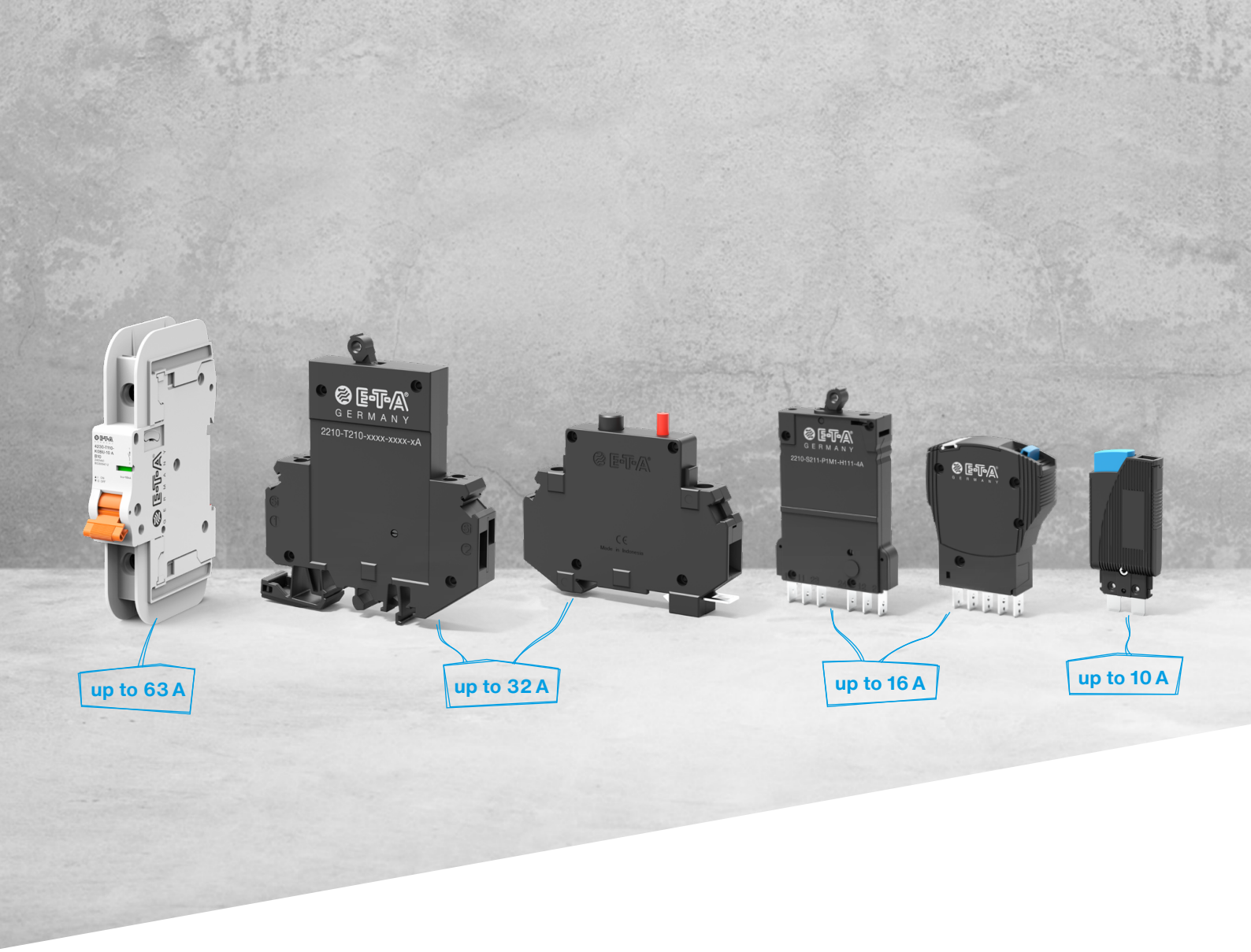
THERMAL-MAGNETIC CIRCUIT BREAKERS

Our product portfolio

E-T-A®
ENGINEERING TECHNOLOGY



PRECISE PERFORMANCE FOR TAILOR-MADE PROTECTION

E-T-A offers a comprehensive portfolio of thermal and thermal-magnetic circuit breakers for equipment protection. It covers devices for rail mounting, plug-in type breakers for power distribution modules and mini circuit breakers as replacement for blade fuses and powerful high performance MCBs with approvals for the global market. E-T-A circuit breakers always offer you attractive benefits with various mounting options, finely graded current ratings and a very compact design. Typical applications include the entire automation sector as well as applications in rail vehicles or construction machinery. In addition, there is a range of applications requiring a high degree of precise functionalities in the event of overload and short circuit.

A CLEVER FUSE REPLACEMENT

1180 thermal circuit breaker

YOUR BENEFITS

- **Increased system availability** through safe reset after tripping
- **Space and cost savings** through very compact design with only 8.2 mm installation width
- **Flexibility in system planning** thanks to modular plug-in system into the standard fuse holder

The **1180** is a thermal circuit breaker in a very compact design. It has been designed as replacement of a standard blown fuse. The **1180** features a reliable switching behaviour, a powerful snap action mechanism and is positively tripfree. The resettability and plug-in design of the **1180** significantly increase system availability compared to conventional blade fuses. It is a plug-in type solution for track-mountable terminal blocks. A wealth of accessories, such as busbars, insulation barriers and jumpers, is available for quick and easy wiring of LINE and GND.

Technical data	
Rated current	0.1 ... 10 A
Voltage ratings	AC 250 V/DC 65 V
Number of poles	1-pole
Auxiliary contacts	without
Mounting method	plug-in on terminal block
Width	8.2 mm

Typical applications

- Standard application in machine construction and process control, process industry, infrastructure, apparatus engineering and vehicles
- Protection of current-limited AC and DC circuits

Approvals and standards

- IEC/EN 60934
- UL 1077
- CSA
- CCC

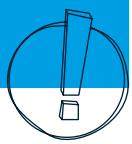
1180 thermal circuit breaker

RELIABLE SWITCHING BEHAVIOUR

201 thermal-magnetic circuit breaker

YOUR BENEFITS

- **Space and weight savings** through very compact design of only 12.5 mm installation width
- **Reduced complexity** through a single trip curve for all types of loads
- **Fast and easy mounting** onto DIN rail



E-T-A's **201** is a single pole, thermal-magnetic circuit breaker with manual release button for rail mounting. It is a very compact circuit breaker which is ideally suited for basic applications without auxiliary contacts. The **201** can be switched on with a black push button. The separate red manual release button is used for manual switch-off. In the event of tripping due to overcurrent or short circuit, as well as after manual disconnection, the breaker can be reset by means of the black push button. Resettability ensures a significantly higher system availability than conventional blade fuses.

Typical applications

- Standard applications in machine construction and process control, infrastructure, apparatus engineering and vehicles
- Protection of current-limited AC and DC circuits

Approvals and standards

- IEC/EN 60934
- UL 1077
- CSA

Technical data	
Rated current	0.5 ... 16 A
Voltage ratings	AC 240 V/DC 65 V
Number of poles	1-pole
Auxiliary contacts	without
Mounting method	symmetrical rail
Width	12.5 mm

201 thermal-magnetic circuit breaker

COMPACT AND MODULAR DESIGN

2216-S thermal-magnetic circuit breaker

E-T-A's **2216-S** is a plug-in type thermal-magnetic circuit breaker. Its small width of only 12.5 mm including auxiliary contacts makes this breaker suitable for all applications where space savings and reliable wiring are at a premium. The resettable design significantly increases system availability compared to conventional MCBs.

A combination of **2216-S** and **80plus/81plus** socket system connects the clever wiring system with the busbars for supply, signalling and neutral. A coding system in terminal block and breaker prevents mix-up of current ratings.

YOUR BENEFITS

- **Up to 54 % space savings** compared to MCBs
- **Provides flexibility** through facilitated mounting, disassembly, modular design and convenient selection of wiring options
- **Increased system availability** through plug-in system and reset function of the circuit breaker

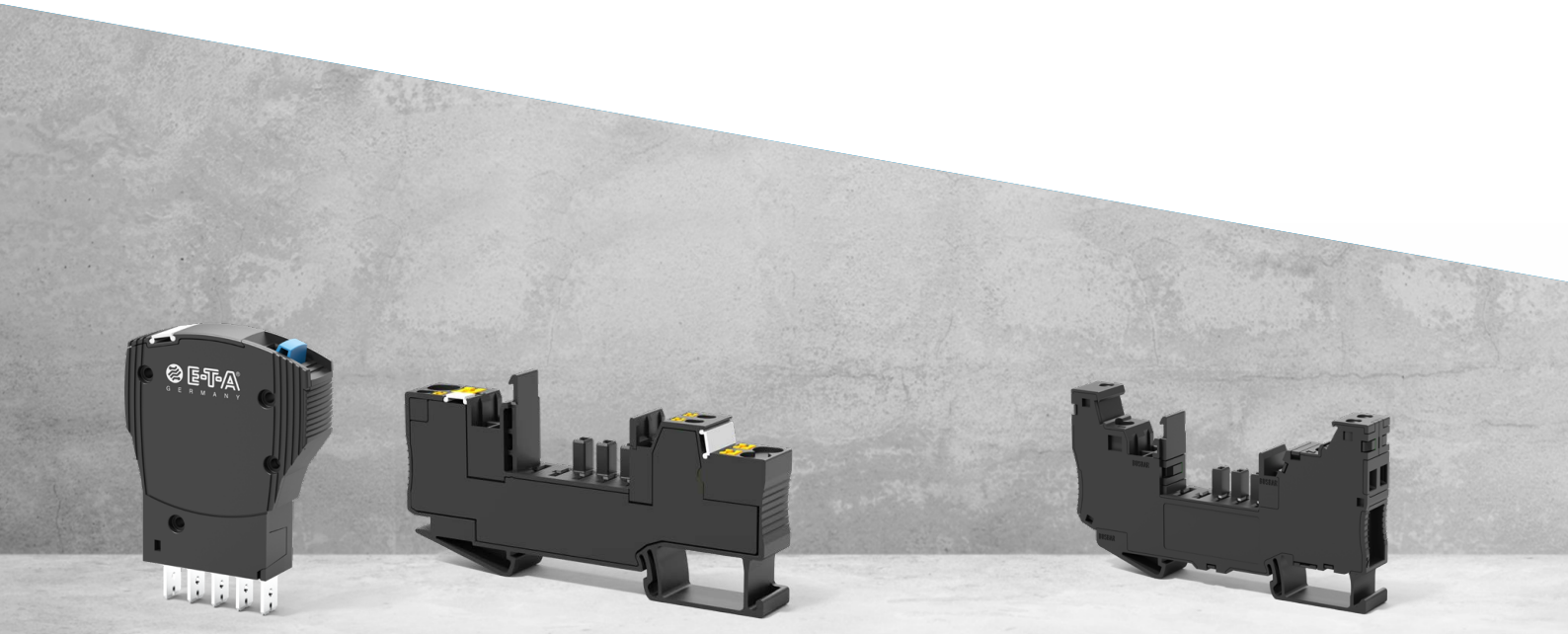
Technical data	
Rated current	0.5 ... 16 A
Voltage ratings	AC 240 V/DC 65 V
Number of poles	1-pole, 2-pole
Auxiliary contacts	1 change over contact, integral
Mounting method	plug-in on terminal block
Width	12.5 mm

Typical applications

- Machine construction and process control, infrastructure, apparatus engineering, vehicles and rail engineering
- Protection of current-limited AC and DC circuits

Approvals and standards

- IEC/EN 60934
- UL 1077
- CSA
- CCC
- DNV GL
- Compliant with EN 50155, EN 61373 and EN 45545-2



2216-S thermal-magnetic circuit breaker and 80plus socket

81plus socket

FLEXIBLE MOUNTING, WIDE RANGE OF APPLICATIONS

2210 thermal-magnetic circuit breaker

YOUR BENEFITS

- **2210-T: Increased machine uptime** thanks to finest gradings of current ratings and a range of characteristic curves
- **Fit for global use** due to UL1077 and IEC60934 approvals
- **2210-S: Up to 54 % space savings** compared to MCBs
- **Reduced maintenance time** through completely screwless connection technology

Typical applications

- Demanding applications in machine construction and process control, factory automation, power plants, rail engineering and car production
- Protection of current-limited AC and DC circuits

Approvals and standards

- IEC/EN 60934
- UL 1077
- CSA
- CCC

E-T-A's **2210** is a thermal-magnetic circuit breaker with toggle actuation and integral auxiliary contacts. Versatile mounting options make the 2210 circuit breaker suitable for a wide range of applications. Its very small width of only 12.5 mm allows space savings up to 54 % compared to conventional MCBs.

The **2210-T** is track-mountable and features an extremely high rupture capacity of up to 2.5 kA. Fine gradings of current ratings and a range of different trip curves ensure precisely working overcurrent protection, tailored to the load's specifications.

The **2210-S** for plug-in mounting is characterised by a very small width including auxiliary contacts. The plug-in design accommodated by the **Module 17plus** and **Module 18plus** power distribution systems makes it suitable for use in process automation, power plant engineering and car production. The **2210-S** is universally suitable for AC and DC applications.

Technical data	
Rated current	0.1 ... 32 A (2210-T) 0.1 ... 25 A (2210-S)
Voltage ratings	AC 250 V, 3 AC 433 V, DC 65 V
Number of poles	1-pole, 2-pole, 3-pole, 4-pole
Auxiliary contacts	1 N/O and/or 1 N/C, integral
Mounting method	rail mounting (2210-T) front mounting (2210-S) plug-in on terminal block (2210-S)
Installation width	12.5 mm including auxiliary contact

2210-S and 2210-T thermal-magnetic circuit breakers

Power distribution systems 18plus and 17plus modules

INTERNATIONAL APPROVALS, FIT FOR GLOBAL USE

4230 thermal-magnetic MCB

YOUR BENEFITS

- **Global comprehensive application range** through compliance with all relevant IEC and UL standards
- **Inventory reduction** through possible use in both AC and DC applications

The **4230** is a thermal-magnetic MCB in a standard enclosure in accordance with DIN 43880. Its conformity with the relevant standards IEC 60947-2, UL1077 and UL 489 makes the **4230-T** ideally suitable for worldwide use. Due to its high rupture capacity of 63 A, the **4230** is suitable for use as **»Branch Circuit Protection«** and also as **»Supplementary Protector«**. Later product extensions with add-on modules, such as auxiliary contact modules or working current modules, offer high flexibility for the user. In addition, the device features reliable switching behaviour through snap action mechanism and is positively trip-free.

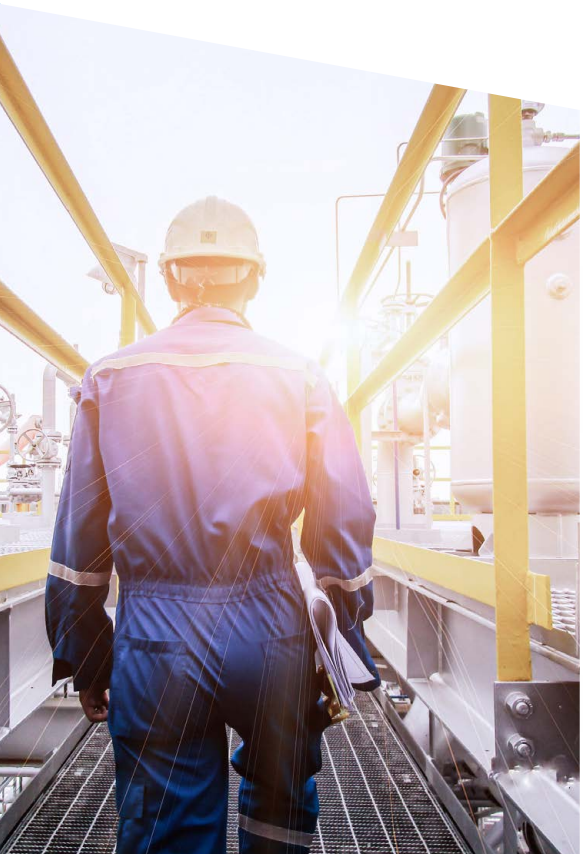
Technical data	
Rated current	1.0 ... 63 A
Voltage ratings	AC 240 V, 3 AC 415 V, DC 80 V, (UL: AC 480Y/277 V, DC 60 V)
Number of poles	1-pole, 2-pole, 3-pole, 4-pole
Auxiliary contacts	1 changeover contact, to be fitted on the side
Mounting method	symmetrical rail
Installation width	17.6 mm

Typical applications

- Standard applications in machine construction and process control, process industry, apparatus engineering and infrastructure
- Protection of AC and DC circuits, also with direct connection to the electrical grid

Approvals and standards

- IEC/EN 60947-2
- UL 1077
- UL 489



4230 thermal-magnetic circuit breaker

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