



Electrical



Automotive



Hydraulics

Powering business more sustainably

Sustainability – smaller footprint in the world

The principle of sustainability means meeting the current needs of our own society without compromising the needs or options of future generations. It is a principle, which forms the very core of our design and production philosophy and guides all our activities across the world. Our commitment to reducing our own ecological footprint covers a wide range of green technologies, products and services that help our customers utilise electrical power more efficiently, while improving environmental performance.



Eaton has been recognised throughout the world for its uncompromising business ethics. For example, it was listed as one of the 'World's Most Ethical Companies' on the Ethisphere Institute's annual list for three consecutive years (2007, 2008 and 2009).



An Eaton Green Solution

Learn more about Eaton Green Solutions at www.eaton.com/greensolutions

When you see this symbol, you know the solution represents an Eaton benchmark for environmental performance.

Automotive

A supplier of critical components that reduce emissions and fuel consumption and improve stability and performance of cars, light trucks and commercial vehicles. Principal products include engine valves and valve train components, transmission and engine controls, supercharger, locking and limited slip differentials, cylinder heads, fluid conveyance components, body mouldings and spoilers.

Hydraulics

A worldwide leader in reliable, high-efficiency hydraulic systems and components for use in mobile and industrial applications. Markets include agriculture, construction, mining, forestry, utility, material handling, earth moving, truck and bus, machine tools, moulding, primary metals, automotive, power generation, port machinery and entertainment.



Powering electrical systems worldwide

Buildings

- Residential
- Healthcare
- Education
- Commercial offices
- Retail
- Public sector
- Airports
- Electrical distribution solutions for safe and efficient power delivery
- Power quality systems for uptime and reliability
- Power metering and monitoring to add intelligence and save costs
- Industrial control products for HVAC applications

Information Technology

- Data centers
- Telecommunication
- Networks
- Computer rooms
- World's most efficient line of UPSs to reduce footprint and save energy
- Reliable power systems with inherent redundancy to improve availability
- Power metering and monitoring to diagnose problems and lower costs
- Local service and support for quick response



Public and private sectors

Buildings, Information Technology, Industrial & Machinery, Energy & Utilities
We provide reliable, efficient and safe power management.

Industrial & Machinery

- Manufacturing
- Agriculture
- Construction
- Mining and metals
- Processing:
 - Petrochemicals
 - Pharmaceuticals
 - Pulp and paper
- Material handling
- Electrical distribution equipment to deliver power throughout the enterprise
- Control & automation and power quality equipment for process control
- Power metering and monitoring to manage energy costs and uptime
- Power and motion control products to optimize productivity, reliability, safety and operator comfort

Energy & Utilities

- Renewable energy:
 - Solar
 - Wind
 - Hydropower
- Traditional energy:
 - Oil
 - Gas
- Smart grid
- Water and waste water
- Electrical balance of system and turnkey services for residential, utility and commercial solar installations
- Power distribution equipment, control components and system installations services
- Network power grid technology for intelligent data, lower costs and crew / public safety



Complete coverage of the market – worldwide in all standards

Local market leader with global competence

As in so many respects with Eaton and Moeller, the presence of one in the different regions of this world also complements that of the other. In markets that adhere to IEC standards, components from Moeller are established, and in the world of UL/CSA, Eaton is a key player. Now all customers are benefiting from first-rate engineering and the combined know-how in research and development – no matter which standards they use.

In electrical engineering, it was less continents and regions but rather standards that drew boundaries. Historically grown in the U.S. market, Eaton focused on product series according to UL/CSA standards. Consequently, Eaton's Electrical Sector was always strongly geared towards the markets in North and South America, the Middle East, Benelux as well as the United Kingdom.

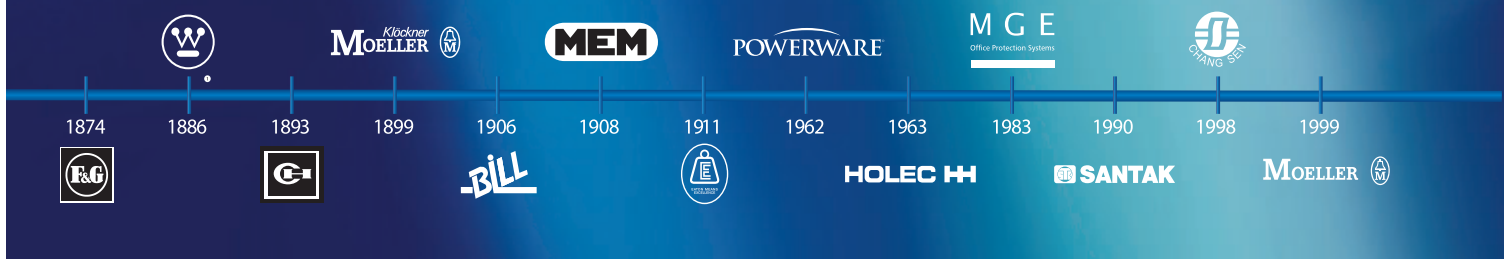
Moeller series products from Eaton are the customers' first choice in markets adhering to IEC standards for innovative switchgear and control circuit devices, control, drive and operating systems as well as sophisticated visualization and communication.





EAT•N

The power of fusion.



EAT•N
Powering Business Worldwide

There's a certain energy at Eaton. It's the power of uniting some of the world's most respected names to build a brand you can trust to meet every power management need. The energy created supports our commitment to powering business worldwide.

From generation and distribution to protection and control, Eaton allows you to proactively manage your complete power system by providing electrical solutions that make your applications safer, more reliable, and highly efficient. Visit www.eaton.com/electrical.

All of the above are trademarks of Eaton Corporation or its affiliates. The Westinghouse brand name is used by temporary license in Asia Pacific. ©2010 Eaton Corporation.

SmartWire-Darwin Communication System

Evolution in the control panel

For the manufacturer of machinery and installations, finding the optimal balance between maximum functionality and optimal costs is paramount. Designed for further development, SmartWire Darwin is a communication system for industrial switchgear in control panels and the periphery: from control, protection and switching to actuation, operation and monitoring.

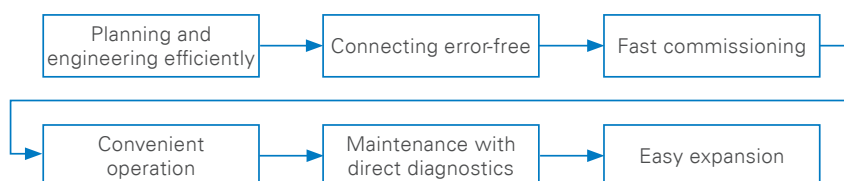
One technology from which you will profit, now and in the future.



SmartWire Darwin reduces cabling effort on many switchgear systems by over 60 percent and helps save costs along the entire work chain – from design through construction and commissioning, up to expansion. Here, SmartWire-DT relies on proven Moeller industrial switchgear devices and enables them to communicate.

SmartWire Darwin products in this catalogue:

- Chap. 1** – SmartWire Darwin- the complete range
- Chap. 2** – Pilot devices
- Chap. 5** – Contactors
- Chap. 7** – Motor protective circuit breaker
- Chap. 9** – Softstarter
- Chap. 17** – Compact circuit-breakers



xBoard enclosure and energy distribution program

Utilised in industry and buildings – enclosures from Eaton are convincing. High flexibility, easily adapted to frequently changing circumstances. Designed for long-term mechanical loads.

High mechanical stability.

Numerous enclosure variants.

Time-saving mounting units.

Prefabricated energy and control distributions.

Our system partner switchgear systems operate prefabricated energy and control distributions worldwide.

www.moeller-systempartner-schaltanlagen.net

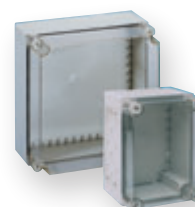


Busbar system SASY 60i

Utilized in control panels in machinery and installations worldwide. Large air and creepage distances according to UL508A.

Especially suitable for CI insulated enclosures (Chap. 20), CS steel enclosures (Chap. 21) and combination enclosures (Chap. 22).

► Chap. 16



CI insulated enclosures

Flexible in assembly: individual enclosures, wall-mounting distribution systems, floor standing distribution boards in many sizes – always the right solution.

Ideal for the circuit-breaker NZM (Chap. 17) and the photovoltaic components (cf. alongside) from Eaton.

► Chap. 20



CS sheet steel wall-mounting enclosure

45 enclosure sizes: 250 x 200 x 150 mm – 1200 x 1200 x 250 mm.

Effective protection against direct contact with live parts. Full safety and protection from damaging ambient conditions through protection type IP66. Ideal for inclusion of SmartWire Darwin components.

► Chap. 21



Service distribution board IVS

A wide variety of mounting units, tailored to original Eaton switchgears and protection devices. Time-saving, easy mounting.

► Chap. 22



Combination enclosure XVTL

55 sizes to select from. Height: 1400–2000 mm, width: 425–1200 mm, depth: 300–800 mm.

Robust type, in commercial buildings as well as in industry.

► Chap. 22

Safety Technology - Control the unexpected

Safety Technology from Eaton – the comprehensive product portfolio for safety-related solutions. Depending on the specific application and requisite hazard protection, the appropriate safety functions in compliance with the highest requirements of international safety norms are utilized.

Safety Technology components from Eaton are certified by TÜV-Rheinland or the German Institute for Occupational Health and Safety (BGIA) and cover the entire safety chain:

- Input: fast and safe recording.
- Logic: safe monitoring and processing.
- Output: reliable switching off.



Safety engineering in this catalogue:

The fundamental purpose of all Eaton devices is to help you control electricity safely and reliably. Several components are especially designed and constructed for safety-related applications.

- Chap. 2** – Pilot devices, hand and foot switches
- Chap. 2** – Pilot devices, emergency stop devices
- Chap. 2** – Pilot devices, signal columns with acoustic alarm
- Chap. 3** – Position switches, sensors, safety position switches
- Chap. 4** – Cam switches, switch-disconnectors
- Chap. 5** – Contactors, power contactors
- Chap. 5** – Contactors, contactor relays
- Chap. 5** – Contactors, contactor monitor CMD
- Chap. 13** – Safety relay ESR5
- Chap. 13** – Control relay suitable for safety circuits easySafety

Safe logic processing with safety relay ESR and safety-related control relay easySafety.

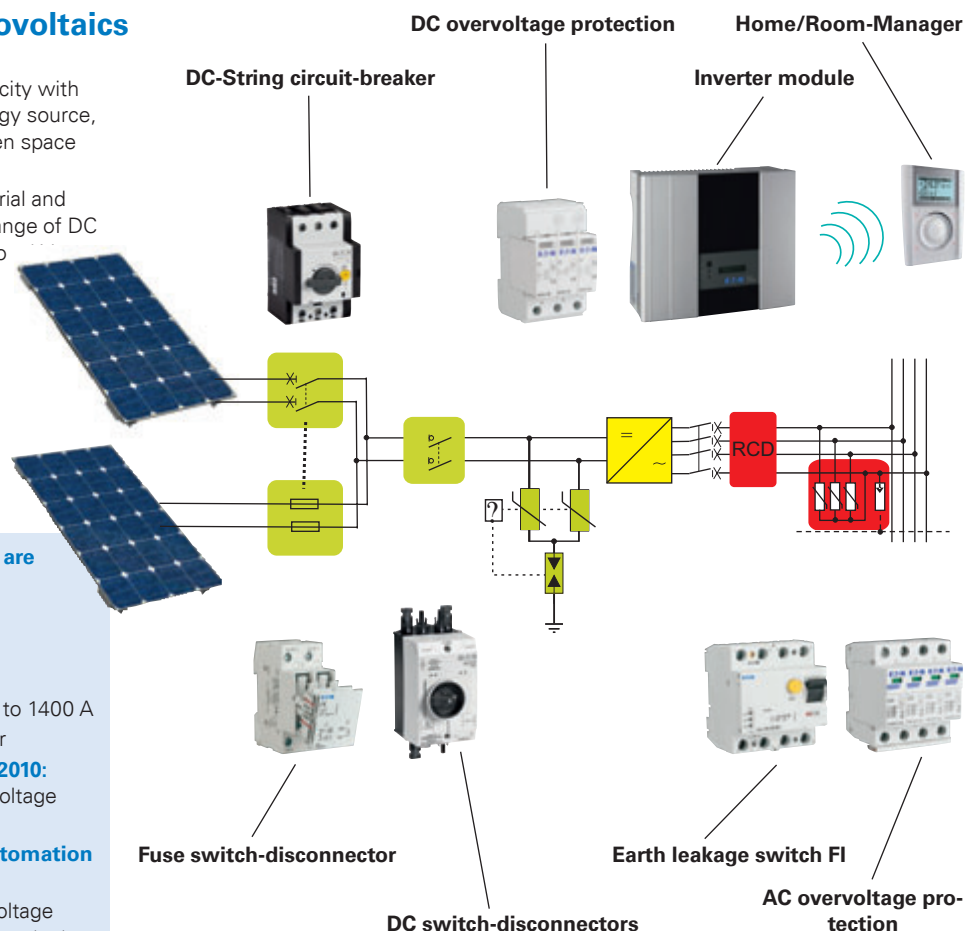
Flexible processing with safety-related control relay easySafety. All in one: easySafety combines safety and control functions in one device.

Cost-effective monitoring with safety relay ESR5. The appropriate safety function for each application, in a smaller enclosure width.

Renewable energy – photovoltaics

Photovoltaics – Convert sunlight to electricity with solar cells. A sustainable, renewable energy source, used in private or public buildings and open space installations.

For photovoltaic applications in the industrial and building sectors, Eaton offers a product range of DC switching devices for direct voltages up to 1500 V.



Devices for photovoltaic applications are found in these catalogues:

- Chap. 5** – DC contactors
 - Chap. 7** – DC string circuit-breaker
 - Chap. 7** – DC switch-disconnector
 - Chap. 17** – Compact circuit-breakers up to 1400 A
 - Chap. 19** – DC fuse switch-disconnector
 - In the catalogue Installation Devices 2010:** Residual current devices, AC transient voltage surge suppression
 - In the catalogue Building Services Automation xComfort 2009:** Home/Room-Manager
- For information regarding DC transient voltage surge suppression and inverters, please contact us.

Eaton Sensors

The Eaton sensors significantly extend the previous Moeller spectrum of position switches and sensors. The familiar position switches of the series LS-Titan have been supplemented by a great number of electrical sensors: inductive, optical and capacitive. The basic devices have been supplemented and completed by a comprehensive scope of accessories for mounting aids, cables and multi-sensor connection blocks.



PREMIUM plus series:

Inductive sensors in miniature design. Include greater clearances, longer lifespans.

E58 Harsh Duty:

For use in harsh environments, where high pressure or steam jets etc. are used.

Eaton Sensors in this catalogue:
Chap. 3 – Position switches, sensors, pressure switches



GLOBAL series E57:

Inductive sensors in standard industrial design.

Comet series:

Optoelectronic sensors with integrated one-way or reflection light barriers, with/without background suppression, optional connection of fibre optic cables.



iProx series:

The programmable inductive sensor permits variable setting of switching interval and functionality as well as shielding from background metals.



E65 SM:

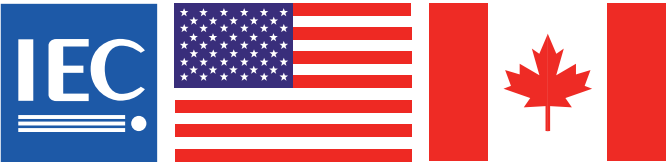
The TargetLockTM technology stands for the simplest setting work. Optimal performance in a smaller construction type.



Series E52 and E56:

Inductive proximity switch. High performance and durability in industrial standard enclosures.
→Page 3/xx

Switchgear for the global market and for North America:



Practically all devices can be used in compliance with IEC norms.

The selection pages of this catalogue indicate the products that have been approved for the North American market with the USA and Canadian flags. This does not mean these devices are exclusively for North America! Approval for North America has been granted special emphasis due to the strong export share of these devices and because standards deviate from IEC/EN norms, selection and processing requirements must be highlighted. The article "Switchgear for North America" in the appendix of this catalogue contains everything you need to know about this subject. A glossary in the appendix explains the specifically American technical terms.

Information relevant for export to North America



Product Standards	IEC/EN 60947-5; UL 508, CSA-C22.2 No. 14; CE marking
UL File No.	E29184
UL CCN	NKCR
CSA File No.	12528
CSA Class No.	3211-03
NA Certification	UL Listed, CSA Certified
Degree of Protection	IEC: IP65, UL/CSA Type 3R, 4X (indoor use only), 12, 13

Example for such an instruction.

The Std. pack column on the order pages also uses flags to indicate the articles for which the UL/CSA notes apply. Selecting a technically appropriate device also opens information to help you document suitability for use in North America on your own with a minimum of research (see above).

Eatons After Sales Service



This is the new name of the familiar **Field Service from Moeller**. Whilst the name has been changed, the reliable, first class service remains. Comprehensive information and Terms and Conditions are found in Chapter 23. The overview pages at the beginnings of the chapters also refer to Eaton After Sales Service whenever services relevant to you exist for the indicated product.

Service Specialists

Gain the benefit of our Service personnel. Comprehensive expertise linked with long term experience and modern equipment help you find the solution to your tasks.

Material

Components, cards and spare parts of the Eaton product range are available for your use.

Logistics

Personnel and material are furnished according to your requirements, professionally and on time.

Service products

The After Sales Service offers appropriate service products for the Eaton products.

Hotline

Free malfunction service around the clock.
+49 (0) 180 522 3822 (24/7)
€ 0.12 € per minute through the Deutsche Telecom network.

Onsite Service

Onsite service, analysis, installations, expansions and maintenance.

Repairs

Repair and exchange service for Eaton devices.

Online Service

Downloads, FAQs and interactive troubleshooting.

Air circuit breakers IZM



Versatile circuit-breakers up to 6300 A – for profit-optimised solutions.

The widths of the switches IZM20 to IZM63 increase with the rated operational current. To accommodate uniform installation conditions, height and depth remain constant.

For especially compact solutions: the new circuit-breaker IZMX16. Use with robust safety, engineer with optimised costs.

With the circuit-breakers IZM20 to IZM63, Eaton presents a complete offering of open circuit-breakers (ACB) up to 6300 A. Four sizes offer the most economical circuit-breaker for each project. Only the

width increases with the required rated operational current. A compact, cost-effective size can always be selected.

These especially robust circuit-breakers are already deployed worldwide in many hundreds of thousands of heavy duty industrial applications. Large material thicknesses and a high short-time withstand current are its characteristic features.

Open circuit-breakers in this catalogue:

Chap. 18 – Molded-case circuit breaker IZM and switch-disconnector IN up to 6300 A

Frequency inverters M-Max™, H-Max™



Frequency inverter M-Max™

Small and compact for assigned motor outputs up to 14 A (7.5 kW at 400 V). Especially suitable for applications where simple operation and economic efficiency are important. With integrated EMC filter and serial interface (RS485, Modbus RTU), preferred for use in compact machinery controls. Optional field bus connections such as CANopen, DeviceNet und PROFIBUS DP expand communication possibilities.

Frequency inverter H-Max™

Compact design in IP20 and IP54 for assigned motor outputs up to 310 A (160 kW at 400 V). With integrated DC link choke and EMC filter, ideal for heating, ventilation and air conditioning technology. Serial interfaces and field bus connections as with M-MAX and additional networking protocol BACNet.

Frequency inverters in this catalogue:

Chap. 10 – Frequency inverters

Steady updating makes the online catalogue a valuable supplement and continuation of the printed catalogue.

<http://de.ecat.moeller.net>



THE PRODUCT GROUP TREE

- ▶ Information
- ▶ Control circuit devices
- ▶ (Safety) position switches/sensors
- ▶ Pressure switches
- ▶ Cam switches, switch-disconnectors up to 315 A
- ▶ Timing and measuring relays
- ▶ Safety relays, safety control relays
- ▶ Control relays, multi-function-display
- ▶ Touch panel, PLC, I/O expansion
- ▶ Contactors
- ▶ Overload relays
- ▶ Motor-protective circuit-breakers
- ▶ Motor-starter combinations
- ▶ Soft starters
- ▶ Frequency inverters
- ▶ distributed drives engineering
- ▶ Compact circuit-breakers up to 1600 A
- ▶ Compact switch-disconnectors up to 1600 A
- ▶ Circuit breakers up to 6300 A
- ▶ Switch-disconnectors up to 6300 A
- ▶ Miniature circuit-breakers
- ▶ Transformers

The product group tree:
Clear layout of the
Moeller products
in product groups.

The one-dimensional product structure ensures the user can easily locate the product with a few clicks.

SELECTION AIDS



THE SEARCH

- | |
|------------------------------------|
| Contactor |
| adapter for contactor |
| amplifier module for contactor |
| auxiliary contactor |
| auxiliary contactor relay |
| bridge for contactor |
| cable terminal block for contactor |
| capacitor contactor |
| coil for contactor |
| connector for contactor |
| contactor |
| contactor |
| accessories |
| contactor amplifier module |
| contactor coil |
| contactor |

Image	Article ID	Type	Description	Price	Units	Accessories
	271026	CONTACT LENS (C) - 14.00 (R)	0-0 contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271031	CONTACT LENS (C) - 14.00 (R)	0-0 contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271044	CONTACT LENS (C) - 13.00 (R)	Contact lens, 13.00mm (C) - operated	--	[1]	[1]
	271081	CONTACT LENS (C)	Contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271102	CONTACT LENS (C) - 13.00	Contact lens, 13.00mm (C) - operated	--	[1]	[1]
	271165	CONTACT LENS (C)	Contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271180	CONTACT LENS (C)	Contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271192	CONTACT LENS (C)	Contact lens, 14.00mm (C) - operated	--	[1]	[1]
	271018	CONTACT LENS (C) - 14.00 (R)	0-0 contact lens, 14.00mm (C) - operated	--	[1]	[1]

Search/result list: high performance search with suggestion list by "Entry".

A suggestion list brings the search an above-average success rate, because nothing makes less sense than a 0-hit result.

The selection aid:
3 clicks to product

Selection-relevant features allow users to locate their products easily, without problems. From general to specific to product – 3 clicks!

Your guide through the Main Catalogue for Industry 2010

The main catalogue Industry 2010 presents a wide offering of widely differing products. Product descriptions in this catalogue are correspondingly complex and varied. Nonetheless, you can easily and quickly find your way to the desired product.

Familiarise yourself with the systematics of this catalogue. Three orientation aids to entry:

- Table of contents
- Part number list
- Alphabetical index

In each chapter, the products are always presented in the same sequence on six different page types:

- Chapter entry with table of contents
- System and technical overviews
- Ordering
- Engineering
- Technical data
- Dimensions

This systematic generally stretches itself once over the entire chapter, e.g. for the circuit-breakers and switch-disconnectors NZM up to 1600 A.

However, it may also repeat itself several times within a chapter, as in the pilot devices, where the themes foot and hand switches, RMQ-Titan, RMQ16 and signal columns SL each comprise a small sub-chapter with the sequence: entry, overview, ordering, engineering, technical data, dimensions.

Quicklinks

Each ordering page contains a Quicklink, e.g. HPL01001DE. Go to the web page of your Eaton company in Germany, Austria or Switzerland and enter the Quicklink in the search window there.

A glance in the entire table of contents or the alphabetical index brings you to Chapter 5.

The table of contents for Chapter 5 guides you to the page where ordering information is located.

Or you may go to the graphic overview at the start of the chapter, where all detail information is available.

The ordering page contains all the information you need to place an order.

New in this catalogue: extensive information for the use of Eaton Moeller devices for world markets in North America.

Notes to the use of the device is provided by the pages from type "Engineering".

Comprehensive technical data is found on the pages with that name.

The dimensions needed to plan mounting and installation are found in the "Dimensions" pages.



xCommand Control and Indication



xStart Switching, protecting and actuating motors



xCommand xSystem Automation, control and visualization



Matching of Voltage and Current



xEnergy Xpole Energy distribution, switching and protection



Xboard Optimal switchgear enclosure



SmartWire-Darwin Communication System



Foot and palm switches FAK, pilot devices RMQ, signal towers SL

Position switches LS, pressure switches MCS, sensors

Cam switches T, switch-disconnectors P up to 315 A



Mini contactor relays, contactor relay, contactors DIL

Overload relay Z..., ZEB, ZEV, EMT6

Motor protective circuit breaker PKZ and PKE

MSC motor-starter combinations

DS, DM soft starters

Frequency inverters M-Max™, H-Max™



Timing relays DILET, ETR; measuring relays EMR and monitoring relays EMR

Easy control relay MFD-Titan multi-function display

Safety relay easySafety, safety-related control relay ESR5

Automation solutions, SPS, I/O systems, visualisation

Transformers STN, UTI; universal power supply units AING



Busbar system SASY – accessories for control panel building

Compact circuit-breakers NZM, compact switch-disconnectors N up to 1600 A

IZM circuit-breakers, IN switch-disconnectors up to 6300 A

Circuit-breakers, fuses



Insulated enclosures CI, small enclosures CI-K

CS sheet steel wall-mounting enclosure



Commercial and logistic notes, approvals, After Sales Service, type / alphabetical index