover a melhoria contínua do seu desempenho ambiental. A organização publica uma Declaração Ambiental validada por um verificador acreditado, e está autorizada a utilizar o logotipo EMAS.

Amadora, 3 de Agosto de 2006

O Presidente

  
João Gonçalves

 **Instituto do Ambiente**  
Associação de Empresas de Ambiente do Continente e das Ilhas

 **Anexo ao Certificado de Registo Nº P-000005**

**Organização titular** EFAPEL - Empresa Fabril de Produtos Eléctricos, S. A.

**Locais registados** Sede e Unidade Produtiva de Serpins (edifício 1 e 2) - Apartado 3  
3200-959 Serpins  
Unidade Produtiva do Alto do Padrão  
Zona Industrial do Alto do Padrão  
3200-133 Lousã

**Actividade principal** Fabrico de material eléctrico de baixa tensão

**Código NACE** 31.20

**Contacto** Paula Cristina Vicente Nunes Palmeira

**Endereço Electrónico** dir.sgi@efapel.pt

**Telefone** 239 970 130

**Fax** 239 970 137

**Identificação do verificador** APCER - Associação Portuguesa de Certificação

**Morada do verificador** Edifício Rosa - Praça das Indústrias  
1300-307 Lisboa

**Nº registo do verificador** 02/VAM.001

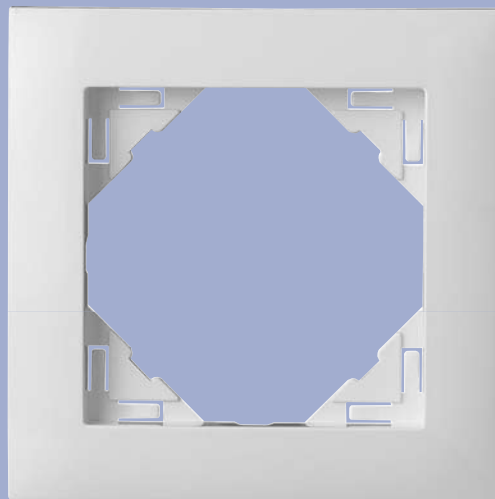
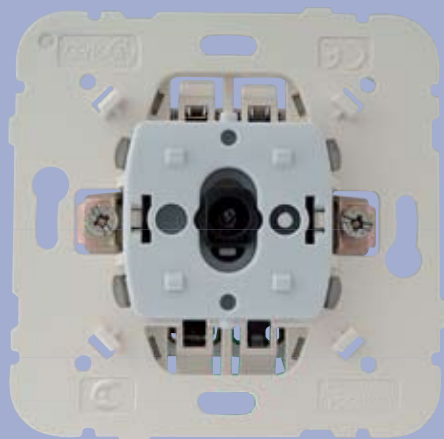
Amadora, 3 de Agosto de 2006

O Presidente

  
João Gonçalves

MEC 21 Series

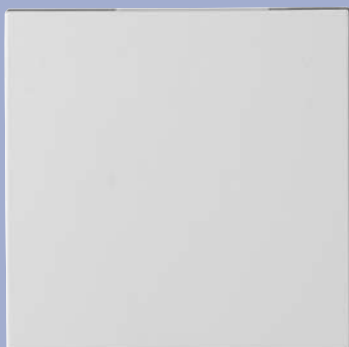
Frame  
BR - White



Ref. 21011

Ref. 90910 TBR  
70910 TBR  
50910 TBR

Rocker  
BR - White



Ref. 90601 TBR  
70601 TBR  
50601 TBR



Complete Device  
BR - White

