



ELECTRONIC CIRCUIT PROTECTORS

Our product portfolio

ACTIVE CURRENT LIMITATION

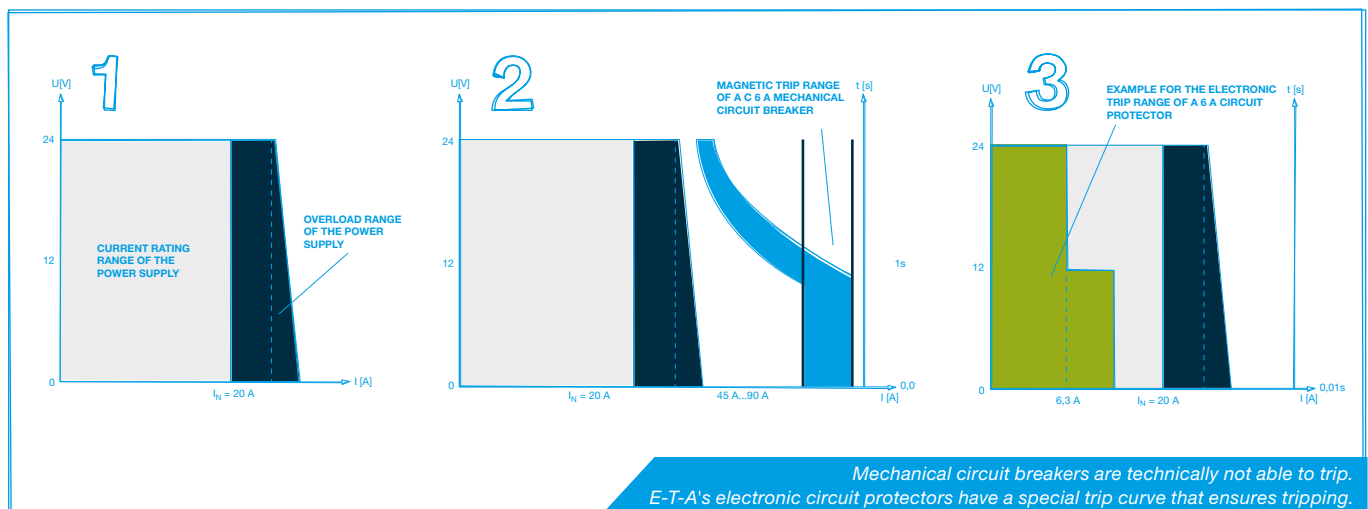
Unrivalled system availability

Correct protection of loads supplied by switch mode power supplies holds certain challenges. Switch mode power supplies are limited in power and in the event of a failure, they can only supply limited current. A conventional MCB requires a multiple of its own current rating to ensure timely trip in the event of a failure. This makes the use in standard protection solutions provided by MCBs problematic. Switch mode power supplies often are not able to supply the required trip current in the event of a failure.

E-T-A's ESX10 portfolio has an electronic trip characteristic to ensure optimum protection in the event of a failure. The trip curve of the ESX10 devices also includes an active current limitation. It provides limitation of the

fault current to a firmly defined value. A simple rule of thumb for electrical planning can be as follows:
Trip current = maximum current =
1.8 times rated current

It allows easy calculation of the effects of short circuit or overload in the load circuit so that they can be taken into account already in the planning stage.



YOUR BENEFITS

- **Increases machine uptime** through clear failure detection and stable power supply
- **Simplifies planning** through clear sizes and ratings
- **Saves costs and time** through fast and flexible mounting including integral power distribution



CONTROLLING AND SIGNALLING

For many applications, single or group signalling of the protection devices is a must so as to ensure uninterrupted monitoring of the protected load circuits. The ESX10 portfolio offers a range of signalling and alerting options.

These include conventional, potential-free break contacts, make contacts and change-over contacts or also pure status outputs in standard or negative version. For all requirements, the ESX portfolio holds the suitable product version. In addition, there are remotely

controllable versions available with reset function in the event of a failure and with complete controllability.

ESX10



Signalling,
remote functions,
fixed current ratings
0.5 A ... 16 A

ESX10-TA-24 V



Fixed current ratings
0.5 A ... 12 A

ESX10-TC-12 V



Signalling,
Remote functions,
fixed current ratings
1 A ... 10 A

ESX10-S



Signalling,
remote functions,
adjustable current
ratings
1 A ... 10 A

ESX10-TB-24 V



Signalling,
remote functions,
fixed current ratings
0.5 A ... 25 A

ESX10-TC-48 V



Voltage range
18 V ... 60 V,
signalling,
fixed current ratings
1 A ... 16 A

ESX10-TD-24 V



Signalling,
remote functions,
adjustable current
ratings
0.5 A ... 10 A

ESX10 AND ESX10-S

Plug-in type electronic circuit protectors

The plug-in types ESX10 and ESX10-S allow fast and flexible mounting of the devices and create more space for planning. Wiring of the terminal blocks can be done in advance. The circuit protectors can even be plugged in only a few moments before start-up.

COMPATIBLE POWER DISTRIBUTION: MODULE 17PLUS AND MODULE 18PLUS

ESX10 and ESX10-S electronic circuit protectors are suitable for mounting on the power distribution modules Module

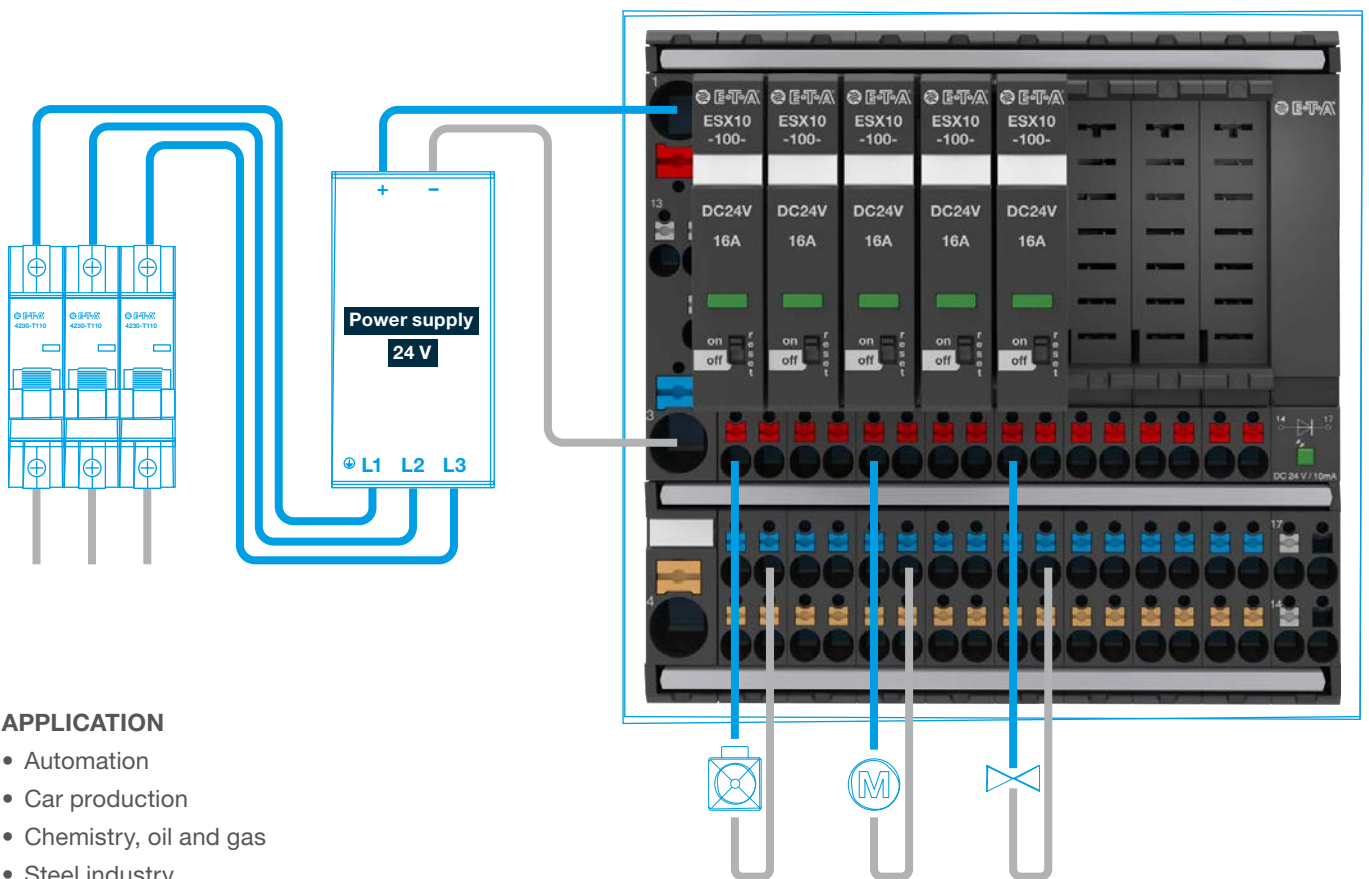
17plus and Module 18plus. These modular terminal blocks allow fast and clearly laid-out wiring and make set-up of load distribution easy. Mounting is directly on the symmetrical rail, the modular design enables adjustment

to varying requirements. By means of plug-in type busbars, protection and potential distribution solutions for up to 80 A total current can very quickly be set up.

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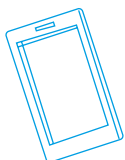
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APPLICATION

- Automation
- Car production
- Chemistry, oil and gas
- Steel industry
- Power plants
- Renewable energies
- Pharmaceuticals and foodstuffs



Further information about our electronic circuit breakers

ESX10-Tx

Electronic circuit protectors for rail mounting

The ESX10-Tx compact electronic circuit protectors have integral power distribution and are track-mountable.

Due to their versatility and their electronic trip curve with active current limitation, they are suitable for protection of all DC 12 V, DC 24 V, DC 36 V and DC 48 V load circuits.

By means of busbars, you can build up multi-channel solutions with modular devices. This reduces the wiring efforts significantly. Signal busbars allow easy

configuration of single or group signaling. Both the mechanical design and the internal design of the component allow a negative load feedback directly to the module.

In addition, very powerful loads with current ratings up to 25 A can also be protected without problems. The

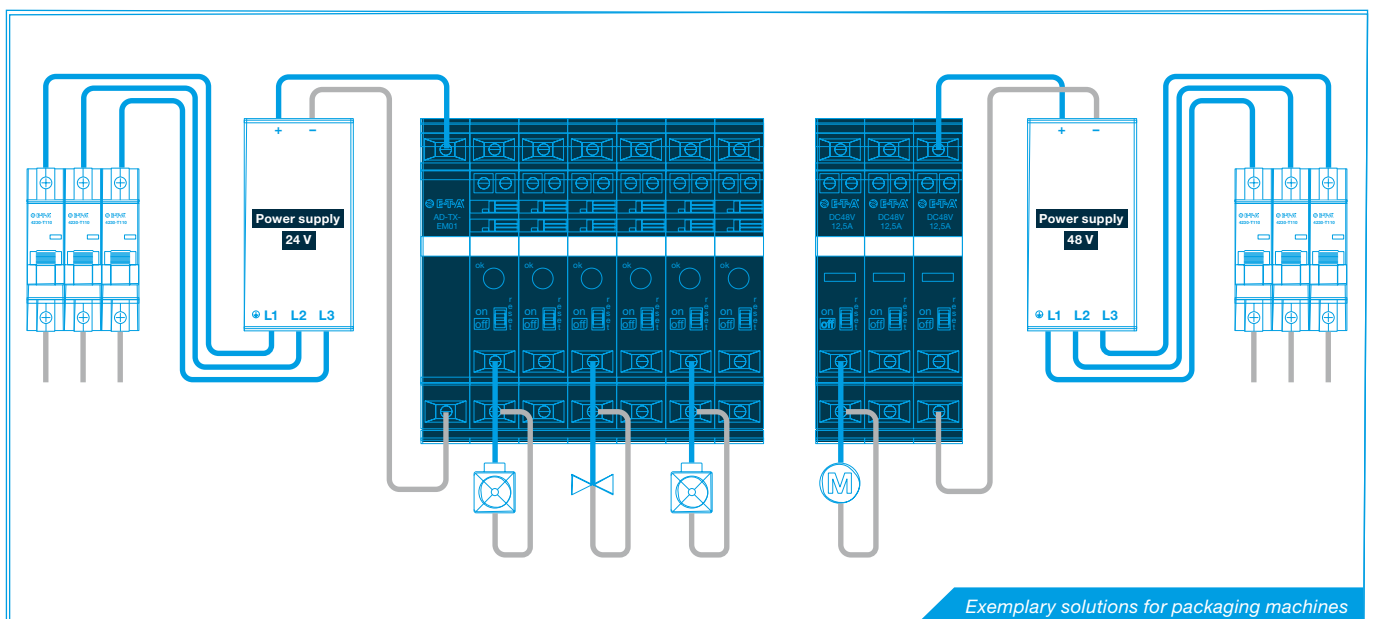
ESX10-TD versions provide additional flexibility with adjustable current ratings. The entire ESX10-T portfolio meets the requirements of a range of international standards and is therefore fit for global use.

A COMPACT PROTECTION SOLUTION

The ESX10-T electronic circuit protector is the comprehensive solution for symmetrical rail mounting. It comprises current protection, active current limitation and selective protection from DC 12 V to DC 48 V load circuits in one compact device.

APPLICATION









- Automation
- Car production
- Machine construction
- Renewable energies
- Pharmaceuticals and foodstuffs



Exemplary solutions for packaging machines

APPROVALS

Overview

Product versions	UL2367	UL508/ CSA C22.2 No. 14	UL508/ CSA C22.2 No. 14	UL 121201 rev. 2018 (cl. I div 2)	CSA C22.2 No. 213 M1987	DNVGL- CG 0339	EN 60079- 15 (EX II 3G)	EN 60079- 0, -7, -15 (EX II 3G.. T4 Gc)	IEC 60079-0, -7, -15 (EX ec .. T4 Gc)
						DNV GL			
ESX10-0,5A...12A	●	●		●	●	●	●	●	●
ESX10-16A	●	●		●				●	●
ESX10-S	●	●							
ESX10-TA	●	●	●	●	●	●	●	●	●
ESX10-TB	●	●	●	●	●	●	●	●	●
ESX10-TB-20/25A	●	●	●						
ESX10-TC-DC12V	●	●	●	●		●	●	●	●
ESX10-TC-DC48V	●	●	●						
ESX10-TD	●	●	●	●		●		●	●

ATEX/IECEX

For global use in all kinds of systems and plants, approval to specific standards for explosion-protected areas becomes more and more important. The use of approved components allows decentralised use of the systems within an EX zone. This

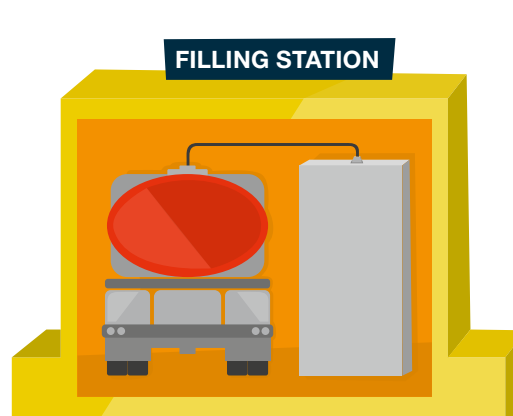
avoids complicated laying of externally supplied lines. Devices of the ESX10 portfolio with the suffix -E have an approval for use in Ex zone 2 to ATEX and IECEX.




In addition, the circuit protector is approved to Class I, Div 2 for use in

North America. These devices are available as plug-in types to go with power distribution systems Module 17plus and Module 18plus and as track-mountable types.

APPLICATION

- Chemical industry
- Pipeline construction
- Production of oil & gas (also offshore)
- Refineries
- Paint shops



-  **Zone 0**
Gas mixture always present or over longer periods of time or frequently
-  **Zone 1**
Gas mixture occasionally present in normal duty
-  **Zone 2**
Gas mixture not present in normal duty or only for a short time

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