

Electronic Circuit Breaker Type ESS20 The solution for DC 24 V systems.



Technical Information

Electronic Circuit Breaker Type ESS20.

The ESS20 Electronic Circuit Breaker has a width of only 12.5 mm. It selectively protects all connected DC 24 V load circuits through a combination of active electronic current limitation and well-proven circuit breaker technology with physical isolation. The ESS20 can be plugged into the E-T-A power distribution socket module 17plus or distribution rail SVS02, ensuring ease of installation and a significant reduction in wiring time. Switch-mode power supplies, which are

widely used in industry today, will shut down the output in the event of an overload with the result that one faulty load in the system can lead to complete disconnection of all loads.

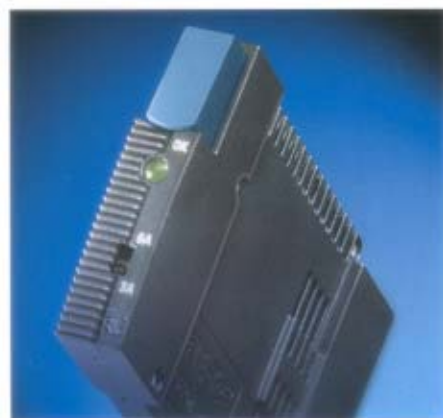
The ESS20 helps to overcome this problem. As the highest possible current is limited to typically 1.5 to 1.8 times the set rated current of the circuit breaker it is also possible to switch on even capacitive loads up to 20,000 μ F, but they are disconnected only in the event

of an overload or short circuit. Reliable disconnection is also ensured with load lines with a high attenuation (small cross section, long distance). The ESS20 is available in fixed current ratings ranging from 1 A to 10 A, for ease of use many customers prefer the switchable versions rated 1 A/2 A or 3 A/6 A.

Integral auxiliary contacts for single or group signalisation and a bicolour LED provide status and fault indication.

Technical data ESS20

Operating voltage U_B	DC 18 V...32 V
Current rating range I_N	fixed current ratings: 1 A, 2 A, 3 A, 4 A, 6 A, 8 A, 10 A switchable: 1 A/2 A or 3 A/6 A
Single/group signalisation	bicolour LED, potential-free signal contact, ON/OFF position of push button
Load output	power-MOSFET switching output (plus switching)
Overload disconnection Short circuit current limitation	load current > typically $1.1 \times I_N$ typically $1.8 \times I_N$ (at $I_N = 1 \text{ A} \dots 6 \text{ A}$) typically $1.5 \times I_N$ (at $I_N = 8 \text{ A} \dots 10 \text{ A}$)
Disconnection times	typically 5 sec with overload typically 5 sec...100 msec with short circuit
Switch-on delay t_{start}	typically 300 ms
Physical isolation of load circuit (type ESS20-0..)	on one pole (switch contact) - by push-push actuation of the blue push button (ON/OFF) - after electronic fault disconnection (overload, short circuit)
Remotely resettable version (type ESS20-124)	- electronic reset input - short-circuit-proof signal output - physical isolation via ON/OFF switch



Features and benefits

- DC 24 V control voltage remains stable in the event of short circuit or overload.
- Integral switching function for start-up and maintenance work.
- Reliable switching of capacitive loads up to 20,000 μ F.
- Physical isolation of load circuit ensures complete disconnection of load.
- Reliable disconnection also with high cable attenuation.
- Plug-in mounting utilising power distribution systems Module 17plus or SVS02 reduces wiring time and saves space in the control cabinet.

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