

E-T-A Communication Your firsthand connection to safety.





E-T-A: Safety first.



For over five decades the E-T-A registered mark has been recognised as a symbol of safety and reliability throughout the field of equipment protection. With headquarters in Altdorf, Germany, E-T-A is an international group of companies and a world leader in the design, development and manufacture of circuit breakers for the protection of components, equipment and systems against the potentially catastrophic effects of electrical overload and short circuits.

Research & development.

As a privately owned group, we are committed to maintaining a high level of research and development investment to ensure we remain at the forefront of circuit protection technology. E-T-A has over 1300 highly qualified personnel worldwide with 150 in research and development alone. Our products combine innovative, leading-edge designs with proven low cost of ownership, and exceptional safety and reliability. They are fully approved by internationally respected authorities including VDE, UL and CSA.

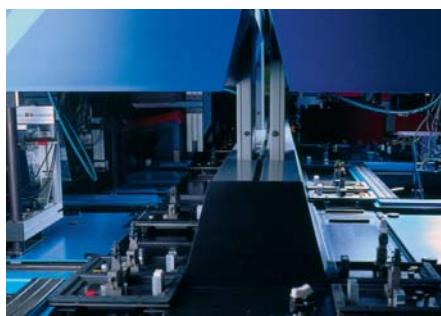
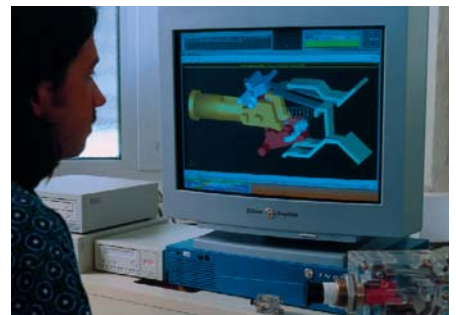
In addition to our own R & D activity we work closely with universities and are funding several advanced technology programmes addressing industry's needs for tomorrow.

Advanced manufacturing.

Our modern, award-winning manufacturing plants are highly automated and accredited to ISO 9001:2001.

A globe-spanning network.

E-T-A's network of subsidiary companies and representatives provides sales and support in over 50 countries around the world. Product specialists will assist in the selection of the correct solution for your application. Whether you require individual circuit breakers, a complete system solution, sensors or control devices you will be able to specify E-T-A products confident in the knowledge you will not be disappointed.





Strategic business field Communication.

E-T-A specialises in circuit breakers for equipment protection and electronic protection solutions across many different sectors of industry. Our business is structured around our core competencies. Operating globally our business field managers and their teams, who are experts in their individual fields, are available to provide specialised applications advice to our customers wherever they are.

In the Business Field of Communication E-T-A offers products of superior quality, supported by a very high service rate and innovative logistics tailor-made to customers' needs.

Quality is assured from design through development and every production process by advanced methodologies such as FMEA (Failure Mode Effect Analysis) and SPC (Statistical Process Control). Full use is made of modern and standardised software interfaces based on LotusNotes, SAP and ProEngineer.

No matter what components or systems you wish to protect in telecomms, E-T-A can offer the optimum solution. Circuit breakers installed a million times over have the confidence of major international groups as well as many other users in every sector of the communication industry. You can therefore be certain you can rely on E-T-A products.





Safety and reliability in communication.



E-T-A offers a choice of effective products and solutions for use in power supplies and protection, both for mobile radio stations, and in transmission and exchange technology.

Reduction of downtimes.

In the communication industry, safety, availability and a long life span are vital. Therefore professional protection and a high-performance power supply are essential features. The original price is not the only cost that counts, but also subsequent costs arising during the whole life of the complete system: an important argument in favour of E-T-A products.

Value-added systems

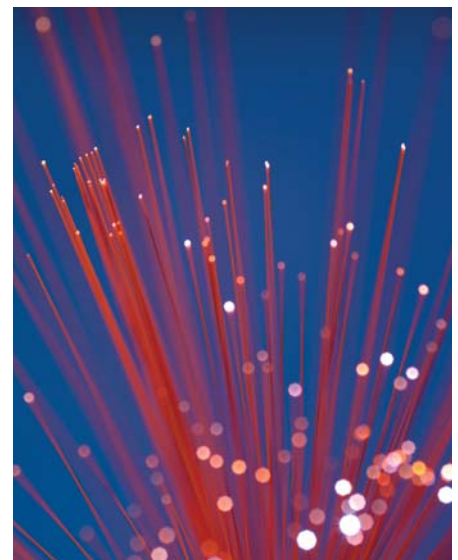
E-T-A not only supplies single components to the communications industry, but is also able to offer complete system solutions consisting of well-matched circuit breakers and distribution rails, representing added value for the customer accompanied by excellent customer service and support.

Precious space

A shared design feature of all E-T-A circuit breakers is their compact size – a significant advantage for applications where space is at a premium. In control cabinets the small physical size of E-T-A circuit breakers helps to reduce the space required by up to 50%.



Optimum protection with minimum space required: an attractive benefit for applications in wireless point-to-point or point-to-multipoint technology such as GSM, GPRS, UMTS, CDMA or WLAN and in access technology (ADSL, SDSL, VDSL, FTTH). E-T-A is also able to design, produce and supply suitable products for Metropolitan Area Networks, Long Haul transmission technology, or internet connections such as softswitch.





E-T-A products offer a wide range of features and benefits: as they are resettable they have a clear advantage over all other equipment protection possibilities, and they offer a high degree of flexibility.

Hot swap capability.

Many E-T-A circuit breakers are hot-swappable, i.e. they can be replaced with the system live. It is therefore very easy to extend or modify an existing system as new requirements arise. In addition, E-T-A circuit breakers have a very robust design which guarantees excellent environmental performance (shock, vibration, humidity). High quality precious metals and electro-plated parts and subassemblies further contribute to reliability.

At E-T-A we recognise that no two applications are the same and therefore ensure that design engineers have a wide selection of possibilities to choose from. Different operating characteristic curves are available to suit the needs of different load conditions, and to avoid the risk of unwanted operation due to in-rush currents and transients.

Severe environmental conditions – not a problem.

Applications in the communications industry often involve extreme climatic conditions or temperatures. These can be disastrous to less able protective devices but, due to their robust design, E-T-A circuit breakers can survive in the severest conditions.

They are therefore not only well suited to installation in air-conditioned fixed networks, but also in mobile base stations where extremes of temperature can be experienced.



CBEs help you to communicate.





E-T-A products for applications in Communication.

Power distribution systems and racks Ease of protection, wiring and installation.



Racks provide a modular protection and wiring approach and thus offer sophisticated and future-proof solutions when it comes to reducing cost in power distribution. The compact design of rack 19BGT2 (2U and 84 modular spacings) is manufactured from aluminium profile and has a highly durable anodised front plate. The front cut-out allows the quick and easy accommodation of 30 plug-in positions, even with the system live. Blanking pieces are available for any slots not immediately required.



X2210-S0606

Voltage rating:

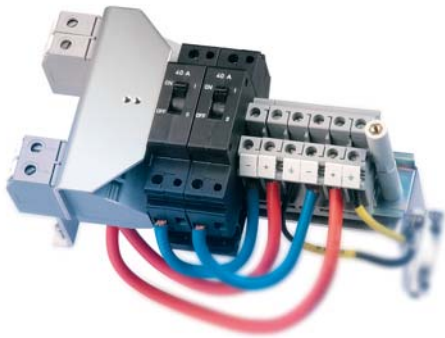
AC 250 V, DC 65 V

Current rating range:

max. 25 A per plug-in unit
max. 80 A for the total unit

Benefits at a glance:

- screw terminals for main current input and output
- screw terminals for group signalisation
- ease of mounting – terminal blocks suitable for connection of additional loads with power on



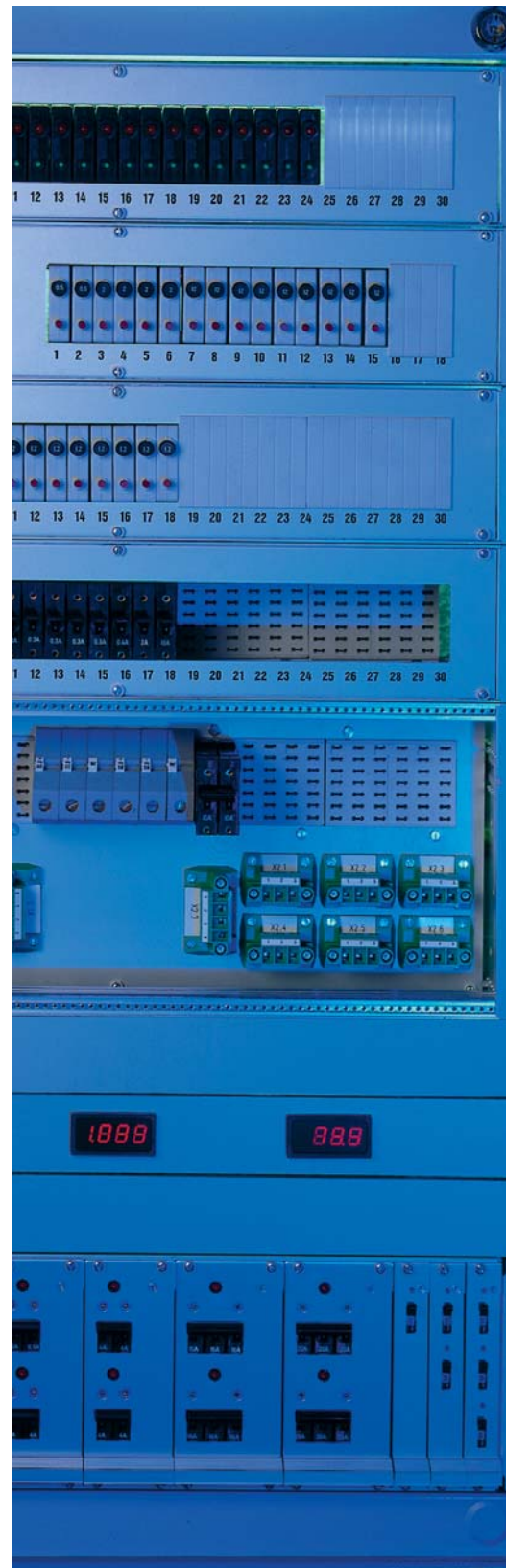
Other E-T-A solutions include the rack 19BGT2 which can be fitted with E-T-A circuit breakers type 8340, 8345, 3600/3900, 2210 or the SSRPC E-1048-600. The devices are plugged into E-T-A sockets type 63-P10-Si (six positions) installed in the rack. Other available space-saving solutions incorporate 19" racks with 3U and a maximum of 60 circuit breakers or with 1U and a maximum of 12 circuit breakers.

Voltage rating:
AC 230 V, DC 80 V

Current rating range:
max. 450 A per total unit
max. 125 A per plug-in unit

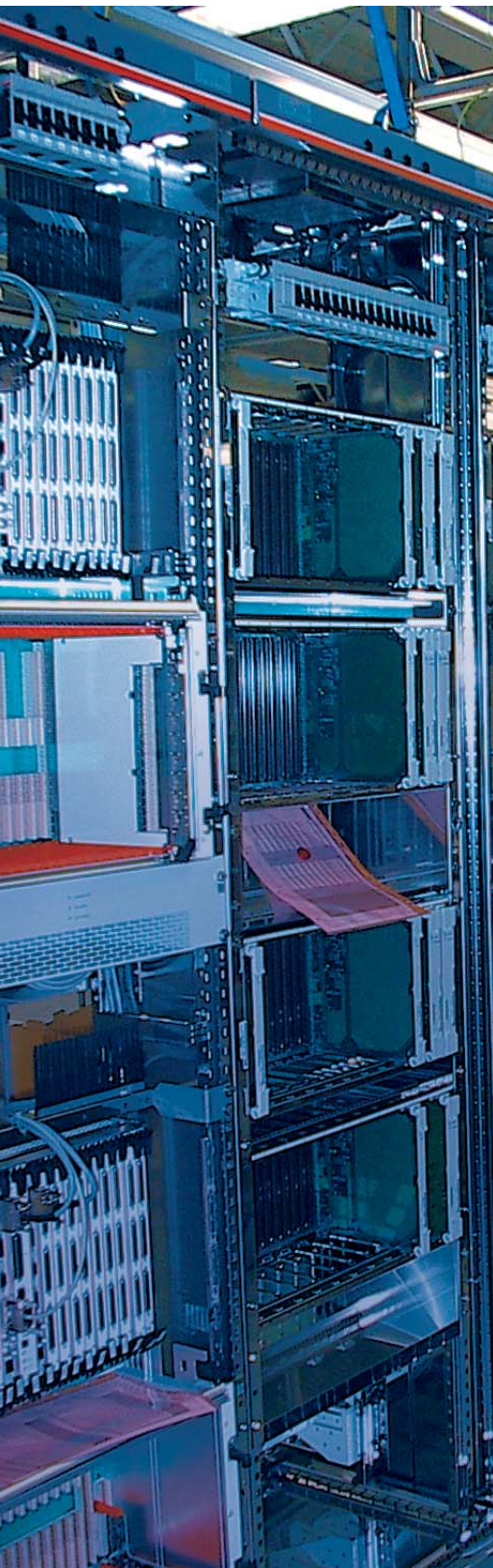
Benefits at a glance:

- standardised rack technology in 19"/23" or ETSI "plug & play"
- modular design
- customer specific system technology with screw terminals or spring-loaded terminals
- single or group signalisation
- space-saving design





Power distribution system X8340-S Systematic supply, protection and distribution.



Power distribution systems series X8340-S are excellent examples of E-T-A's capabilities in system solutions. In mobile radio stations, transmission or exchange technology these distribution rails allow systematic and cost-effective power distribution and at the same professional protection of the complete system. Clever design detail, such as the prevention of polarity reversal of the load output, reduces the risk of system failure in the first place.

Ease of wiring and maintenance and compact design are features of X8340-S power distribution systems. Spring-loaded terminals allow quick connection even when space is at a premium.

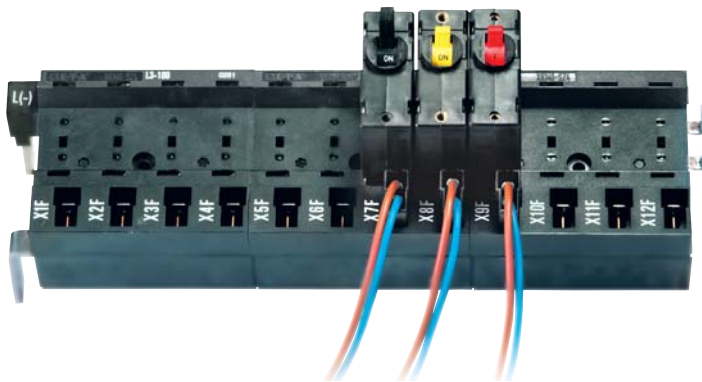
X8340-S02

Voltage rating:
AC 230 V, DC 80 V

Current rating range:
max. 25 A per plug-in unit
max. 100 A for the total unit

Benefits at a glance:

- modular two-way plug-in type terminal blocks
- screw-type terminal block for main input and output
- load output connection protected against reverse polarity on the front side



X8340-SZ4

Voltage rating:

AC 230 V, DC 80 V

Current rating range:

max. 25 A per plug-in unit
max. 150 A for the total unit

Benefits at a glance:

- modular four-way plug-in type terminal blocks
- connection of main input and output via round cable lugs
- group signalisation
- load output connection protected against reverse polarity on the front and rear side

X8340-S04

Voltage rating:

AC 230 V, DC 80 V

Current rating range:

max. 20 A per plug-in unit
max. 80 A for the total unit

Benefits at a glance:

- modular four-way terminal blocks
- spring-loaded terminals for ease of connection from the front
- group signalisation
- rear side screw terminals for main input and output





Hydraulic-magnetic circuit breaker type 8340 for fluctuating ambient conditions.



The hydraulic-magnetic circuit breaker type 8340 is largely insensitive to extremes in temperature. In the desert or at the North Pole, this temperature-stable circuit breaker will provide reliable protection.

An integral arc arrester and high rupture capacity are other features achieved in a very compact and robust design.

Additionally the type 8340 meets the requirements of the US communication standard UL489A.

Voltage rating:

3 AC 415 V, AC 240 V, DC 80 V

Current rating range:

0.02...50 A

Benefits at a glance:

- insensitive to temperature extremes
- fine grading of current ratings
- pluggable with power on into: power distribution systems X8340-S socket type 18-P10-Si
- a choice of mounting methods:
 - front panel mounting
 - snap-in frame
 - threadneck mounting with push-pull actuation
 - DIN rail mounting



Rack type X8340-S08 A practical and reliable solution.



Rack type X8340-S08 is a perfect match for E-T-A circuit breaker type 8340-G, designed to avoid the risk of accidental disconnection during maintenance or installation work.

The plug-in type current connection at the rear further enhances the flexibility of the X8340-S08 assembly for applications in the communications industry.

Voltage rating:

DC 80 V

Current rating range:

max. 100 A per plug-in unit
max. 800 A per total unit
(400 A redundant)

Benefits at a glance:

- ease of mounting through standardised 19" technology – "plug & play"
- modular configurations
- customer-specific connection technology of loads
- safe front access, circuit breakers pluggable with power on





Hydraulic-magnetic circuit breaker type 8345
Power distribution system X8345-D01
The perfect couple: compact – powerful –
insensitive to temperature.



Hydraulic-magnetic circuit breaker type 8345 features not only a prize-winning design, but well-proven circuit breaker technology for current ratings up to 125A. Its compact size and insensitiveness to temperature changes make it the ideal solution for many applications in the communications sector.

Voltage rating:

3AC 415 V, AC 277/480 V, AC 120/240 V,
 AC 240 V, DC 80 V

Voltage rating:

0.05...125 A

Benefits at a glance:

- insensitive to extreme temperatures
- fine grading of current ratings up to 125A
- a choice of mounting methods:
 - front panel mounting
 - threadneck mounting
 - pcb mounting
 - 10 kA rupture capacity at DC 80 V

Power distribution system X8345-D01 is the ideal and logical match for type 8345. With its compact 2U chassis it is user-friendly and meets the requirements of hydraulic-magnetic power distribution.

Voltage rating:

DC 80 V

Voltage rating:

max. 125 A per plug-in unit
 max. 600 A per total unit

Benefits at a glance:

- compact 2U design
- reliable and standardised 19"/23" or ETSI rack technology – "plug & play"
- modular one-way terminal blocks
- safe front access, hot swap capability
- group signalisation



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For details regarding the products shown here please visit www.e-t-a.com



Thermal circuit breaker type 482 and rack X482
Maximum protection – minimum cost.



In addition to its high short circuit rating thermal circuit breaker type 482 features threadneck mounting, push-pull actuation and optional auxiliary contacts.

Its robust and compact design make a valuable contribution to saving space in the control cabinet, thereby offering a further economic advantage.

Voltage rating:
 AC 115 V, AC 230 V, DC 72 V

Current rating range:
 0.1...50 A

Benefits at a glance:

- compact design, side-by-side mounting in a 1U chassis
- fine grading of current ratings
- integral physically isolated auxiliary contacts
- hot swap capability in power distribution system X482

Precious rack space is conserved by using power distribution system X482, the world's smallest communication power distribution solution. It accommodates thermal circuit breaker type 482 in a 1U chassis, providing superior electrical protection.

Voltage rating:
 DC 72 V

Current rating range:
 max. 50 A per module
 max. 900 A
 (450 A redundant) per total unit

Benefits at a glance:

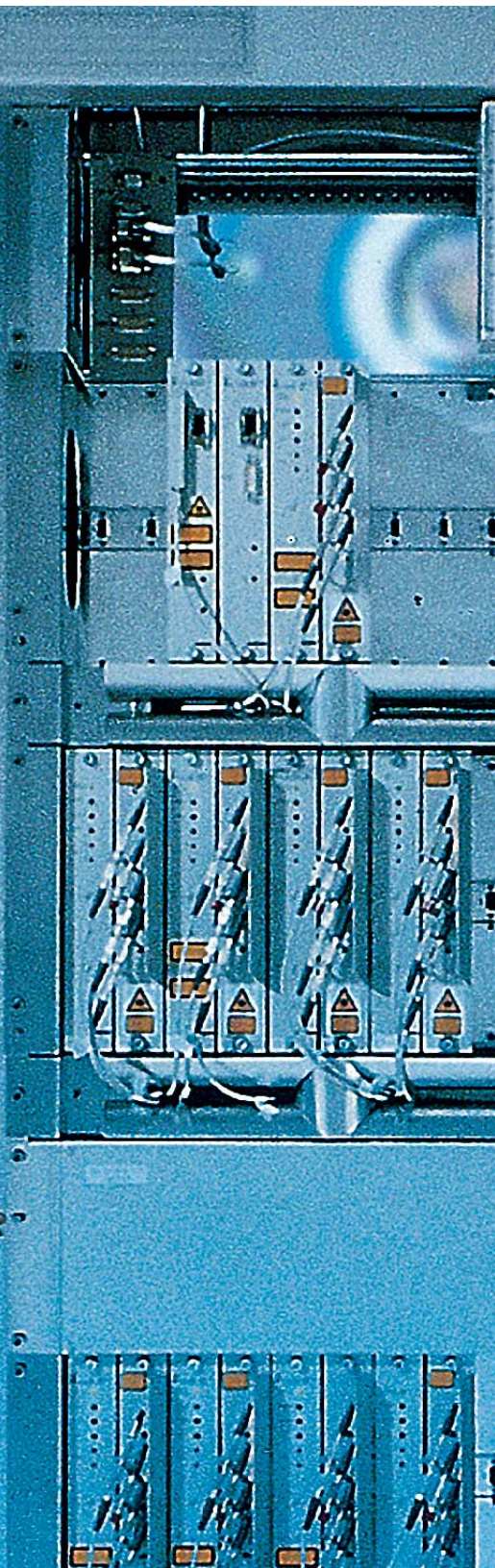
- compact 1U design
- reliable and standardised 19"/23" or ETSI rack technology – "plug & play"
- customer specific load connection
- safe front access, hot swap capability





Thermal-magnetic circuit breaker type 2210
Maximum versatility.

Thermal-magnetic circuit breaker type 3600/3900
Compact plug-in type – only 11.5 mm wide.



The single or multipole 2210 series provides numerous benefits and is a versatile solution for a range of applications including power supplies, control rooms and switchgear. The 2210 features a manual release option, toggle actuation and a positively trip-free mechanism. Integral auxiliary contacts and an extremely high rupture capacity in a housing width of only 12.5mm add up to a unique package.

Another versatile option from the E-T-A thermal-magnetic range is the 3600/3900 series. These circuit breakers are suited to use in power supplies, control rooms or switching stations. Features such as a manual release button and positively trip-free mechanism combine ease of use with dependable performance.

Voltage rating:
 AC 250 V; 3 AC 433 V; DC 65 V

Voltage rating:
 AC 240 V; DC 65 V

Current rating range:
 0.1...25 A

Current rating range:
 0.05...16 A

- Benefits at a glance:**
- slim housing width: only 12.5 mm
 - fine grading of current ratings
 - wide range of characteristic curves
 - integral physically isolated auxiliary contacts
 - hot-swappable in
 - power distribution rail X2210-S
 - power distribution system Module 17plus
 - socket type 63-P10-Si or 23-P10-Si

- Benefits at a glance:**
- slim housing design: only 11.5 mm
 - fine grading of current ratings
 - integral physically isolated auxiliary contacts
 - hot swap capability in power distribution system Module 17plus, socket type 63-P10-Si or 23-P10-Si



Module 17plus Innovative power distribution.



E-T-A's Module 17plus is a new power distribution system which offers significant safety, flexibility and time saving benefits both during initial installation and routine maintenance. All cable connections are via spring-loaded terminals. Connection of the feed is by means of plug-in distribution busbars. Module 17plus also has integral bus connections for auxiliary contact functions. It is suitable for E-T-A circuit breaker types 2210 and 3600/3900 as well as for the electronic circuit breaker ESS20 and the SSRPC E-1048-7xx.

Terminals:

spring loaded

Rated voltage:

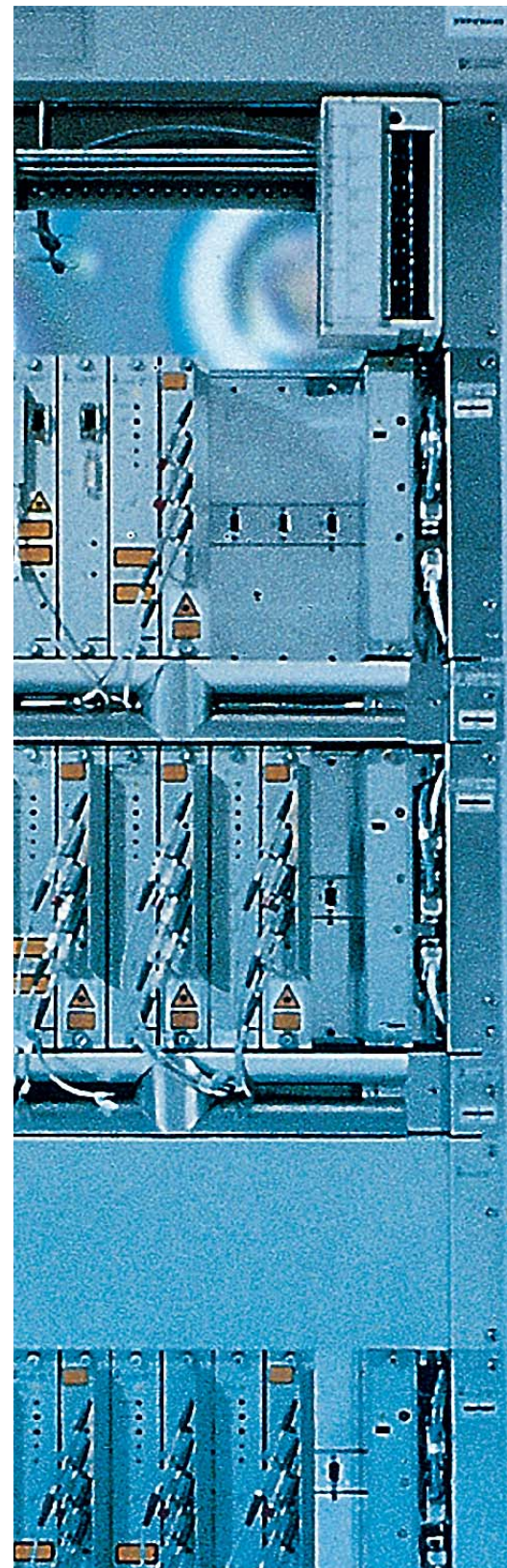
AC 433 V / DC 65 V

Current rating:

Line 50 A; load 25 A; signals 1 A

Benefits at a glance:

- ease of mounting through spring-loaded terminals
- modular design for mounting side-by-side
- reduced wiring time through use of plug in type busbars





Thermal-magnetic circuit breaker series 446/447/449 A robust power package.



The thermal-magnetic circuit breaker series 446/447/449 sets class leading standards. With a continuous load capacity of up to 500A and a tease-free and trip-free mechanism, this circuit breaker series is a preferred choice for high current circuits in transmission, exchange technology, mobile radio, or uninterruptible power supplies.

Rated voltage:

DC 28 V

Current rating range:

30...500 A

Benefits at a glance:

- wide current rating range
- a choice of trip characteristics
- integral physically isolated auxiliary contacts
- remote trip



Electronic circuit breaker series ESSxx
Optimum protection – minimum size.



The electronic circuit breaker series ESSxx selectively protects all 24 V DC and 48 V DC load circuits through a combination of active electronic current limitation and well-proven circuit breaker technology with physical isolation at DC 24 V. With a width of only 12.5 mm the ESS20 can be plugged into power distribution system Module 17plus, ensuring ease of installation and a significant reduction in wiring time.

The ESSxx will facilitate connection of capacitive loads, and will disconnect in the event of an overload or short circuit.

Operating voltage:
 max. DC -48 V

Current rating:
 max. 60 A

- Benefits at glance:**
- active current limitation
 - current rating variably adjustable on the device by means of an interface
 - visual status indication by LED
 - manual or remotely controlled reset

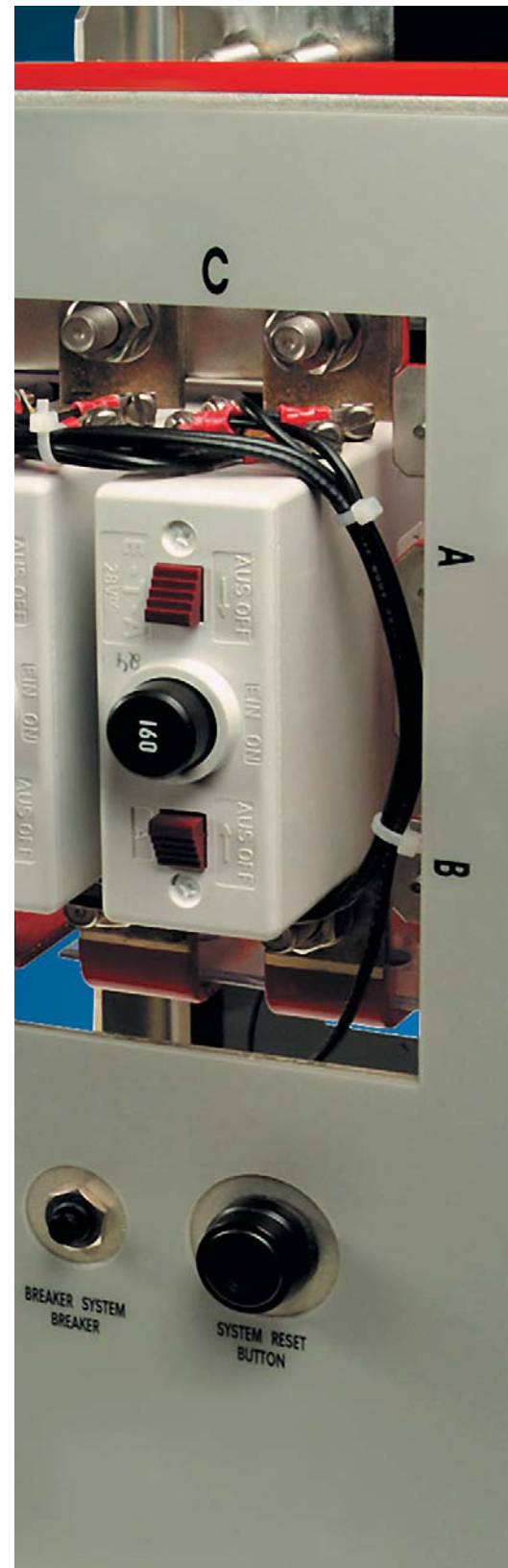
Electronic Voltage Monitor E-1079-600/601.



The electronic voltage monitor E-1079-600/601 performs an often vital function in control cabinets. It is designed to monitor AC or DC voltages and to provide a signal in the event of a fluctuation beyond a preset tolerance range. Two LEDs indicate relay status and an opto coupler output provides a physically isolated signal. There is no need for an additional power supply as the E-1079-600/601 is powered by the input it is monitoring.

Rated voltage:
 DC 12 V/24 V/48 V/110 V/220V
 AC 115 V/230 V

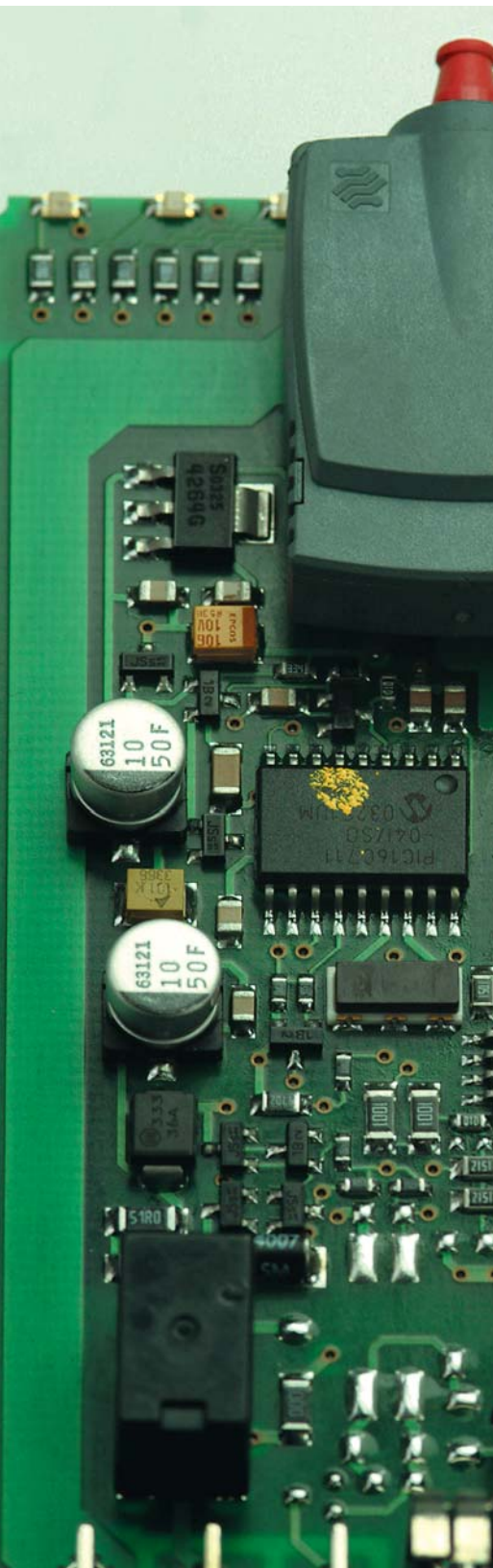
- Benefits at a glance:**
- visual status indication through LED
 - physically isolated signal output
 - power supply via measuring signal
 - hot swap capability





Thermal-magnetic or thermal rocker actuated circuit breaker type 3120
Attractive styling,
reliable performance.

Magnetic circuit breaker type 808
Ultra fast protection.



The robust design of this single pole or double pole circuit breaker efficiently combines reliable protection and ON/OFF switching function for many communication applications. The technology of the product is well proven with large numbers already in service. A choice of rocker colours is available, rocker illumination is optional.

Magnetic circuit breaker type 808 is the perfect solution for printed circuit board mounting. The single pole unit, featuring magnetic trip characteristics with an exceptionally high speed disconnection capability, is extremely compact and reliable. In addition, it is largely insensitive to ambient temperature change.

Rated voltage:
 AC 250 V, 50/60 Hz, DC 50 V

Rated voltage:
 AC 120 V, DC 60 V

Current rating range:
 0.1...20 A per pole

Current rating range:
 0.01...5 A

- Benefits at a glance:**
- a choice of rocker colours and markings
 - fine grading of current ratings
 - thermal or thermal-magnetic trip curves
 - add-on modules:
 - zero voltage release
 - auxiliary contact
 - remote trip

- Benefits at a glance:**
- manual release button
 - integral physically isolated auxiliary contacts
 - temperature insensitive
 - very fast trip curve



**Thermal circuit breakers type 1110
and types 104/105/106/1140 (mini-series range)**
Reliable protection – miniaturised design.



Type 1110 and the mini series range provide reliable protection, but require very little space. They offer excellent performance in a miniaturised design, featuring a positively trip-free mechanism. Type 1110 also has an integral switching function. The 1110 and the 106 are suitable for a standard fuse-holder

panel cut-out. These full feature circuit breakers offer long life expectancy, their characteristics are stable over time, and they will suit the requirements of many demanding applications.

Type 1110

Rated voltage:
AC 240 V, DC 50 V

Current rating range:
0.05...16 A

Benefits at a glance:

- miniaturised design
- fine grading of current ratings
- fits into standard fuse-holder cut-out
- visual indication of OFF condition

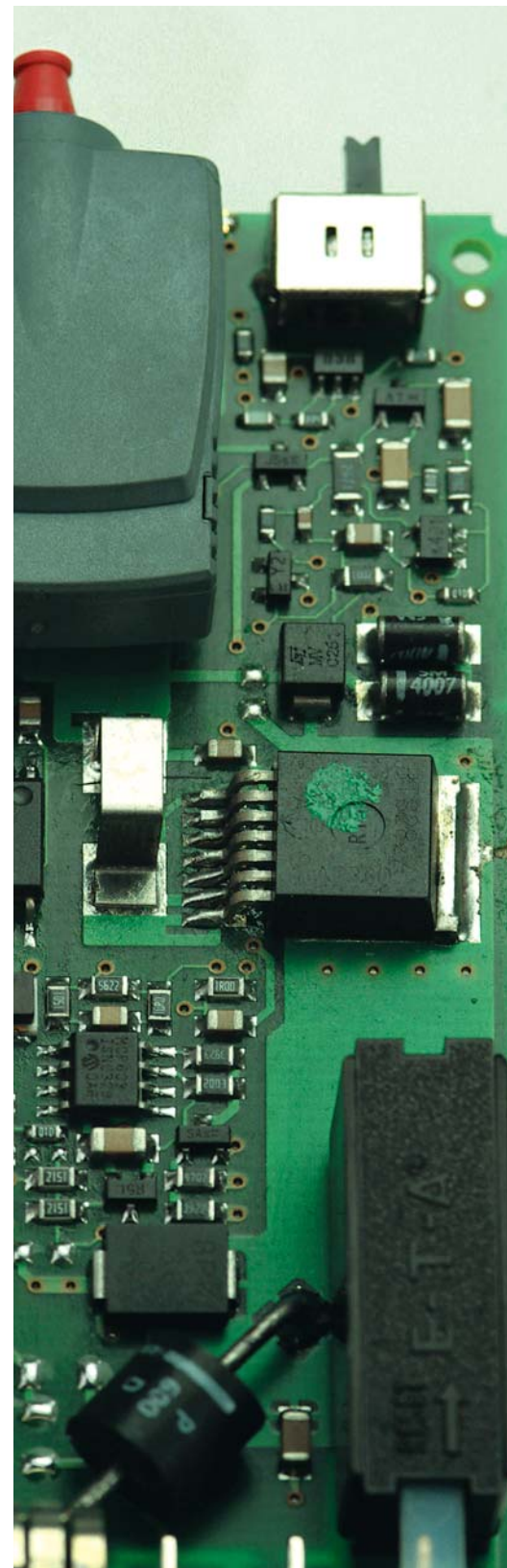
Types 104/105/106/1140

Rated voltage:
AC 240 V, DC 48 V

Current rating range:
0.05...10 A

Benefits at a glance:

- miniaturised design
- integral physically isolated auxiliary contacts
- a choice of mounting methods:
 - snap-in frame
 - threadneck mounting
 - pcb mounting



E-T-A Elektrotechnische Apparate GmbH: Worldwide Service Network.

Europe

- Austria
- Belgium
- Bosnia & Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Finland
- France
- Greece
- Hungary
- Ireland
- Italy
- Luxembourg
- Netherlands
- Norway
- Poland
- Portugal
- Romania

- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- Yugoslavia

America

- Argentina
- Brazil
- Canada
- Chile
- USA

Asia

- Brunei
- China
- Hong Kong

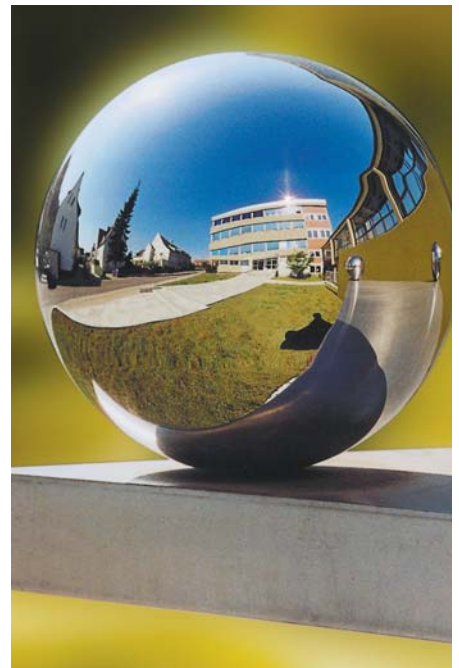
- India
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Taiwan
- Thailand

Africa

- South Africa

Oceania

- Australia
- New Zealand



E-T-A Elektrotechnische Apparate GmbH: Worldwide Service Network.

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- Greece
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- Ireland
- Italy
- Luxembourg
- Netherlands
- Norway
- Poland
- Portugal
- Romania

- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- Yugoslavia

America

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- Brazil
- Canada
- Chile
- USA

Asia

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- China
- Hong Kong

- India
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Taiwan
- Thailand

Africa

- South Africa

Oceania

- Australia
- New Zealand

