

Electronic 24 V Overcurrent Protector ESX10-T Track-mountable design – selective protection



Technical Information

Electronic Circuit Protector Type ESX10-T

Availability and safety of production equipment are paramount in modern manufacturing plants. However, 24 V DC switch-mode power supplies, which are widely used in industry today, may stop entire plants as their self-protecting characteristics will shut down the output in the event of overload or short circuit currents, with the result that one faulty load in the system can lead to complete disconnection of all loads.

Electronic overcurrent protection provided by the ESX10-T helps to overcome this problem and ensures selective disconnection of faulty load circuits even with high cable attenuation.

The fast response time of the ESX10-T will ensure stability of the output voltage and prevent catastrophic failures of the entire system.

The integral current limitation characteristics of the ESX10-T contribute to safety and selectivity in operation. Short circuit currents will be limited to 1.8 times rated current, thus a fault in one circuit can be remedied while the switch-mode power supply continues to provide power to the remainder of the system. Even with long load lines only the faulty circuit will be disconnected: quickly, reliably and selectively.

The ESX10-T is designed for convenient snap-on symmetrical rail mounting, and its extremely small width of 12.5 mm and 80 x 80 mm mounting envelope represent key benefits. For multi-way applications a number of protectors may be mounted side-by-side. The 24 V DC entry line as well as the load terminal are directly connected to protected plus and common by means of 10 mm² screw terminals. Plug-in type signal busbars allow convenient wiring of auxiliary signals (single or group signalling).

Technical data

Operating voltage U_B	DC 24 V (DC 18...32 V)
Trip characteristics	current limitation with electronic disconnection, for all types of loads* (see below)
Rated current I_N	0.5 A...12 A
Overload disconnection	typically $1.1 \times I_N$
Short circuit current I_k	$1.3 \times I_N$... $1.8 \times I_N$ depending on current rating
Trip times	- typically 3 s at overload - typically 100 ms...3 s at short circuit
Fail-safe-function	integral fail-safe element, adjusted to current rating of the device
Signalling	- multi-coloured LED "OK" - signal output F - status output SF
Single/group signal	optional with plug-in-type busbars
Signal input (optional)	remote reset, remote ON/OFF
Actuation	ON/OFF/RESET button
Approvals	UL2367, CUL508, UL1604 class, div. 2, CSA C22.2, No. 157, NEC class 2 (max. 3 A)

Features and Benefits

- Professional overcurrent protection prevents undefined fault conditions, stoppages and downtime
- Flexible configuration and wiring by means of integral busbars for potential distribution and signalling
- A single trip curve for all loads, e. g. capacitive loads up to 20,000 μ F, DC motors* (see above)
- Space-saving design reduces installation costs (width of only 12.5 mm)
- Screw terminals
- International approvals as electronic circuit protector

DC 24 V overcurrent protection with the electronic circuit protectors ESX



ESX10, plug-in type socket mounting



NEW: ESX10-T for rail mounting



5-unit-block ESX10-TB-101 with group signalling (N/O)



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