Panel building
devices and solutions
Product overview catalogue

Merlin Gerin
Square D
Telemecanique

Schneider Electric
Schneider Electric's expertise is founded on the skills of its three international brands - Merlin Gerin, Square D and Telemecanique. It has accumulated over 100 years experience in the distribution and control of electrical power.

The products featured in this catalogue have been specifically selected to suit the needs of all types of Panelbuilders.

The product sections contain an overview of the relevant product ranges, features and benefits and some basic technical information.

At the bottom of each product range page, details are given on the relevant technical catalogue that will contain more information on the individual products.

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**Merlin Gerin**

is a world leader in the manufacture and supply of high, medium and low voltage products for the distribution, protection, control and management of electrical systems and is focused on the needs of both the commercial and industrial sectors. The newly launched VDI Network Solutions offer provides flexible, configurable Ethernet systems for all communication needs.

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**Square D**

A total quality organisation and its business is to put electricity to work productively and effectively, protecting people, buildings and equipment. Its low voltage electrical distribution equipment, systems and services are used extensively in residential and commercial applications.

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**Telemecanique**

A UK market leader and world expert in automation and control. It provides complete solutions, with its range of components, Modicon range of high technology programmable controllers (PLCs), multiple fieldbus and Ethernet communication networks, HMI, motion control systems, variable speed drives and communications software. In addition, it offers power distribution through prefabricated busbar trunking.

This catalogue encompasses the traditional brands above plus other associated companies and divisions of Schneider Electric including MITA and Sarel.
## Contents

### Medium voltage
- Metalclad vacuum circuit breaker: Genie EVO — Page 8
- Secondary ring main: Ringmaster — Page 9
- Remote control and monitoring: Telecontrol — Page 11
- Medium voltage circuit breaker: Evolis — Page 12
- Protection units: Sepam 1000+ — Page 13
- Accessories — Page 14

### Power distribution transformers
- Cast resin transformers: Trihal — Page 16
- Liquid filled transformers: Fast-Trans — Page 17
- Package substations: SAIF — Page 18

### Low voltage systems
- Indoor switchboard - functional systems: Prisma P — Page 20
- Indoor switchboard - functional systems: Prisma G — Page 21
- MCCB pan assemblies — Page 22
- MCB pan assemblies: Isobar 4 Evo — Page 23
- Busbar trunking: Canalis — Page 24

### Low voltage circuit protection
- Air circuit breakers: Masterpact NW — Page 26
- Air circuit breakers: Masterpact NT — Page 27
- Moulded case circuit breakers (MCCB)
  - NS630-1600A — Page 28
  - NS1600-3200A — Page 29
  - Compact NS — Page 30
- Switch disconnectors: Interpact — Page 31
- High current miniature circuit breakers: C120 — Page 32
- High breaking circuit breakers: NG125 — Page 33
- Magnetic circuit breakers (MCCB): NS80 — Page 34
- Merlin Gerin miniature circuit breakers
  - C60 — Page 35
  - DP&N — Page 36
- Earth leakage protection — Page 37
- Fuse switches: Fupact — Page 38

### Low voltage control devices
- Time switches — Page 40
- Impulse relays — Page 41
- Contactors — Page 42
- Time clocks — Page 43
- Surge arresters — Page 44

### Power quality
- Active filters: Sinewave — Page 46
- MV/LV power factor correction — Page 47

### Metering and monitoring devices
- Watt hour meters — Page 50
- Secondary metering equipment — Page 51
- Circuit monitoring entry level system: PowerLogic — Page 52
## Automation

- **Programmable logic controllers (PLC’s)**
- **HVAC controllers**

## Lighting control

- **Traditional control**
- **Intelligent communicating control**

## Motor control devices

- **Variable speed drives**
  - Altivar
- **Motor starting systems**
  - TeSys
- **Model U intelligent starter system**
  - TeSys
- **Soft starts**
  - LH 4

## Human machine interfaces

- **User interface panels**
  - Magelis
- **Pushbuttons and indicators**
  - Harmony

## Control panel equipment

- **Power supplies**
  - ABL7
- **Transformers**
  - ABL6
- **Switch disconnectors**
  - Vario
- **Connection interface**
  - Telefast 2
- **Smart relays**
  - Zelio
- **Plug-in relays**
  - Zelio relay
- **Measurement relays**
- **Interface modules**
- **Electronic timers**
  - Zelio time
- **Industrial circuit breakers**
  - GB2
- **Busbar systems**
  - Canalis®
- **Terminals**
  - AB1
- **Cable ends**
- **Industrial plugs and sockets**

## Enclosures

- **Industrial metal boxes**
- **Industrial plastic boxes**
- **Steel enclosures (wall mounted)**
- **Polyester enclosures (wall mounted)**
  - Thallasa
- **Steel enclosures (floor standing)**
- **Polyester enclosures (floor standing)**
  - Thallasa
- **Wall mounted steel enclosures IP55**
- **19” rack systems**
- **Control desks**
This section contains information on the indoor/outdoor range of medium voltage switchgear used in large commercial and industrial applications, such as hospitals, shopping centres and manufacturing plants.

It includes the following:

- Vacuum indoor primary switchgear
- Secondary outdoor ring main units
- Secondary outdoor extensible circuit breakers
- Telecontrol cabinets to provide remote control for the switchgear
- Circuit breakers
- Protection and energy management systems
- Accessories
## GenieEvo

### Medium voltage

### Electrical distribution equipment

#### Description

Metalclad vacuum circuit breaker with integral isolator designed for minimal maintenance applications.

#### Applications

Main MV switchboards requiring maximum flexibility with minimal space.

#### Features and benefits

- Separate selection of protection and control modules for complete flexibility to meet the needs of any application
- On board operations counter and contact wear indicator
- Lifecycle up to 10,000 switching operations
- Unique keyless interlocking system with active mimic
- Compliance with all relevant international standards including EATS 41-36

#### Technical characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated system voltage</td>
<td>13.8kV</td>
</tr>
<tr>
<td>Rated insulation level</td>
<td>Impulse voltage with stand (1.2/50us) 95kV peak</td>
</tr>
<tr>
<td></td>
<td>Power frequency voltage withstand (1 min) 38kV</td>
</tr>
<tr>
<td>Rated short time current</td>
<td>25kA rms</td>
</tr>
<tr>
<td>Rated short time duration</td>
<td>3 seconds</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>50/60Hz</td>
</tr>
<tr>
<td>Busbar type</td>
<td>Copper single, cast resin insulated</td>
</tr>
<tr>
<td>Busbar ratings</td>
<td>630/1250A</td>
</tr>
<tr>
<td>Internal arc rating</td>
<td>Up to 25kA for 1 second</td>
</tr>
</tbody>
</table>

### Associated technical catalogue

<table>
<thead>
<tr>
<th>GenieEvo metalclad MV switchgear 3.3-13.8kV selection guide</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MVP 5285</td>
</tr>
</tbody>
</table>
Ringmaster

Electrical distribution equipment

Medium voltage

Description

Medium voltage secondary ring main unit fully integrated three function switching in one solution (2 ring switches and 1 circuit breaker) fully weatherproof.

Applications

Ideal substation distribution unit where minimal space is required. Can be used outdoors to remove the need for indoor switchrooms and substations.

Features and benefits

- Manual or remote control options
- Interlocked MV cable test access
- Proven rotating arc circuit breaker
- Busbar and connections are cast in resin reducing the risks of faults
- Flange bolts directly onto transformer, in accordance with EATS 35-1, (or can be fitted with outgoing cable box)
- IP54 enclosure
- Simple to follow mimic providing user friendly operation
- Optional remote control capabilities to allow automatic network reconfiguration
- Reduced substation footprint
- Industry standard design
- Remote management and control options
- Virtually maintenance free
- Extensible version available
- 630 amp tee off CB option
- Self powered IDMT or TLF options eliminating the need for battery chargers

Technical characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratings</td>
<td>630A, 200A</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 13.8kV</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>25kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Ringmaster range</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVP 5337</td>
<td>Indoor/outdoor medium voltage distribution 3.3-13.8kV</td>
</tr>
</tbody>
</table>
Ringmaster extensible range

**Electrical distribution equipment**

**Medium voltage**

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**Description**

Medium voltage secondary modular switchgear designed to offer maximum flexibility in a compact design requiring minimal maintenance.

**Applications**

Outdoor or indoor modular substations.

**Features and benefits**

- Modular design
- Remote control options
- Selection of units by application - transformer feeders, isolating switches, incoming breakers
- Pre-engineered offer
- Busbar or feeder metering options
- Self powered IDMT or TLF options eliminating the need for battery chargers
- High levels of operator safety
- Low installation and ownership costs

**Technical characteristics**

<table>
<thead>
<tr>
<th>Ratings</th>
<th>200A, 630A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>Up to 13.8kV</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>25kA</td>
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**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Ringmaster medium voltage distribution switchgear</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVP 5337</td>
<td></td>
</tr>
</tbody>
</table>

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[Merlin Gerin]
Telecontrol equipment

Description

Telecontrol cabinet designed for all outdoor switchgear.

Applications

Remote control and monitoring of electrical networks.

Features and benefits

- Suitable for indoor/outdoor use
- Adjustable settings for earth fault indicators
- Comprehensive battery monitoring with deep discharge protection
- Choice protocols – WISP+ or Modbus
- Fully EMC tested to IEC 1000-4
- Selection of telecomms mediums radio and hard wired
- Minimum downtime, reducing customer minutes lost
- Saving installation costs and valuable floor space, the small and compact design can be easily mounted directly onto the Ringmaster unit
- Remote operating and reconfiguring of the network means that there is reduced manual operation
- Efficient, fast reconfiguration for optimum use of the plant
- A purpose designed actuator/motorised mechanism that allows the switch to be opened and closed remotely, together with the auxiliary relays needed for operation
- Auxiliary contacts driven directly by the switchgear shaft to ensure reliable position indication
- Facilities for local manual operation
- Current transformers to monitor load currents and operate the fault passage indicator
- High reliability, combined with minimum maintenance requirements

Technical characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>110V AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP rating</td>
<td>IP55</td>
</tr>
<tr>
<td>Battery life</td>
<td>5 hours typically</td>
</tr>
<tr>
<td>Power supply</td>
<td>230V AC</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ringmaster Talus 200E, medium voltage telecontrol interface</td>
</tr>
</tbody>
</table>
Evolis is a range of medium voltage vacuum circuit breakers that are compact and help to lower operational costs through reduced maintenance for incorporating into panelbuilder switchboards.

Applications

Evolis circuit breakers are used to protect and control public or industrial medium voltage electrical distribution networks. It is suitable for the protection of all types of applications: cables, lines, motors, transformers, etc.

Features and benefits

- No preventative maintenance such as lubrication or calibration is required before 10000 switching cycles have been reached.
- The quick to check switching operation counter shows the total number of cycles that have been performed.
- Monitors the state of the breaker by a system that measures contact wear.
- Fully internal arc rated to 100% of the switchgear breaking capacity to EATS 41-36
- Several options available to satisfy the applications needs:
  - Undervoltage release
  - Time delay for undervoltage release
  - Auxiliary circuit breaker position contact
- Fully tested and conform to all major standards, including IEC 60694 and IEC 60056
- Full range of connection accessories

Technical characteristics

<table>
<thead>
<tr>
<th>Rating</th>
<th>Up to 2500A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>Up to 17.5kV</td>
</tr>
<tr>
<td>Breaking capacity</td>
<td>25kA, 31.5kA, 40kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

Order reference

Please consult Schneider Electric
Description

The Sepam 1000+ protection unit combined with current sensors, provide a comprehensive measurement, protection and energy management system.

Applications

Designed for the operation of machines and electrical distribution networks of industrial installations and utility substations for all levels of voltage.

Features and benefits

■ No constraints for integration in cubicles due to the compact size of the base units
■ All components in the protection chain are referenced and deliverable very rapidly
■ Can provide circuit breaker diagnosis functions (number of switching operations, operating time, cumulative breaking current)
■ Direct circuit breaker control whatever type of release
■ Remote operation of the equipment through the modbus communication option
■ 16 IDMT tripping curve
■ Adjustable timer hold to detect recurrent faults
■ Protects transformers and motors against overloads, with ambient temperature compensated RSM thermal overload protection
■ Programmable protection, control and metering units, all within a single box

Technical characteristics

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Series 20</th>
<th>24 VDC, 48 to 250 VDC, 110 to 240 VDC</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Series 40</td>
<td>24 to 250 VDC, 110 to 240 VDC</td>
</tr>
<tr>
<td>Operating conditions</td>
<td>-25°C to +70°C</td>
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</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepam 1000+ series 20, 40</td>
</tr>
<tr>
<td>Sepam 1000+</td>
</tr>
</tbody>
</table>
**Description**
A complete range of accessories, giving a panelbuilder all the components required to assemble a medium voltage switchgear assembly.

**Range**
- Voltage transformers
- Voltage presence indicators
- Earthing switch
- Earthing switch operating mechanism
- Surge arresters
- Heating resistance
- Current transformer
- Busbar connection cover

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>GenieEvo metalclad</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV switchgear 3.3-13.8kV</td>
<td>MVP 5285</td>
</tr>
</tbody>
</table>
This section covers the main power transformers required to convert high voltage into low voltage for safe distribution in the building.

It includes the following:
- Indoor cast resin power transformers
- Indoor or outdoor liquid filled transformers
- Package substations
Cast resin transformers

Electrical distribution equipment

Power distribution transformers

Description

A range of cast resin transformers suitable for indoor MV/LV package substations.

Type

Trihal is a three-phase dry type transformer cast under vacuum in epoxy resin with an active filler. It is this active filler, essentially composed of trihydrated alumina, which is the origin of the Trihal trademark. Trihal is an indoor type transformer. For outdoor installation please consult us.

Standard

Trihal complies with standards:

- IEC 76-1 to 76-5
- IEC 726 (1982)

Range

- HV/LV distribution transformers from 160 to 2500 kVA up to 24 kV.
  For higher rated power and voltages please consult us
- Trihal transformers are supplied in many versions - without enclosure (IP00), with IP31 metal enclosure: see the different types on pages "options".
  The resin provides insulation for the MV winding but does not provide protection from direct contact. Only the protective enclosure version provides this protection
- HV/LV power transformers up to 15 MVA and 36 kV, please consult us

Features and benefits

- Cast resin encapsulated windings
- Integral temperature monitoring
- Standard design footprint
- A range of enclosures to suit applications where transformer is not close coupled
- Simpler design of switchboard
- Lower maintenance
- Forced ventilation options to allow over running for periods of high demand

Technical characteristics

<table>
<thead>
<tr>
<th>Conforms to standards</th>
<th>IEC 76-1 to 76-5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IEC 726 (1982)</td>
</tr>
<tr>
<td>Range</td>
<td>Up to 2500 kVA (special design up on request)</td>
</tr>
<tr>
<td>Voltages</td>
<td>11 600/433 (no load)</td>
</tr>
<tr>
<td>IP rating</td>
<td>IP00 in enclosure IP31</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>AMTED301020EN</th>
</tr>
</thead>
</table>
Liquid filled transformers

Electrical distribution equipment

Power distribution transformers

Description

Outdoor power transformer range designed to simplify installation and reduce valuable space inside or outside of a building.

Features and benefits

- The tank’s cooling corrugations expand and contract during normal operation as the transformers internal pressure changes. This allows the transformer to be fully filled, avoiding any air space above the fluid, which eliminates oxidation and sludging of the coolant.
- The Hermetically Sealed Fast-Trans range uses corrugated tanks for cooling
- The transformer is filled with mineral oil and then sealed with a bolted lid. The result: absolutely no maintenance of the cooling fluid is needed
- Small footprint
- Lower installation costs
- Virtually maintenance free

Technical characteristics

<table>
<thead>
<tr>
<th>Ratings from</th>
<th>315kVA to 2000kVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltages</td>
<td>11000/433</td>
</tr>
<tr>
<td>IP rating</td>
<td>IP 43</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
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<tr>
<td>TX 5070</td>
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</tbody>
</table>
Description

The Merlin Gerin range of package substations offers an all in one distribution solution. Complete with its own enclosure, it incorporates a distribution transformer, Ringmaster MV non-extensible switchgear, LV distribution and an integral pre-galvanised sheet steel enclosure.

Features and benefits

- Quicker to install than separate components, meaning your installation can be up and running with the minimum of delay
- Flexibility of tailored configurations are available from a wide range of Merlin Gerin products
- It is simply places onto a prepared foundation, connected up and commissioned
- Its compact design also means it can be slotted into a much smaller area than a solution with separate components
- Safety and protection of operators is ensured by direct coupling of the individual elements with provision for isolation for maintenance
- Cost and time saving achieved by direct installation of substation on site
- Typical drawing and technical specification with tender

Associated technical catalogue

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>The complete guide to transformers and package substations</td>
<td>TX 5299</td>
</tr>
<tr>
<td>One stop engineered package substations</td>
<td>AMTED301020EN</td>
</tr>
</tbody>
</table>
This section details the options available for low voltage distribution equipment.

It includes the following:
- Prisma P functional systems
- Prisma G functional systems
- MCCB pan assemblies
- Isobar 4 Evo pan assemblies
- Fuse switches
Prisma P functional systems

Electrical distribution equipment
Low voltage systems

Description

Prisma P functional system is a floor standing enclosure system that has the flexibility to form a front or rear connected switchboard with fixed or draw-out switchgear. Factory built and tested to produce a TTA, the switchgear installation and connection solutions ensure operating dependability of the electrical installation.

Applications

The Prisma P functional system can be used to build all types of main, secondary and final low voltage switchboards up to 3200A, for industrial and commercial buildings.

Features and benefits

- The same components, whether for switchgear, installation, current distribution, cable running, etc, may be installed in any of two types of enclosure, depending on the applications
- Manufactured in anti-corrosion protected sheet steel
- All plastic parts withstand fire or excessive heat caused by internal electrical phenomena, as per IEC695-2.1
- Can be used in applications requiring Forms 1 to 4 type 6
- Fully type tested assembly

Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage for the main busbars</td>
<td>1000V</td>
</tr>
<tr>
<td>Rated current</td>
<td>3200A</td>
</tr>
<tr>
<td>Peak withstand current</td>
<td>Ipk 187kA</td>
</tr>
<tr>
<td>Short time withstand current</td>
<td>Icw 85 kA rms/1s</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60Hz</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Functional system Prisma P</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5102</td>
<td></td>
</tr>
</tbody>
</table>
Prisma G functional systems

Description

Prisma G functional system can be used to build all types of main secondary and final low voltage switchboards up to 630A.

Applications

For all types of main, secondary and final low voltage switchboards up to 630A, for industrial and commercial buildings.

Features and benefits

- The same components, whether for switchgear, installation, current distribution, cable running, etc, may be installed in any of two types of enclosure, depending on the applications
- Manufactured in anti-corrosion protected sheet steel
- All plastic parts withstand fire or excessive heat caused by internal electrical phenomena, as per IEC695-2.1
- Prisma G provides a modular functional system which can be used in applications requiring Forms 1 to 4 type 6
- Fully type tested assembly

Technical characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage for the main busbars</td>
<td>1000V</td>
</tr>
<tr>
<td>Rated current</td>
<td>630A</td>
</tr>
<tr>
<td>Peak withstand current</td>
<td>Ipk 53</td>
</tr>
<tr>
<td>Short time withstand current</td>
<td>Icw 25A rms/1s</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60Hz</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Functional system Prisma G, GX, GK</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5064</td>
<td></td>
</tr>
</tbody>
</table>
Powerpact 4 MCCB pan assemblies

Description

Pan assemblies provide easy mounting of moulded case circuit breakers into low voltage power distribution switchboards. The unique, innovative features of cassetted Compact NS MCCB’s (see page 30) and the simplicity of the new pan assembly design, offers you the benefit of space saving assembly with lower installation costs and increased packing density.

Applications

The fully typed tested busbar assembly can be connected directly to the main switchboard assembly, suitable for environments where neutral switching, single phase and neutral or three phase and neutral may be required for MCCB’s.

Features and benefits

- Manufactured and tested in accordance with BS EN 60439-1
- Available with 630A and 800A 4 pole busbars
- Finger safe IP2X system when unused ways are fitted with shrouding plates
- Incoming devices available up to 800A, outgoing devices available up to 630A for protection or isolation
- Patented connection system guarantees the correct torque setting without the use of a torque wrench
- Totally insulated MCCB/busbar connections
- Any combination of 1P, 2P, 3P and 4P breakers may be installed for outgoing circuits

Technical characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage</td>
<td>415V</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>50/60Hz</td>
</tr>
<tr>
<td>Short time withstand current for 1 sec</td>
<td>630A = 35kA, 800A = 50kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5336</td>
</tr>
</tbody>
</table>
**Description**

Isobar 4 Evo MCB pan assemblies provide a wide range of quick connection solutions for panelbuilders using C60 type MCB’s (see page 36). The unique Isobar outgoing way disconnector feature offers the highest levels of safety through electrical isolation of unused ways.

**Applications**

Final circuit protection for all types of building applications, that can be easily incorporated into custom built enclosure systems.

**Features and benefits**

- Manufactured and tested in accordance with BS EN 60439-1 provides a type tested assembly with 3rd party short circuit tests
- Simple single row distribution for miniature circuit breakers
- Distributed neutral as standard without loss of packing density when not required on outgoing way
- Combination busbar provides 1, 2, 3 or 4 pole connections
- The system offers protective device stacking efficiency by use of an MCB way conversion kit which permits the installer to select phase and neutral at every outgoing way
- Unique Isobar 4 Evo outgoing way disconnector feature offers the highest level of safety
- Totally insulated MCCB/busbar connections.
- Durable epoxy powder coated or yellow passivated bright zinc plated steel work
- Suitable for environments where neutral switching, single phase and neutral or three phase and neutral may be required for MCB’s

**Technical characteristics**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage</td>
<td>230/240V</td>
</tr>
<tr>
<td>(also suitable for 110V AC)</td>
<td></td>
</tr>
<tr>
<td>Busbar rating</td>
<td>125A</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>50Hz</td>
</tr>
</tbody>
</table>

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready to install distribution boards, DIN rail mounted equipment, enclosures and connection systems</td>
<td>MGD 5280</td>
</tr>
</tbody>
</table>
**Medium/high power busbar trunking**

**Electrical distribution equipment**

**Low voltage systems**

---

**Description**

Canalis medium - high power busbar trunking is a fully factory built electrical distribution system designed as an alternative to conventional methods of electrical distribution that use cable and cable mounting systems. It replaces several runs of cable along with their associated cable trays.

**Applications**

Ideal for many types of building in particular for horizontal or vertical feeders for example a interconnector between a power source and load (transformer to main switchboard, motor control centre/main switchboard to sub distribution board). Or a rising main vertical busbar system for a multi storey building connected directly on the to main distribution switchboard.

**Features and benefits**

- A range of end flanges and connections for termination/connection into a main switchboard or motor control centre
- Prefabricated busbar trunking lengths are simply ‘clipped’ and bolted together
- A range of robust fixings that all simply ‘click’ and lock together
- Tap-off outlets all ready connected at pre determined positions
- Several conductors in one busbar length
- Mechanical interlock on all tap-off connection units ensuring positive location and preventing accidental removal
- When connecting the tap-off unit the earth connection is the first to make and last break-allowing connection onto a ‘live’ busbar system
- Complies with the current standards BS EN 60439-2
- A true 90° corner can be achieved with elbow pieces, a compact design
- Three phase distribution in one complete busbar section
- Very low earth fault impedance and low volt drop - can help to ensure faster disconnection in the event of a fault and can ensure installation characteristics fall within the requirements of BS7671
- Less space required for installation - No bend allowance required as per SWA cables
- Medium 100A - 800A and high power 1000A to 5000A rated
- 4 pole conductors
- Painted steel casing as standard
- Tap-off devices 25A to 400A fused, 25A to 1000A MCCB plus DIN rail modular units for Multi 9 modular MCBs and equipment

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN 5030</td>
<td>Canalis KTC/KTA feeder and distribution</td>
</tr>
<tr>
<td>CAN 1622</td>
<td>Busbar trunking catalogue number</td>
</tr>
<tr>
<td>CAN 5142</td>
<td>Canalis busbar trunking for lighting and power applications</td>
</tr>
<tr>
<td>CAN 5226</td>
<td>Canalis Rising main KSR busbar trunking for multi-storey buildings</td>
</tr>
<tr>
<td>CAN 5146</td>
<td>Canalis selection guide Rising main KSR busbar trunking for multi-storey buildings</td>
</tr>
<tr>
<td>CAN 5137</td>
<td>Canalis information sheet: Busbar trunking - your questions answered</td>
</tr>
<tr>
<td>CAN 5122</td>
<td>White paper - Busbar trunking applications and benefits</td>
</tr>
</tbody>
</table>

---
Low voltage circuit protection

To provide the required protection for plant and personnel a wide range of circuit breakers for every application are available.

It includes the following:
- ACB’s - Masterpact air circuit breakers
- MCCB’s - Compact moulded case circuit breakers
- MCB’s - Miniature circuit breakers
**Description**

The new Masterpact NW range has two frame sizes with fully rated neutral from 800 to 6300A, ensuring standardised switchboards, optimised volumes and simplified installation.

**Applications**

Large load circuit breakers for main incoming power and feeder circuits.

**Ease of installation**

With optimised sizes, the Masterpact NW range simplifies the design of the switchboard selection and installation of devices:

- Only three connection layouts, one from 800 to 3200A, one for 4000A and one from 4000 to 6300A
- Only two frame sizes, 800 to 6300A
- Front connections that do not impact on the depth of the device
- Rear connections, that are converted from vertical to horizontal busbars by simply turning the connectors through 90 degrees up to 3200A
- Integrated range protection and metering avoids the need for additional CT’s

**Innovation**

- The patented new design of the arc chutes includes a stainless steel filter. The chutes absorb the released energy during breaking and short circuit, thus limiting the harmful gasses produced under short circuit
- The automatic unlatching of the circuit breaker operating mechanism for high short circuits extends the breaking capacity to 150kA, offering high breaking capacity coupled with high levels of discrimination up to 65kA

**Features and benefits**

- No derating up to 55°C
- 115mm pole pitch on all versions
- No requirement for safety clearances
- Ability to mix and rotate both front and rear connections
- Line side connection to either top or bottom connections
- Masterpact NW has one frame size up to 4000A. The exact same size as the previous 3200A frame
- State of the art protection relay with full communications capabilities

**Technical characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Up to 6300A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rating</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>Up to 690V</td>
</tr>
<tr>
<td><strong>Short circuit rating</strong></td>
<td>150kA</td>
</tr>
</tbody>
</table>

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Masterpact NW air circuit breakers</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MGD 5173</td>
</tr>
</tbody>
</table>
Masterpact NT
Air circuit breaker

Description
Air circuit breaker designed for every application.

Applications
Main incoming circuit protection for switchboards or outgoing protection for larger loads.

Features and benefits
- Incoming connection to top or bottom terminals
- No safety clearance required
- Connection
- Horizontal or vertical rear connection
- Front connection with minimum extra space
- Mixed front and rear connections
- No derating up to 55°C for fixed devices
- Switch disconnector version - The switch disconnectors are derived directly from the circuit breakers and offer the same features and performance levels
- Integration in a communications network - Masterpact can be integrated in a general supervision system to optimise installation operation and maintenance. The communication architecture is open and may be upgraded for interfacing with any protocol
- 1000V and 400Hz distribution system - the Masterpact range can be used on 1000V installations (mining industry) and 400Hz systems (aeronautics, computer centres)

Technical characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>Up to 1600A</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>Up to 150kA</td>
</tr>
</tbody>
</table>
**NS630-1600A MCCB**

**Electrical distribution equipment**

**Low voltage circuit protection**

**Description**

High performance LV circuit breakers with a complete range of accessories. Numerous connection possibilities including front and rear connections which can be mixed. Fully withdrawable versions include a chassis that offers ACB functionality.

**Applications**

Main incoming circuit protection or outgoing protection for larger loads.

**Features and benefits**

- Compact design
- Single frame size 630-1600A
- Fixed or withdrawable options
- High performance up to 150kA
- Toggle or motor operated
- Communications option available
- Integrated protection and metering removes the need for additional CT's

**Technical characteristics**

<table>
<thead>
<tr>
<th>Rating</th>
<th>1600A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>150kA</td>
</tr>
</tbody>
</table>

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Compact LV circuit breakers and switch-disconnectors 80 to 3200A</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB 5079</td>
<td></td>
</tr>
</tbody>
</table>

28
Description
LV circuit breakers for large power applications.

Applications
Large load circuit breakers for incoming power fed by generators or upstream ACB’s or for use as outgoing circuit breakers.

Features and benefits
- Single frame size 1600-3200A
- Horizontal or vertical connection options
- Integrated protection and metering units remove the need for additional CT’s
- Communications options available

Technical characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>3200A</td>
</tr>
<tr>
<td>Voltage</td>
<td>690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>85kA</td>
</tr>
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</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB 5079</td>
</tr>
</tbody>
</table>

Compact LV circuit breakers and switch-disconnectors 80 to 3200A
Compact NS MCCB

Electrical distribution equipment
Low voltage circuit protection

Description
High performance LV circuit breaker with a complete range of accessories. With numerous connection possibilities, including front and rear connections for bare cables, cable lugs or bars, as well as plug-in or withdrawable versions are available using accessories that can be rapidly added to the circuit breaker.

Applications
Sub-main protection of distribution boards and protection and control of larger loads.
Plug-in and withdrawable versions for:
- Fast removal or insertion of the circuit breaker without exposure to live parts
- Standby outgoing circuits ready for wiring and circuit breaker installation at a later date
- Visible break options to ensure complete isolation

Busways
- Compact NS circuit breakers up to 630A can be installed in tap-off units of the Telemecanique Canalis range of busbar trunking

Features and benefits
- Compact design
- High performance to 150kA
- Wide range of accessories
- Communications options available
- Reduced switchboard space
- Lower life cycle costs
- Improved design and security of network

Technical characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>Up to 630A</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>150kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact LV circuit breakers and switch disconnectors 80 to 3200A</td>
<td>PB 5079</td>
</tr>
</tbody>
</table>
**Interpact switch disconnectors**

**Electrical distribution equipment**

**Low voltage circuit protection**

---

### Description

Panelmount switch disconnectors for isolation and control of electrical distribution circuits.

---

### Applications

Isolation and control of distribution and motor control circuits in commercial/industrial and marine applications.

---

### Features and benefits

- AC23 ratings available up to 500A makes the range suitable for motor switching without derating
- Compact design improves switchboard packing density
- Units are suitable for isolation and have positive contact indication across the range
- Visual break options for secondary contact indication
- No derating up to 60°C
- Front or side mounted handle options
- Wide range of accessories common with the NS circuit breaker range
- Ratings 40-2500A

---

### Technical characteristics

<table>
<thead>
<tr>
<th>Rating</th>
<th>2500A</th>
</tr>
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<tbody>
<tr>
<td>Voltage</td>
<td>690V</td>
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### Associated technical catalogue

<table>
<thead>
<tr>
<th>Switch disconnectors and fuse switch disconnectors</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5271</td>
<td></td>
</tr>
</tbody>
</table>
**Description**

The C120 is a modular range of miniature circuit breakers with a breaking capacity of 15kA and a wide range of add-on earth leakage and control accessories.

**Applications**

The C120 is a physical replacement for the NC100 range of devices. It is also used for protection of cables against overloads and short circuits in final distribution. The C120 can be used with Prisma and Pragma carrier systems as well as DIN mountings enclosures.

**Features and benefits**

- Positive break indication
- IP2X terminals
- Wide range of accessories including remote tripping and indication
- Available in 1P, 2P, 3P and 4P versions
- Fast closing mechanism
- Residual current protection using vigi add-on devices

**Range**

- 10, 16, 20, 25, 32, 40, 50, 63, 80, 100 and 125A, 1P, 2P, 3P and 4P configuration B, C and D curve

**Technical characteristics**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Up to 100A</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP rating</td>
<td>IP2X</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>15kA</td>
</tr>
</tbody>
</table>

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5336</td>
</tr>
</tbody>
</table>
Description
The NG125 and NG125H are a range of modular high breaking capacity circuit breakers.

Applications
Modular enclosure incomer, main incomer in sub distribution switchboards, outgoing devices and protection of loads directly supplied by a switchboard.

Features and benefits
- Available in 1, 2, 3 and 4 pole versions
- Isolation with positive contact indication
- 3 position toggle: open-tripped-closed
- Built-in padlocking facility on 3 and 4 pole versions
- Fault display on front face
- Test button
- Fast closing
- Integral padlocking facility
- Interchangeable terminal arrangements

Range
- 80A, 100A and 125A, B curve 3 pole and 4 pole 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A and 80A C curve, 1, 2, 3 and 4 pole
- 100 and 125A, C curve 3 pole and 4 pole

Technical characteristics

<table>
<thead>
<tr>
<th>Rating</th>
<th>Up to 80A</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP rating</td>
<td>IP 2X</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>36kA</td>
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</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready to install DIN rail mounted equipment, enclosures and connection systems</td>
</tr>
</tbody>
</table>
**NS80 MCCB**

**Electrical distribution equipment**

**Low voltage circuit protection**

---

**Description**

Special design magnetic only circuit breakers for motor protection.

**Applications**

Full type 2 co-ordination for motor control centre applications.

**Features and benefits**

- Full type 2 co-ordination with Telemecanique contactors
- Compact design
- Selectable protection settings
- High current limiting capabilities
- Optional auxiliary contact options
- Front/rear connection capabilities
- 3 pole version as standard

**Technical characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>Up to 80A</td>
</tr>
<tr>
<td>IP rating</td>
<td>IP2X</td>
</tr>
<tr>
<td>Voltage</td>
<td>Up to 690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>65kA @ 415V</td>
</tr>
</tbody>
</table>

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**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact LV circuit breakers and switch disconnectors 80 to 3200A</td>
<td>PB 5079</td>
</tr>
</tbody>
</table>
C 60 MCB

Electrical distribution equipment
Low voltage circuit protection

Description
Universal MCB designed to fit into all Merlin Gerin single phase and three phase distribution boards.

Applications
All outgoing circuit protection for single and three phase circuits.

Features and benefits
Miniature circuit breaker
■ MCB's are rated up to 10,000A to BS EN 60-898
■ All MCB's positively indicate the true position of their main contacts directly on the toggle handle
■ Available in the following configurations:
  ■ 1, 2, 3 and 4 pole
  ■ B, C and D ratings 1-63A
  ■ Wide range of ratings
■ Optional accessories include
  ■ Earth leakage – Vigi
  ■ Personnel, fire or system protection available
  ■ Unwanted tripping filter incorporated
  ■ Independent ‘tripped’ flag indication can be arranged to identify earth fault tripping only
  ■ Auxiliary switch – OF
  ■ Provides remote status indication (ON/OFF)
  ■ Provides a signal to drive other circuits (via contactor or impulse relay)
  ■ Independent test facility
  ■ Undervoltage release – MN
  ■ Failsafe remote ‘OFF’ facility of the MCB when the UV coil is de-energised
  ■ Trips breaker in the event of mains failure
  ■ Ideal for use with emergency ‘OFF’ pushbuttons
  ■ Independent ‘tripped’ flag indicator
  ■ Alarm switch – SD
  ■ Provides remote indication of fault trip
  ■ Provides a signal to drive other circuits (via contactor or impulse relay)
  ■ Independent test facility
  ■ Independent ‘tripped’ flag indicator
  ■ Shunt trip – MX
  ■ Remote ‘OFF’ facility of the MCB when the shunt trip coil is energised
  ■ Can be used with switches or sensors (overheating etc.)
  ■ Independent ‘tripped’ flag indicator
  ■ Includes one auxiliary changeover switch

Technical characteristics
Current ratings: BS EN 60098 1A to 63A at 30°C
Voltage ratings: 240/415V AC
Breaking capacity: 10kA BS EN 60898

Associated technical catalogue
Ready to install DIN rail mounted equipment, enclosures and connection systems
Order reference MGD 5280
Description

Single way width 2 pole circuit breaker designed to maximise space in distribution boards.

Applications

Specialist areas requiring 2 pole isolation, hospitals, petrol stations and swimming pools etc.

Features and benefits

- Unique 2 pole design
- Breaks live and neutral conductors
- Wide range of ratings
- Tripping characteristics: to BS EN 60898, B curve magnetic setting between 3 and 5 In
- C curve magnetic setting between 5 and 10 In
- Positive contact indication of the phase conductor in accordance with the 16th edition of the IEE Wiring Regulations BS7671
- Cable capacity 16mm²
- Installation: panel mounting on symmetrical DIN rail in multi-service type B boards and standard enclosures
- Connected by comb busbar
- Padlocking in the ON/OFF position locking attachment MGLA padlock MGLAP
- Electrical auxiliaries - as C60H MCB’s OF/SD/MX/MN

Technical characteristics

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Up to 40A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>Up to 240V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>6kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Ready to install DIN rail mounted equipment, enclosures and connection systems</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5280</td>
<td></td>
</tr>
</tbody>
</table>
Earth leakage protection

Electrical distribution equipment

Low voltage circuit protection

Description

Complete range of devices designed to offer property or personnel protection from earth leakage faults. Options include stand alone or add on devices for MCB’s or MCCB’s.

Applications

For use when high levels of earth leakage protection are required for the building.

Features and benefits

- Wide range of sensitivities 10, 30, 100 and 300mA
- Fixed or adjustable versions
- Available in two or four pole versions
- Stand alone MCB and MCCB versions
- Small footprint - space saving
- Visual identification of status

Technical characteristics

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>MCB 10/30/100/300mA</th>
<th>MCCB 100mA - 3A adjustable</th>
</tr>
</thead>
</table>

Associated technical catalogue

Order reference

Ready to install DIN rail mounted equipment, enclosures and connection systems

MGD 5280
Fupact fuse switches

Low voltage circuit protection

Description

Panelmount fuse switches for protection of electrical distribution circuits.

Applications

Protection and isolation of distribution and motor control circuits in commercial/industrial applications.

Features and benefits

- AC23 rated up to 630A makes the range suitable for motor switching without derating
- Visual break function is available as secondary indication of contact position
- Units are suitable for isolation and have positive contact indication across the range
- Blown fuse indicator options
- Fuses protected by IP20 insulating covers as standard
- Front or side mounted handle options up to 250A
- Fuse covers interlocked to prevent access to the fuses when the unit is switched on
- Rating 32-800A

Technical characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>800A</td>
</tr>
<tr>
<td>Voltage</td>
<td>690V</td>
</tr>
<tr>
<td>Short circuit rating</td>
<td>80kA</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Catalogue</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fupact catalogue</td>
<td>ABTED 203159 EN</td>
</tr>
</tbody>
</table>
Low voltage control devices

This section covers simple control devices to provide maximum flexibility. Whether it is lighting control, motor starting or other applications, Schneider Electric has the solution.

It includes the following:
- Time switches
- Impulse relays
- Contactors
- Time clocks
- Surge arresters
Multifunction time switch

Description

Multi functional time switch.

Applications

Controls the switching of up to four channels depending on the function allocated. There are 8 functions for the management of power and lighting.

- Time programming: from 1 to 59 seconds
- Close delay: up to 10 hours
- Open delay: up to 10 hours
- Timer function
- Flashing facility
- Hours counter
- Impulse counter

Technical characteristics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>45 time ranges for weekly time programming</td>
</tr>
<tr>
<td></td>
<td>15 time ranges for yearly time programming</td>
</tr>
<tr>
<td></td>
<td>20 different impulses for impulse programming</td>
</tr>
<tr>
<td>Maximum switch time</td>
<td>1 minute between two programmed operations</td>
</tr>
<tr>
<td>Back up</td>
<td>Using a lithium battery. Autonomy 5 years. Life span 10 years</td>
</tr>
<tr>
<td>Terminals</td>
<td>Tunnel terminals 0.2 to 6mm² or 2x2.5mm²</td>
</tr>
<tr>
<td>Cover</td>
<td>Clear plastic, sealable</td>
</tr>
<tr>
<td>Supply</td>
<td>230V +/-10% 50Hz</td>
</tr>
<tr>
<td>Inputs</td>
<td>6</td>
</tr>
<tr>
<td>Outputs</td>
<td>4x NO relays and 2 CO relays 10A</td>
</tr>
<tr>
<td>Display</td>
<td>Time, day, date, contact status and mode</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-5°C to 50°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-25°C to 70°C</td>
</tr>
<tr>
<td>Electrical endurance</td>
<td>&gt;20 x 10 operations</td>
</tr>
<tr>
<td>Mechanical endurance</td>
<td>&gt;0.1 x 10 operations</td>
</tr>
<tr>
<td>Mounting</td>
<td>On symmetrical DIN rail</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>Width 90 (5 modules)</td>
</tr>
<tr>
<td></td>
<td>Height 90</td>
</tr>
<tr>
<td></td>
<td>Depth 65</td>
</tr>
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Associated technical catalogue

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control and command products and</td>
<td>SQD 5093</td>
</tr>
<tr>
<td>applications for distribution</td>
<td></td>
</tr>
<tr>
<td>equipment</td>
<td></td>
</tr>
</tbody>
</table>
Impulse relays

Description

Impulse relays, otherwise known as bi-stable relays are relays having two stable operating positions. The coil is energised for a short time to change the relay from one state to the other. Energising the coil again changes it back to its original position.

The coil is only energised momentarily to change the relay state. This has the advantage that there is not a coil being kept energised for long periods of time that would be expected with a contactor in a lighting circuit.

Operation of the relay is by a pushbutton or retractive switch. Any number of pushbuttons may be connected into the circuit to give a switching facility at various switch positions. Each switch is connected in parallel and may be looped as required. Thus the need for two way switches and intermediates is eliminated. Because the switch circuit only carries the coil operating current the voltage drop calculations are greatly simplified. Only the main circuit need be considered.

Application

Simple switching of loads such as lighting controls. Units can be easily linked together to develop complex control sequences.

Technical characteristics

<table>
<thead>
<tr>
<th>Memory</th>
<th>45 time ranges for weekly time programming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratings</td>
<td>The main contacts are rated at 16A at 0.6pf</td>
</tr>
<tr>
<td></td>
<td>250V 50Hz</td>
</tr>
<tr>
<td>Specifications</td>
<td>Comply and tested to IEC 669-1 and 669-2</td>
</tr>
<tr>
<td>Status indication</td>
<td>Toggle on front face</td>
</tr>
<tr>
<td>Manual control</td>
<td>Toggle on front face</td>
</tr>
<tr>
<td>Endurance</td>
<td>2000,000 cycles at AC22, pf = 0.6</td>
</tr>
<tr>
<td></td>
<td>4000,000 cycles at AC21, pf = 1.0</td>
</tr>
<tr>
<td>Coil circuit</td>
<td>230/240V -15%, +6% 50Hz pick up 19VA</td>
</tr>
<tr>
<td>Coal energisation</td>
<td>Minimum duration 50ms, Maximum 1 hour.</td>
</tr>
<tr>
<td>Maximum switching</td>
<td>5 operations per hour</td>
</tr>
<tr>
<td>Main terminals</td>
<td>Tunnel type terminals, capacity 0.5-6mm²</td>
</tr>
<tr>
<td>Control terminals</td>
<td>Tunnel type terminals, capacity 0.5-2.5mm²</td>
</tr>
<tr>
<td>Mounting</td>
<td>On symmetrical DIN rail</td>
</tr>
<tr>
<td>Dimensions (mm) &amp;</td>
<td>Width (modules) 18 (1)</td>
</tr>
<tr>
<td></td>
<td>Height 81</td>
</tr>
<tr>
<td></td>
<td>Depth 65</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready to install DIN rail mounted equipment, enclosures and connection systems</td>
</tr>
</tbody>
</table>
Contactors

Electrical control equipment

Low voltage control devices

Description

Modular contactor design for switching of power loads (lighting or heating). Available in a wide range of ratings and poles.

Applications

Control of large or heavily inductive loads in one building or process (e.g. lighting, heating and machinery).

Features and benefits

- Modular design
- Wide choice of options
- Simple installation - fits on symmetrical DIN rail
- Positive contact indication
- Up to 25mm² cable terminations - single core
- Choice of normally open, normally closed or other variations of the two

Technical characteristics

<table>
<thead>
<tr>
<th>Rating</th>
<th>Up to 100A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>230/415V</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Ready to install DIN rail mounted equipment, enclosures and connection systems</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5280</td>
<td></td>
</tr>
</tbody>
</table>
Description

Fully programmable time switch with 1 or 2 channels.

Applications

Simple timing circuits requiring time and day sequences.
The time switch and its MCB are DIN rail mounted for easy fitting into distribution boards.
If it is preferred to mount the time switch remote from the distribution board, suitable enclosures are available.

Features and benefits

■ Simple user interface
■ Compact design
■ Integral programming sheet holder
■ Large keypad
■ Sealable front cover

Technical characteristics

■ Changeover contacts: 16A at 250V ac
■ Menu driven programming
■ Memory: up to 42 different switching operations
■ Programmable to the minute
■ Minimum time between switching operations: 1 minute
■ Consumption: 6VA max at 230 +/-10%, 50/60Hz
■ Accuracy: quartz time base +/-1 sec per day at 20°C, not cumulative
■ Pulse duration: 1 to 59 seconds
■ Operating temperature: -10°C to +50°C
■ Terminals: tunnel type to accept up to 6mm² cable

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready to install DIN rail mounted equipment, enclosures and connection systems</td>
</tr>
</tbody>
</table>
Surge arresters

A range of surge arresters to protect equipment from the effects of overvoltages.

Applications
Protection of sensitive electronic equipment from transient voltages (e.g. computers, medical equipment etc).

Features and benefits
- Compact design
- Replaceable cartridge system
- Wide choice of ratings suited to meet every application
- Mechanical indicator giving status of unit
- Must be used in conjunction with a circuit breaker

Technical characteristics

<table>
<thead>
<tr>
<th>Earthing systems</th>
<th>These surge arresters are suitable for TN-S and TT earthing systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication</td>
<td>Indicator on front face</td>
</tr>
<tr>
<td></td>
<td>White – normal operation</td>
</tr>
<tr>
<td></td>
<td>Red – cartridge must be replaced</td>
</tr>
<tr>
<td>Protection</td>
<td>The surge arrester must be protected by a suitably rated MCB</td>
</tr>
<tr>
<td>Selection</td>
<td>The choice of surge arrester depends upon the lightning strike risk and the number of phases</td>
</tr>
<tr>
<td>Terminals</td>
<td>Tunnel type 2.5mm² to 25mm² standard cable, 16mm² flexible stranding</td>
</tr>
<tr>
<td>Ratings</td>
<td>8, 15, 40, 65kA</td>
</tr>
<tr>
<td>Voltages</td>
<td>240/415V</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Ready to install DIN rail mounted equipment, enclosures and connection systems</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGD 5280</td>
<td></td>
</tr>
</tbody>
</table>
Power quality

This section details the products associated with power quality and power factor correction.

It includes the following:

- Sinewave active filters
- MV/LV power factor correction
**Active filters**

**Electrical distribution equipment**

**Power quality**

**Description**

Sinewave active filtering controllers reduce harmonics that can appear on distribution networks.

**Applications**

Buildings that have a high concentration of electronic equipment connected to the power network.

**Features and benefits**

- On-site selection to remove individual harmonics
- Rated for 3 phase and/or Neutral current reduction
- Removes up to 1440 amps of neutral current at a single point
- Automatically adapts to changing network harmonics
- Includes user friendly interface
- Employs advanced IGBT and DSP technology
- Can provide reactive compensation (power factor correction)
- Multiple units can be paralleled for higher capacity
- Fully expandable for future changes
- Cannot be overloaded
- Wall mountable
- Dry contacts for remote signalling
- Simple to operate
- Safe for operation on the load side of UPS and generators
- Can be configured to operate in single-phase
- Simplest solution for removing multiple harmonics
- Negates the need for 200% rated neutrals, oversized. Transformers, cables etc. - reduces infrastructure costs
- No need for extensive surveying or network modelling
- Allows standard Generator sizing as with non-linear loads
- Will not resonate with upstream transformers
- Filters without the generation of reactive power for applications with near-unity power factor
- Will not increase fault levels

**Technical characteristics**

<table>
<thead>
<tr>
<th>Ratings</th>
<th>20 to 480A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filtering capability</td>
<td>Up to 25th harmonic</td>
</tr>
<tr>
<td>Voltage</td>
<td>415V</td>
</tr>
</tbody>
</table>

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>SineWave active harmonic filter from 20 to 480 amps MGE 5227</td>
</tr>
<tr>
<td>Harmonic filters MGE 5216</td>
</tr>
</tbody>
</table>
Description

Whether you require standard power factor correction for networks with a high or low harmonic generating load, Merlin Gerin power quality can provide the correct power factor solution to reduce kVA demand to lower your power bills, off load transformers and increase system capacity.

When harmonics become a problem, the Power Quality Correction Group from Schneider Electric will provide an on-site harmonic analysis and computerised network analysis to provide a custom engineered solution tailored to your network.

Applications

Main low voltage or high voltage substations where power quality or correction is required.
- Hospitals
- Computer installations
- Factories
- Universities

Features and benefits

- Correct poor power factor to reduce power bills and increase system capacity
- Bring harmonic levels to within G5/4 compliance
- Custom designed solutions using the most advanced computerised modelling software and engineered techniques. Solutions are guaranteed
- State of the art products to fulfil any requirement
- Advanced control of harmonics and power factor
- Improved quality of electrical supply
- Longer equipment life for inductive components
- Reduced energy consumption

Product offer

- Static (fixed) capacitors 240V to 36kV
- Standard automatic capacitors 240V to 36kV
- Detuned automatic capacitors 240V to 36kV
- Fixed Passive L/C shunt filters 240V to 36kV
- Automatic passive L/C shunt filters 240V to 36kV
- Active (electronic) harmonic filters 240V to 690V
- Hybrid active/passive - L/C filters 240V to 690V
- Real time reactive compensation systems 240V to 690V (for highly cyclical and/or welding loads)

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>低电压设备范围手册</th>
<th>LVE W970</th>
</tr>
</thead>
<tbody>
<tr>
<td>分低压电压设备解决方案</td>
<td>Low voltage LV equipment solutions</td>
<td>MGE 5206</td>
</tr>
</tbody>
</table>
This section gives information on the product ranges available to provide metering and monitoring of the electrical power network.

It includes the following:

- Watt hour meters
- Secondary metering equipment
- Circuit monitoring entry level system
Watt hour meters

Description

The Merlin Gerin range of ME watt hour meters are ideally suited for measuring the energy taken by these loads. They have a non-resettable main display with options for a resettable secondary display and a pulse output for remote energy recording. The meters are of modular dimensions, mounted onto symmetrical DIN rail with all displays and settings located on the front face.

Applications

Applications where actual energy consumption needs to be measured. These meters are of a small modular type, easily fitted into a distribution board or individual enclosures. They are designed for the measurement of energy consumed by an electrical load.

Features and benefits

- Easy to read digital display allows quick reading of energy consumption and costs
- DIN rail mounted giving easy installation into distribution board
- Liquid crystal main display, non-resettable with optional partial display, resettable
- Tropicalised: 95% relative humidity at 55°C
- Helps the industrial, and commercial sectors meet the requirements of the building regulations (part L2) by identifying where energy is being used
- Small modular size allows installation within existing equipment or in small extension boxes
- Current transformer operated, ratios from 40/5 to 6000/5

Technical characteristics

<table>
<thead>
<tr>
<th>Direct connected</th>
<th>63A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>240V single phase, 415V three phase</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage metering guide</td>
</tr>
<tr>
<td>Modular solutions for building control</td>
</tr>
</tbody>
</table>
**Description**

A comprehensive range of secondary metering equipment. Driven by the requirements of the building regulations Part L2, building owners and occupiers are increasing the demand for sub metering. Modular or panel mounting meters are available in stand alone format, with pulsed output or full communications through open Modbus protocols.

**Applications**

- Real time monitoring for power equipment
- Power monitoring for local installations
- Integration into complete Building Management System

**Features and benefits**

- Energy saving potential
- Reduced energy costs
- Compact modular designs enabling installation into existing distribution boards or enclosures
- Ability to link into simple or complex Building Control System

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Order Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage metering guide</td>
<td>MGD 5195</td>
</tr>
<tr>
<td>Watt hour meter</td>
<td>MGD 5208</td>
</tr>
</tbody>
</table>
Description

The PowerLogic entry level system gives instant real time status, energy, power quality and demand information (including forecasting), on a circuit by circuit basis. The heart of the system is a PowerLogic web enabled Ethernet gateway. From a single building to a multi-site operation, PowerLogic Ethernet gateways let you minimise communications wiring costs by using an existing Ethernet network infrastructure.

Applications

Applications requiring fast transfer of energy and power quality information which needs to be communicated between several power monitoring devices. Using a standard web browser, the PowerLogic Ethernet gateway provides users access to live, historical and setup information from meters, LV circuit breakers, transformers and other power equipment.

Features and benefits

- Plug and play system
- Pre configured web pages
- Real time monitoring of circuits
- Easy to produce custom web pages
- RS485/MODBUS serial ports allow PowerLogic monitoring and metering devices to be daisy chained to the ports
- DIN rail, panel/wall mounted or table top

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerLogic web enabled systems</td>
</tr>
</tbody>
</table>
This section details the comprehensive offer from Schneider Electric for automation in commercial and industrial applications.

It includes the following:

- Programmable controllers
- HVAC controllers
Description

In bringing Modicon, Telemecanique and Square D automation products together, Schneider Electric is able to offer complete automation and control solutions to its customers world-wide. Innovation and market leading products feature strongly in the group’s development; originally the inventors of the first PLC and now leaders in the implementation of web based technology.

Combining the strengths of each of these brands, Schneider has introduced the Modicon TSX range of PLCs consisting of the Nano, Micro, Premium, Momentum and Quantum. In addition, Schneider offers a range of HMI devices, industrial PC hardware and associated software tools.

Applications

- Integrated building management system
- Energy management systems
- HVAC systems
- Control of machinery and industrial processes

Features and benefits

- Scaleable I/O
- Open communication (Modbus/Modbus TCP/IP/Profibus/FIP
- Modular design
- Small footprints
- Wide choice of formats to suit all applications
- Universal power supply inputs
- Enhanced web serving embedded

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nano and micro automation platform</td>
</tr>
<tr>
<td>Premium automation platform</td>
</tr>
<tr>
<td>Momentum automation platform</td>
</tr>
<tr>
<td>Quantum automation platform</td>
</tr>
<tr>
<td>Transparent factory - the future of automation</td>
</tr>
</tbody>
</table>
Description

A complete range of Direct Digital Controllers (DDC) and freely programmable controllers.

Whether a simple fan coil controller or multi point LonWorks installation the solution can be scaled to meet individual building requirements.

Open systems are Schneider Electric key focus for our control products. Our supported protocols include; Ethernet TCP/IP, Modbus, LonWorks and EIB.

Applications

- Control of HVAC applications
- Fan coil and terminal unit control
- Integrated plant room solutions
- Boiler controls

Features and benefits

- Fixed and freely programmable solutions
- Scaleable I/O
- Open communications
- Web serving
- DIN rail mounted
- Choice of operating voltages
- Simple programming
- User configurable inputs and outputs, analogue and digital
- Compact space saving design

Associated technical catalogue

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building automation and control systems</td>
<td>BSS 5289</td>
</tr>
</tbody>
</table>
This section describes the control system products available for lighting applications.

It includes the following:
- Traditional control
- Intelligent communicating controls
Traditional

**Electrical distribution equipment**

**Lighting controls**

**Description**

Schneider Electric is one of the few companies to be registered with the Government on the Energy Technology List (ETL) for lighting control.

From simple time control to complete intelligent systems, considering all elements including time, presence, illuminance, etc.

With the added flexibility offered from Telemecanique Canalis lighting trunking, a complete installation can be tailored.

**Applications**

- Distributed lighting control
- Scene setting
- Dimming controls
- Timed ON/OFF

**Features and benefits**

- DIN rail mounted controllers
- Timer options to switch off lights after predetermined period
- Time clocks to provide scheduled switching duties
- Complete range of PIR modules for presence detection
- Light sensitive switches to ensure lighting is only required when external illumination is low

---

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Modular solutions for building control</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MGD 5321</td>
</tr>
</tbody>
</table>
Intelligent Electrical distribution equipment Lighting controls

Description

Schneider Electric is one of the few companies to be registered with the government on the Energy Technology List (ETL) for lighting control.

From simple time control to complete intelligent systems and considering all elements including time, presence, illuminance, etc.

A Schneider Electric solution is scalable both in point count and intelligence. If a communicating system is required, open networks, Ethernet TCP/IP, Modbus, LonWorks and EIB offer a concise solution. With the added flexibility offered from Telemecanique Canalis lighting trunking, a complete installation can be tailored.

Applications

■ Distributed lighting control
■ Scene setting
■ Dimming
■ Day light level control
■ Time scheduling
■ Emergency testing

Features and benefits

■ Energy saving potential
■ Scalable
■ Open communications
■ Web serving
■ Modular design
■ Compact/space saving
■ Ease of programming
■ Lighting distribution board options to reduce the amount of cabling and installation time

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building automation and control systems</td>
</tr>
</tbody>
</table>
Motor control devices

Power to a motor must be controlled. This section covers all the solutions available for motor control in industrial and commercial applications.

It includes the following:

- Altivar variable speed drives
- TeSys motor starting
- TeSys model U
- Soft starters
- Power contactors
Description

The principle benefits of the Telemecanique Altivar range of variable speed drives are improved performance, reduced maintenance costs and increased plant life. In many applications, operating the plant at a reduced speed when full output is not needed produces a further important benefit, energy saving.

Every VSD in the Altivar range is registered with the Government Energy Technology List (ETL) and qualifies for Enhanced Capital Allowance. The comprehensive range of Altivar variable speed drives offers a solution for all applications.

Applications

There are many industrial and commercial applications where variable-operating speed is required. Examples are as diverse as pumps, where speed adjustment allows precise control over flow rate and conveyor systems, where the speed must match the immediate needs of a production process. Other applications include fans, boiler control, compressors, etc.

Features and benefits

- Ready to install solution
- Energy saving potential
- Complete solution (VSD + filter) on one reference
- Integrated web server
- Extensive communication options
- Integrated Modbus

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Altivar/Altistart panorama</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDED102101EN</td>
<td></td>
</tr>
</tbody>
</table>

Telemecanique
Description

The TeSys range from Telemecanique sets new standards in power, control and protection components for industrial automation applications. Innovations in design and safety, associated with the traditional features of the world leading ‘D range’, ensures that TeSys is the first choice for motor starting solutions.

Applications

Motor starter solution for all applications. A complete range up to 80kW AC3 and 200A/AC1.

Features and benefits

- Component width and cable terminations are standardised to simplify design and build
- Innovative mounting and wiring accessories reduce assembly and wiring time
- Unique low consumption offer for direct connection to PLC outputs reduces wiring, panel space and overall cost
- Quick to design, assemble and test ensure overall cost saving when producing standardised panels
- Separation of control and power circuits reduces chances of wiring error
- 1N/O and 1N/C auxiliary contact built in as standard on all ratings
- Reversing contactors only 90mm wide, including mechanical interlock for ratings up to 38 amps
- The N/C auxiliary contact is mechanically linked to main poles for use in safety circuit feedback loop
- Type 2 co-ordination for motor circuit breakers and contactor combination or fuse contactor and overload combinations with independent LOVAG certification
- Can be used with TeSys quickfit connection system. Allowing quick design, assemble and test of communication, power and load connections

Associated technical catalogue

<table>
<thead>
<tr>
<th>Power control and protection components</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICC 1740</td>
</tr>
</tbody>
</table>

Telemecanique
TeSys model U is a world first offering power switching and protection with total coordination, and the option of reversing in one compact 45mm unit. A complete motor starter controller comprising of disconnect switch, short circuit protection, contactor and motor overload all in one unit.

Applications
Offers a complete motor starting solution for all application within the building and industrial markets.

Features and benefits
- Fewer components means faster selection, up to 10 times fewer references than conventional motor starter system
- Simplified design with integration of power and control in application schematics
- Compact 45mm wide DOL and reverser with thermal dissipation reduced by a factor of 4
- Up to 60% reduction in wiring Increases reliability, and faster system build with ‘Plug & Play’
- Late customisation allowing selection of control voltage, motor protection and application control at final build stage
- Functional openness application, communication and real time monitoring can all be extended/updated at will
- Pre-alarms; display of motor values, differentiation and recording of the 5 most recent faults, enables preventive maintenance
- Process optimisation remote monitoring of starter status, motor load, machine state and wear, end of life indication
- Reduced downtime following system fault. Proven total coordination to BS EN 60947-6-2 for fast return to service after short circuit fault

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>TeSys model U catalogue</td>
</tr>
</tbody>
</table>
Soft starters

Description
A soft start considerably reduces mechanical stress by eliminating sudden torque changes on starting, resulting in a longer life for belts, chains and shaft drives and smooth acceleration eliminates product damage during mechanical handling.

Applications
Soft starts are suitable for a wide variety of industrial and commercial applications, such as mechanical handling systems, conveyors, baggage handling, water pumps, fans for extraction in buildings, etc.

Features and benefits
- Energises the motor at low voltage and gradually increases this voltage up to the normal value
- Also provides a ramp down function by gradually reducing the voltage at switch off
- Solid state technology
- Compact housing can easily be applied to new or existing installations
- Simple set up reduces installation time
- DIN rail mounted or screw fixing
- Hinged, sealable cover over potentiometers

Associated technical catalogue

<table>
<thead>
<tr>
<th>Power control and protection components</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC 1740</td>
<td></td>
</tr>
</tbody>
</table>

| Soft starters and variable speed drives | MKTED203011EN   |

65
Human machine interfaces

This section details advanced human machine interface solutions for clear status readings and process adjustment.

It includes the following:

- Text display terminals
- Harmony push buttons and indicators
Description

The Magelis HMI ranges from simple, affordable text display terminals through semi-graphical displays, to advance colour TFT graphical terminals with keypad or touch screen. Down-loadable protocol drivers are available for most popular PLC systems.

Applications

Building control outstations and smaller motor control centres which require a fast fix or reconfiguration.

Features and benefits

- Fast configuration with easy-to-use programming software
- Include your name and logo with the customisable fascia
- Fast installation and replacement
- Flexible to expand
- Simple and economical operator interface
- Provides all the features of high resolution graphical displays and incorporating advanced HMI functions
- Touch screen assure an excellent balance between the size and quality of dialogue

Associated technical catalogue

<table>
<thead>
<tr>
<th>Associated technical catalogue</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magelis catalogue</td>
<td>DHMED200031EN</td>
</tr>
</tbody>
</table>
Push buttons and indicators

Building control equipment

Human machine interface

Description

A comprehensive offer of harmony lamps, switches and push buttons to suit every application with a range of metal (Style 4) or double insulated (Style 5) products.

The most extensive range on the market incorporates new ergonomic design and improved aesthetics.

Applications

For indication and control panels requiring human interaction with a control system, i.e. shutter doors, plant rooms, motor control etc.

Features and benefits

■ Unique LED technology - lower costs, a 100,000 hour life
■ Unique mounting design - faster installation with secure mounting
■ Software tools - simplify selection, quotation and design stages
■ Major international approvals - worldwide acceptance in all markets
■ Ease of marking

□ Terminals colour coded to depict N/O and N/C and for LED colour
□ Add-on rear mounted legend holder
■ Various connection methods
■ ‘Self-stripping’ connector
□ Vibration resistant screw clamp terminals
□ Pins for printed circuits
■ Contact blocks
□ Single N/C or N/O
□ New double block, N/O+N/O, N/O+N/C, N/C+N/C
□ Low power switching version, dust protected to IP5x
■ Light blocks
□ ‘Protected LED’ direct supply 24V, 110V and 230V. Available in white, red, yellow, blue and green
□ For BA9s base fitting bulbs, direct supply or via an integral transformer

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Harmony range guide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICC 1601</td>
</tr>
</tbody>
</table>

Telemecanique
Control panel equipment

This section details the range of products available to simplify the design and construction of any electrical or control system panel.

It includes the following:

- Power supplies
- Transformers
- Switch disconnectors
- Connection interfaces
- Smart relays
- Plug-in relays
- Measurement relays
- Interface modules
- Electronic timers
- Industrial circuit breakers
- Busbar systems
- Terminals
- Cable ends
- Industrial plugs and sockets
Power Supplies

Control panel equipment

Description

A range of power supplies designed to provide the DC voltage necessary for the control circuits of most control system equipment.

Split into several families this range meets all industries needs, whether the supply is single or three phase, using conventional rectifier operation or electronic switch mode operation they provide a quality of output suitable for their varied applications.

Applications

High or low output DC power supplies designed to provide the DC voltage necessary for the control circuits of most control system equipment used in buildings.

Features and benefits

- Regulated switch mode units - ultra compact - single or three phase input - up to 40A output - wide input voltage capability - secondary voltage adjustment - electronic protection with manual or auto reset
- Single or three phase filtered rectified units providing a 24V DC supply up to 40A
- Modular regulated power units for 5V, 12V, 15V and 24V DC supplies
- DIN rail mounted compact high output power supplies reliable compact power supplies covering a wide range of output voltages
- Filtered versions to keep the output voltage constant, no matter how the mains input fluctuates
- Switch mode or galvanically isolated versions

Associated technical catalogue

<table>
<thead>
<tr>
<th>DC power supplies technical catalogue</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICC 1754</td>
</tr>
</tbody>
</table>
**Description**

The high quality ABL6 range of single phase safety isolating and isolating control transformers are designed to supply the control circuits of electrical equipment from a 230/400V supply at 50 or 60Hz.

**Applications**

Where electrical isolation is required between supply and application.

**Features and benefits**

- Power range from 25 to 2500VA
- Dual standard primary winding 230/400V AC
- Additional primary tap for input flexibility (+15V and -15V)
- Twin secondary windings for series or parallel connection giving 12, 24, 48,115, 230V secondary
- Easy installation with clearly marked 4mm screw terminals
- Low inrush current
- High efficiency, low regulation
- UL and CSA certified
- Entire range is fitted with an earth screen in order to reduce the spreading of electromagnetic interference and increase user safety

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Control and connection components</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC 1788</td>
<td></td>
</tr>
</tbody>
</table>
**Vario switch disconnectors**

**Description**
Three pole switch disconnectors from 12A to 175A in 3 frame sizes. Available in kit form or as individual components. Kits include 3 pole switch body, extension shaft, interlocking padlockable operator assembly and incoming terminal shroud.

**Applications**
Suitable as a main switch or emergency/main switch for control panels, MCC’s and machines. Add on modules available include main poles, switched neutral and auxiliary contacts.

**Features and benefits**
- In-line connections with box lugs for ease of wiring 3 pole switch easily adapted to 3p+N, 4 pole or 6 pole using add-on modules
- Front or rear mounting, front or rear connection
- Available in kit form or as individual components
- Choice of red/yellow (emergency switching) or black/black (main switching) operator assemblies
- Single hole 22mm operator fixing up to 40A

**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Order reference</th>
<th>Power control and protection catalogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC 1740</td>
<td></td>
</tr>
</tbody>
</table>
Connection interfaces

Control panel equipment

Description

The Telefast 2 system is a set of products for rapid connection of I/O (analogue and digital signals) to a PLC replacing the need for railmounted terminals and interface relays.

Applications

Space saving control panels requiring minimal space.

Features and benefits

- Connections to PLC outputs - HE10 connectors - Sub-D connectors directly to terminal blocks
- Fixed or removable relay sub-bases
- Relay or solid state outputs
- LED indication per channel
- Fuse protection per channel
- Blade isolation per channel
- Dramatic reduction in panel wiring
- Easier reconfiguration of panels
- Protected inputs to buffer the outside world signals and the PLC equipment

Associated technical catalogue

<table>
<thead>
<tr>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panelbuilding and cabling accessories</td>
</tr>
</tbody>
</table>
Description
The Zelio Logic smart relay is designed for small automated systems and is suitable both for use in industrial and commercial applications.

Features and benefits
- Very compact
- Ease of setting-up provides a competitive alternative to basic cable logic or specific card solutions
- The ease of programming, ensured by the universal contact language, meets all automation requirements and also, the needs of the engineer
- 4 line, 12 character LED display gives clear status information

Technical characteristics

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>100 - 240V AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input current</td>
<td></td>
</tr>
<tr>
<td>115V</td>
<td>0.65mA</td>
</tr>
<tr>
<td>240V</td>
<td>1.3mA</td>
</tr>
<tr>
<td>Frequency</td>
<td>47 - 63Hz</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
<tr>
<th>Panelbuilding and cabling accessories</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC 1871</td>
<td></td>
</tr>
</tbody>
</table>
Description

The RU range of octal plug-in relays with 2 C/O and 11 pin plug-in relays with 3 C/O contacts and optional LED indicator. The 11 pin relay has an additional multifunction timer module available.

The RX miniature plug-in relays has 4 C/O contacts and mechanical indicator to show the contact position plus an optional LED indicator.

A button on the front allows the spring return contacts to be forced for test purposes.

Applications

Any control circuit which requires a signal to be converted onto another form.

Features and benefits

- RU - standard octal and 11 pin bases
- RU - 2 C/O or 3 C/O 10A thermal contacts
- RU - coil suppressors: diode for DC supply – varistor or RC circuit for AC supply
- RU - Gold plated 3 C/O version with 4A thermal contact for use down to 3mA 5V
- RX - 4 C/O 5A thermal hard silver contacts
- RX - Control voltages available from 24v DC up to 230V AC
- RX - Facility for the mounting of a suppression diode (1N4007 not supplied) on the 14 pin socket for DC operation
- Reduced panel times
- Complete flexibility for the future

Associated technical catalogue

<table>
<thead>
<tr>
<th>Zelio plug-in relays</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICC 1892</td>
</tr>
</tbody>
</table>
Measurement relays

Control panel equipment

Panel products

Description

A range of DIN rail mounting relays for measurement of voltage, current, liquid level etc.

With the threshold detection providing relay outputs, either instantaneous or time delayed in operation they can provide the majority of functions needed for AC or DC machine monitoring and of heating or lighting circuits.

Applications

Simple conversion of building or process measures into electrical signals required by control systems.

Features and benefits

- Liquid level control using control probes
- Providing additional information into any control system
- Compact design/panel mounted
- DIN rail mounting, symmetrical or asymmetrical
- Accuracy of setting ±3%
- Unique tamperproof option
- UL and CSA certified
- Voltage measurement - 50mV to 500V AC or DC
- Current measurement - 3mA to 15A direct AC or DC

Technical characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>50mV to 500V</td>
</tr>
<tr>
<td>Current</td>
<td>3mA to 15A</td>
</tr>
</tbody>
</table>

Associated technical catalogue

<table>
<thead>
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<th>Control and connection components</th>
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<tbody>
<tr>
<td>ICC 1788</td>
<td></td>
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</tbody>
</table>
Description
A range of electromechanical and solid state interface modules for use with PLC inputs for use with a variety of sensor types.

In addition analogue/digital interfaces for both current and voltage conversion and detection.

Applications
Designed for interfacing two control systems together or to provide signal conditioning.

Features and benefits
■ Micro relay technology used in electromechanical models allowing very low switching levels (TTL, HCMOS etc.)
■ Transmitters for Pt100 temperature probes
■ Analogue threshold detectors
■ Reference source for potentiometers
■ 8 bit and 12 bit analogue/digital and digital/analogue convertors
■ Current/voltage and voltage/current convertors (10V, 4-20mA etc)
■ Compact design
■ Wide range of input and output signals
■ Modular design
■ DIN rail mounted

Associated technical catalogue

<table>
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</tbody>
</table>
Electronic timers
Control panel equipment
Panel products

Description
DIN rail mounting electronic timing relays, from simple on/off to full multifunction devices.

Applications
Stand alone or in conjunction with other relays. Simple to complex control systems can be developed to suit every application, e.g. lighting, changeover systems and cascade control.

Features and benefits
- Relay or solid state outputs
- AC or DC operation
- Time delays from 0.05s up to 300h
- Modular 17.5mm or 22.5mm DIN mounting
- Easy set-up via dials at front of unit
- Can be combined to produce sequence timing functions
- Wide choice of options
- Symmetrical or asymmetrical mounting
- Timing options include:
  - On delay
  - Off delay
  - On/off delay
  - Timing pulse on energisation
  - Timing pulse de-energisation of external contact
  - Flashing relay

Associated technical catalogue

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</thead>
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</tr>
</tbody>
</table>
Industrial circuit breakers

Control panel equipment

Panel products

Description
The GB2 thermal magnetic circuit breakers protect and isolate the control circuits of industrial equipment.

Applications
Designed especially for the protection of control circuits in industrial equipment having a magnetic tripping threshold in the order of 12 - 16 times the nominal rating. Ideal for withstanding the high transient peak currents encountered in the energisation of contactors, relays and solenoid valves, or the magnetising current of control transformers.

Features and benefits
- Clip-on fixing onto all types of 35mm DIN rail
- Upstream and downstream marking by means of AB1 clip-in markers
- Clear indication of "I" and "O" positions on the operator
- Tamper-proof device which requires no special maintenance

Technical characteristics
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Rated Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB2-CB</td>
<td>Single pole</td>
<td>0.5 to 20A</td>
</tr>
<tr>
<td>GB2-CD</td>
<td>Single pole + neutral</td>
<td>0.5 to 20A</td>
</tr>
<tr>
<td>GB2-DB</td>
<td>2 pole</td>
<td>0.5 to 20A</td>
</tr>
</tbody>
</table>

Magnetic tripping threshold between 12 and 16

Associated technical catalogue

<table>
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</thead>
<tbody>
<tr>
<td>Power control and protection catalogue</td>
</tr>
</tbody>
</table>
**Busbar systems**

**Control panel equipment**

**Panel products**

**Description**

With three ranges of busbar for power distribution within control panels the manufacture of panels has never been easier.

For simple panels the AK2 range provides support and shrouding busbar up to 690A providing flexibility for application needs.

For systems requiring ASTA certified busbar systems the AK3 800A vertical busbars with plug-in modules to provide a fully flexible certified design.

The AK5 prefabricated 160A busbar system provides removable units allowing the mounting of motor starter components.

**Applications**

Plug-in busbar system for motor control centre applications and any other types of panel requiring high power but maximum flexibility.

**Features and benefits**

- Pre-assembled systems suitable for UL and CSA applications
- All suitable for systems having prospective short circuit currents up to 50kA
- Pre assembled systems with full IP20 protection
- Simple plug-in assembly
- Guaranteed connectivity
- Space saving design
- Reduction in panel wiring time
- Maximum flexibility for future changes

**Associated technical catalogue**

<table>
<thead>
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</tbody>
</table>
Description

A range of standard DIN rail mounting blocks for cables up to 240mm.

Special terminal blocks for cylindrical fuses, diodes, resistor etc. Plug and socket types for standard or ribbon cable.

Applications

For the termination of cables within control panels (BMS outstations, switchboards, etc).

Features and benefits

- Symmetrical or asymmetrical DIN rail mounting
- Special colours for neutral (blue) and earthing (green/yellow) requirements with other colours on request
- Clamp, lug and spring terminal versions
- Full range of terminal making accessories
- Reduction in wiring time
- Compact space saving design
- Modular design
- Interlocking systems to reduce installation errors
- Double deck versions designed to increase the stacking density

Associated technical catalogue

<table>
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<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>
Cable ends

Panel products

Description

A range of insulated cable ends and tooling suitable for cables having cross sectional areas from 0.25mm² up to 50mm².

Clip-on marker tags available as letters, numbers, and symbols colour coded providing easy identification of cables.

Also provided is a range of tooling and storage cases.

Features and benefits

- Single or double cable types with isolating bevel.
- Short, medium and long lengths for differing terminal types
- Different packaging types for different manufacturing applications
- Tinned copper tubes with halogen free isolating bezel usable up to 105°C
- Designed for all cable types
- Easier/neater cable termination
- Clear identification of circuits

Associated technical catalogue

<table>
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</table>

Telemecanique
**Industrial plugs and sockets**

**Description**
Range of industrial plugs and sockets, wander type, panel mounting and wall mounting for the safe connection of electrical loads.

**Applications**
Suitable for situations where electrical loads need to be connected and disconnected quickly and conveniently.

**Features and benefits**
- Fully comply with EN 60309
- Ratings up to 125A
- IP44 and IP67 versions
- Colour coded for voltage application
- Sockets available with interlock switch
- Range of modular enclosures for sockets and associated DIN mounted devices

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**Associated technical catalogue**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial plugs and sockets</td>
<td>MGD 5018</td>
</tr>
</tbody>
</table>
Enclosures

To ensure the electrical and control equipment are protected suitably, it is normal to install them in metal or plastic enclosures.

It includes the following:

- Industrial metal boxes
- Industrial plastic boxes
- Wall mounted steel enclosures
- Wall mounted polyester enclosures
- Floor standing steel enclosures
- Floor mounted polyester enclosures
- Wall mounted IP55 steel enclosures
- 19” enclosures
- Control desks
Industrial boxes
metal

Control panel equipment
Enclosures

**Description**

An extremely versatile range of boxes. Typically with screw fix lids, they are textured in polyester powder paint and have injected sealing gaskets.

**Applications**

For connection of cables, terminals and mounting equipment in indoor and outdoor environments.

**Features and benefits**

- Available in IP44 and IP66 versions
- Screw fixed lid
- Stepped cable entry seals
- Hard wearing
- Mounting rail and back plates are available for some models
- Pack quantities from single units upwards
- Simple to use

**Range**

- Modular sizes from 80mm H x 80mm W x 45mm D
- To 400mm H x 400mm W x 110mm D
- Complimented by a range of hinged lid sandwich boxes with generous depth

**Associated technical catalogue**

| Sarel panorama | SAR8 0139 |
Industrial boxes
plastic

Control panel equipment
Enclosures

Description
A range of versatile boxes used for a variety of indoor and outdoor applications. Typically, the boxes have screw fixed lids with an optional accessory to provide hinges. The boxes have injected sealing gaskets.

Applications
For connection of cables, terminals and mounting of sensitive electrical equipment in indoor and outdoor environments.

Features and benefits
- IP66 or IP54 when hinges are used
- Screw fixed lid
- Optional hinge attachment
- High impact resistance
- Self extinguishing
- Double insulated
- A variety of options including clear lid, opaque lid, high lid and terminal chambers. High temperature and UV resistance
- Lightweight and easy to use
- Flexible installation options

Range
- A range of enclosures to suit most applications
- From 70mm H x 130mm W x 60mm D
- To 260mm H x 330mm W x 150mm D

Associated technical catalogue

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Sarel panorama</td>
<td>SARB 0139</td>
</tr>
</tbody>
</table>
Description IP66 (Spatial 3D)

Enclosures designed and built to the latest standards with universal applications. Available with or without plain galvanised steel chassis and with plain or glazed door options.

Features and benefits

- IP66
- Designed and constructed to the latest UK and European Standard BS EN 50298
- Folded cross structure enclosure
- Easily removable door
- Cable gland plate on bottom
- Grid pattern on gland plate
- Door loading 50kg/M2
- Single locking point with 3 point locking mechanism above 600mm height
- Door handle can be fixed or removable
- Glazed door options
- Internal door for mounting controls and meters
- Stainless steel versions available
- Re-usable packaging
- IP rating maintained when mounted
- Meets the latest standards
- Robust construction
- Universal applications
- Left or right opening door
- Gland plate is removable and pre-marked for drilling

Associated technical catalogue

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<tr>
<td>SARB 0139</td>
</tr>
</tbody>
</table>
**Wall mounted polyester Thallasa**

**Control panel equipment**

**Enclosures**

**Description**

Self extinguishing, glass fibre reinforced polyester enclosures in smooth finish, colour RAL 7032.

**Applications**

For outdoor and indoor use, widely used in utility, roadside and trackside application.

**Features and benefits**

- IP66
- Hinged lid, can be left or right opening
- Glazed door version
- Virtually maintenance free
- Top and bottom integral canopies
- High impact resistance IK10
- Moulded polyurethane sealing gasket
- Door opens to 180°
- Easily machineable
- Light weight
- Corrosion proof
- UV Stable
- Weatherproof

**Range**

- From 300mm H x 250mm W x 160mm D
- To 1055mm H x 850mm W x 350mm D

**Associated technical catalogue**

<table>
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</tr>
</tbody>
</table>
Floor standing steel enclosures

Description

Two ranges of versatile floor standing enclosures, the first being wardrobe style monobloc construction complemented by an extendable range of suite style enclosures.

Applications

Designed for low and medium power distribution and for use in automation applications.

Features and benefits

- IP55
- High resistance to mechanical impact IK0
- Textured epoxy polyester powder paint in grey RAL 7032
- Glazed doors available as standard
- Inclusive of chassis plate
- Wide range of 19" accessories
- Stainless steel versions available
- 4 point locking system
- Extremely robust construction
- Left or right hand opening doors
- IP rating guaranteed by locking system
- Simple to use, cable management accessories
- Thermal management equipment increases capacity of enclosure and extends component life cycle

Range

- Wardrobe style 1000mm H x 1000mm W x 300mm D
- 200mm H x 1600mm W x 600mm D
- Suite style 1600mm H x 600mm W x 600mm D
- Per section 2200mm H x 1200mm W x 800mm D

Associated technical catalogue

| Order reference | Sarel panorama | SARB 0139 |
Floor standing polyester Thallasa

Enclosures

Description
A range of modular floor standing polyester enclosures designed for any application, especially suited for outdoor use.

Applications
For all outdoor applications, used widely in utility, communications, roadside, trackside and dockside.

Features and benefits
- IP44 - IP65
- Hinged lid, can be left or right opening
- 3 door options
- Virtually maintenance free
- High impact resistance IK10
- Injected polyurethane sealing gasket
- Easily machinable
- Lightweight
- Corrosion proof
- UV stable
- Weatherproof
- Suitable for aggressive atmosphere

Range
- 40 sizes from:
  - 500mm H x 500mm W x 320mm D to 1500mm H x 1250mm W x 470mm D

Associated technical catalogue

<table>
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<tr>
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<tr>
<td>SARB 0139</td>
</tr>
</tbody>
</table>
Wall mounted steel enclosures IP55

Description
Enclosure with high levels of security due to the absence of gland plates.

Applications
Particularly suited to fire, alarm and security applications.

Features and benefits
- IP55
- Very hard wearing, durable and secure
- Concealed hinges
- Symmetrical design
- Key lockable
- Optional chassis plates
- Pre-drilled for wall mounting
- Earthing points on body and door
- Watertight sealing caps
- Ingress integrity maintained when mounted
- Suitable for use in public areas
- Very secure enclosure
- Door can be left or right opening
- Supplied ready to mount and use

Range
- From 250mm H x 200mm W x 150mm D
- To 1000mm H x 800mm W x 300mm D

Associated technical catalogue

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Sarel panorama</td>
<td></td>
</tr>
</tbody>
</table>
**19” enclosures**

**Enclosures**

**Description**
A range of wall and floor mounting 19” enclosures.

**Applications**
IT communications, patch panels and a variety of high-tech applications

**Features and benefits**
- Non industrial appearance, smoked glass doors
- Range of door options
- Removable sides, can be locked
- Key locking
- A range of six standard colour options
- Thermal management accessories
- Full range of mounting hardware
- Power distribution rails and lighting
- Lightweight construction
- Flexible design
- Not out of place in office or control room location
- Easy to configure
- Secure
- Thermal management equipment increases capacity of enclosure and extends component life cycle

**Range**
- Wall mounted from 6u to 18u
- Floor mounted from 241u to 47u

**Associated technical catalogue**

<table>
<thead>
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</tbody>
</table>

**SAREL**
Control desks
Control panel equipment
Enclosures

Description
A range of monobloc, modular and self-assembly control desks.

Applications
Process control, conveyor, machine handling and secure control stations.

Features and benefits
- Floor mounted
- Up to IP55
- With or without consoles
- Reversible doors
- High impact resistance IK10
- Desk lids with pneumatic stays
- Some models with removable rear panel
- Stainless steel options
- Can be suited
- Flexible
- Hard wearing
- Easy access
- Proven designs

Range
- From 1000mm H x 600mm W x 400mm D
- To 1400mm H x 1600 W x 600mm D

Associated technical catalogue

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</table>

96
Merlin Gerin is a world leader in the manufacture and supply of high, medium and low voltage products for the distribution, protection, control and management of electrical systems and is focused on the needs of both the commercial and industrial sectors. The newly launched VDI Network Solutions offer provides flexible, configurable Ethernet systems for all communication needs.

Square D is a total quality organisation and its business is to put electricity to work productively and effectively, protecting people, buildings and equipment. Its low voltage electrical distribution equipment, systems and services are used extensively in residential and commercial applications.

Telemecanique is a UK market leader and world expert in automation and control. It provides complete solutions, with its range of components, Modicon range of high technology programmable controllers (PLCs), multiple fieldbus and Ethernet communication networks, HMI, motion control systems, variable speed drives and communications software. In addition, it offers power distribution through prefabricated busbar trunking.

Schneider Electric’s local support

Schneider Electric is committed to supporting its customers at every stage of a project. Our 180 sales engineers, the largest dedicated sales force in the UK electrical industry, operate from 4 customer support centres.

Our sales engineers are skilled at assessing individual requirements and combined with the expert support of our product specialists, will develop the most effective and economical answer taking relevant regulations and standards fully into account.

To access the expertise of the Schneider Electric group, please call 0870 608 8 608. Each customer support centre includes facilities for demonstrations and training, and presentation rooms fully equipped with audio visual and video, providing excellent meeting facilities.

Local customer support centres

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webmasterGB@schneider.co.uk

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8 Brindley Road
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Manchester M16 9HQ
webmasterGB@schneider.co.uk

London and South East
Schneider Electric Ltd
2nd Floor
408 Strand
London WC2R 0NE
webmasterGB@schneider.co.uk

Product showrooms

Industrial systems and solutions showroom
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Building systems and solutions showroom
Schneider Electric Ltd, Stafford Park 5, Telford, Shropshire TF3 3BL

Energy and Infrastructure systems and solutions showroom
Schneider Electric Ltd, 123 Jack Lane, Hunslet, Leeds LS10 1BS

Schneider Electric

www.schneider.co.uk

Nationwide support on one number - call the Customer Information Centre on

0870 608 8 608

Fax 0870 608 8 606

Schneider Electric's local support

Schneider Electric is committed to supporting its customers at every stage of a project. Our 180 sales engineers, the largest dedicated sales force in the UK electrical industry, operate from 4 customer support centres.

Our sales engineers are skilled at assessing individual requirements and combined with the expert support of our product specialists, will develop the most effective and economical answer taking relevant regulations and standards fully into account.

To access the expertise of the Schneider Electric group, please call 0870 608 8 608. Each customer support centre includes facilities for demonstrations and training, and presentation rooms fully equipped with audio visual and video, providing excellent meeting facilities.

Merlin Gerin

Merlin Gerin is a world leader in the manufacture and supply of high, medium and low voltage products for the distribution, protection, control and management of electrical systems and is focused on the needs of both the commercial and industrial sectors. The newly launched VDI Network Solutions offer provides flexible, configurable Ethernet systems for all communication needs.

Square D

Square D is a total quality organisation and its business is to put electricity to work productively and effectively, protecting people, buildings and equipment. Its low voltage electrical distribution equipment, systems and services are used extensively in residential and commercial applications.

Telemecanique

Telemecanique is a UK market leader and world expert in automation and control. It provides complete solutions, with its range of components, Modicon range of high technology programmable controllers (PLCs), multiple fieldbus and Ethernet communication networks, HMI, motion control systems, variable speed drives and communications software. In addition, it offers power distribution through prefabricated busbar trunking.

Local customer support centres

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Product showrooms

Industrial systems and solutions showroom
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Building systems and solutions showroom
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