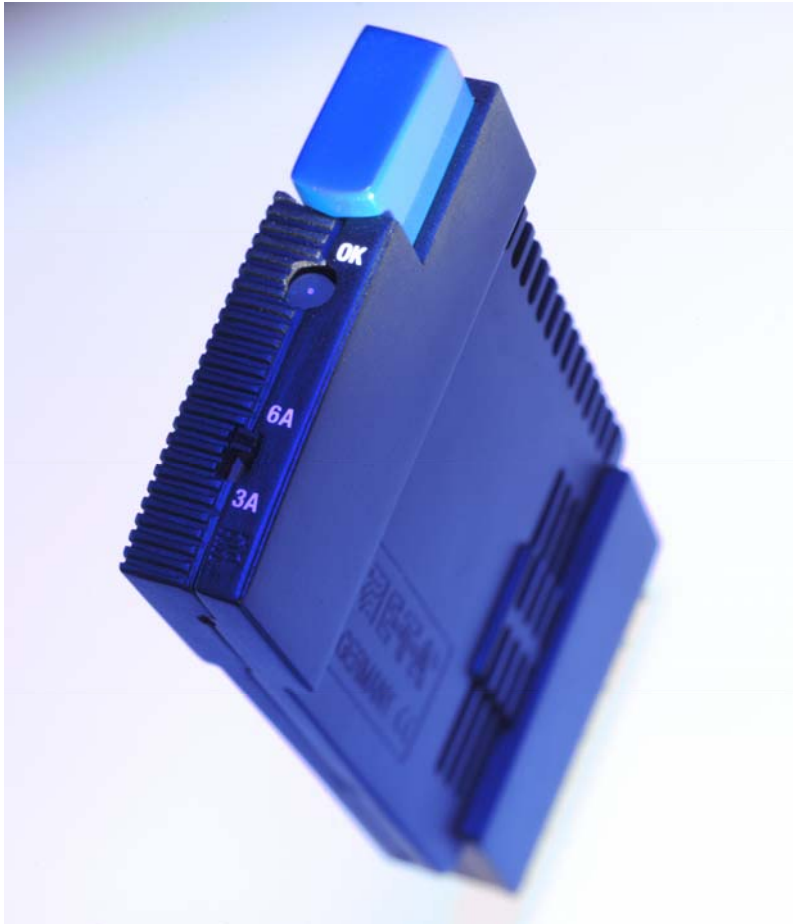
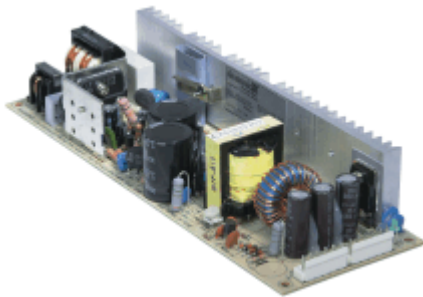
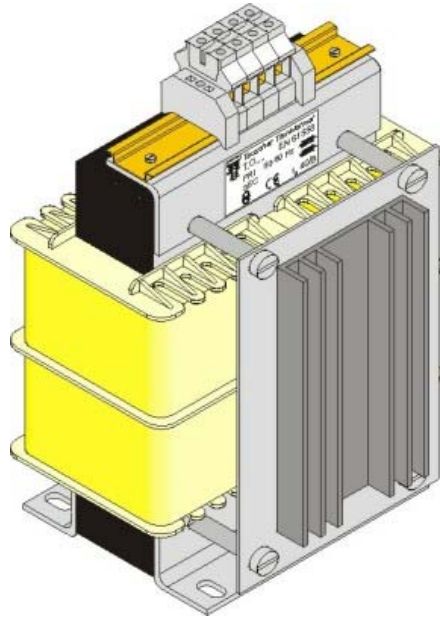


ESS20 Electronic Circuit Breaker

How does (selective) protection of loads work with DC 24 V power distribution systems?

E-T-A's latest product.





The 24V power supply Transformer or switch-mode?

The well-proven transformer power supply:

- simple and robust

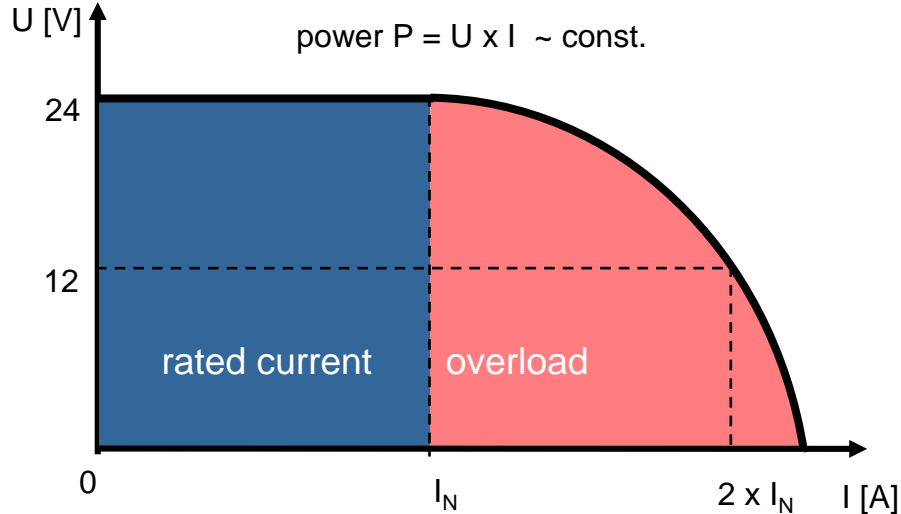
The new switch-mode power supply:

- small and light
- high efficiency

**Switch-mode power supplies
are in the ascendency.**

transformer power supply

power $P = U \times I \sim \text{const.}$



The differences Power vs. safety

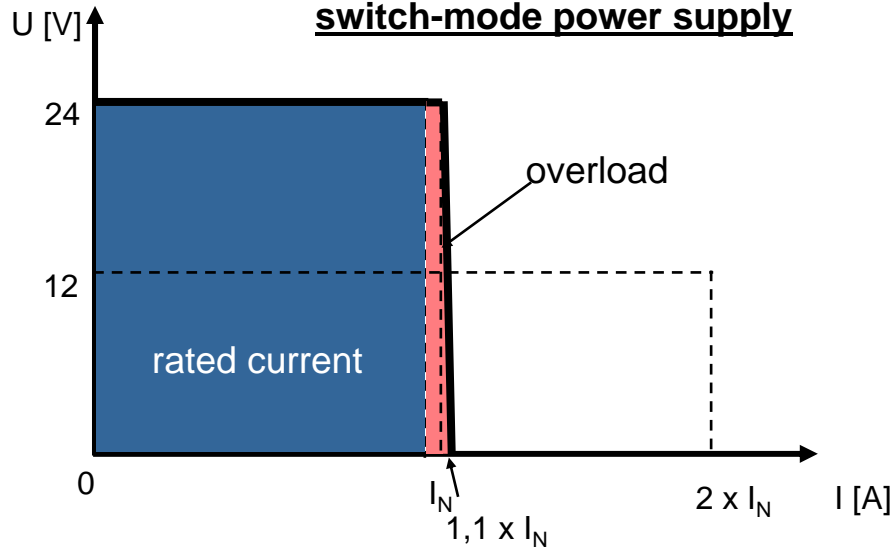
transformer power supply

- power also at overload

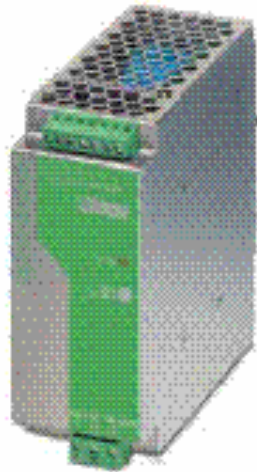
switch-mode power supply

- safety by disconnection
- “hiccup mode” or power boost

switch-mode power supply



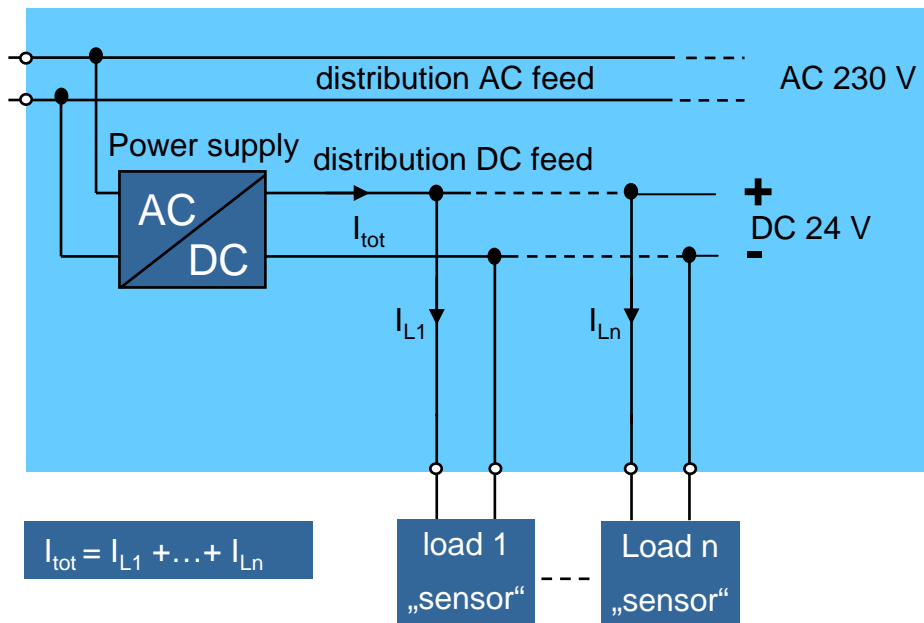
The switch-mode power supply is safe
**but automatic loads disconnection
may be problematic.**



The power supply One for all

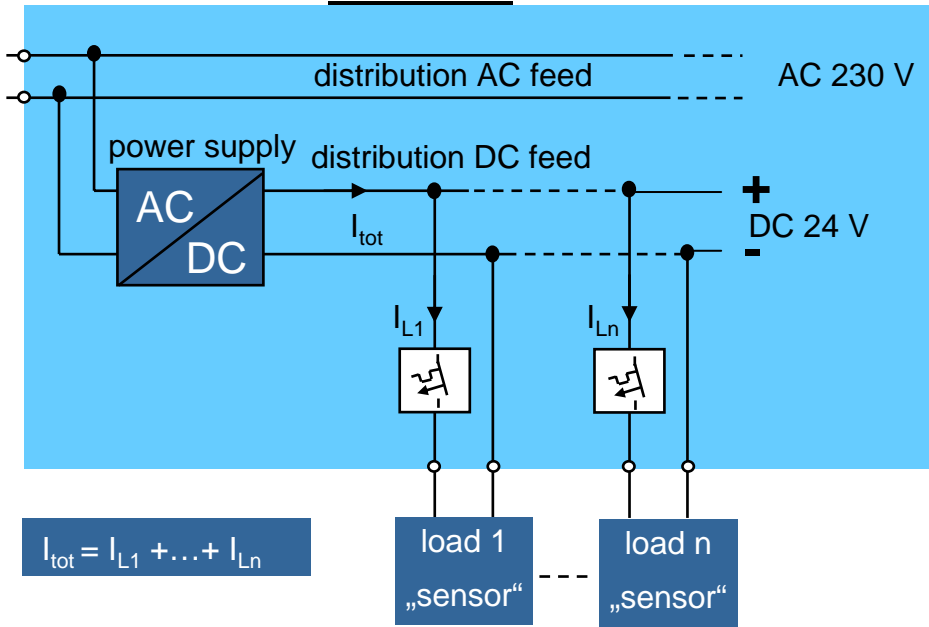
power supply for control cabinets

- common supply feed AC
- common supply feed DC 24V
- $I_{tot} = I_1 + I_2 + \dots + I_n$



Only **one** power supply -
to serve all loads!

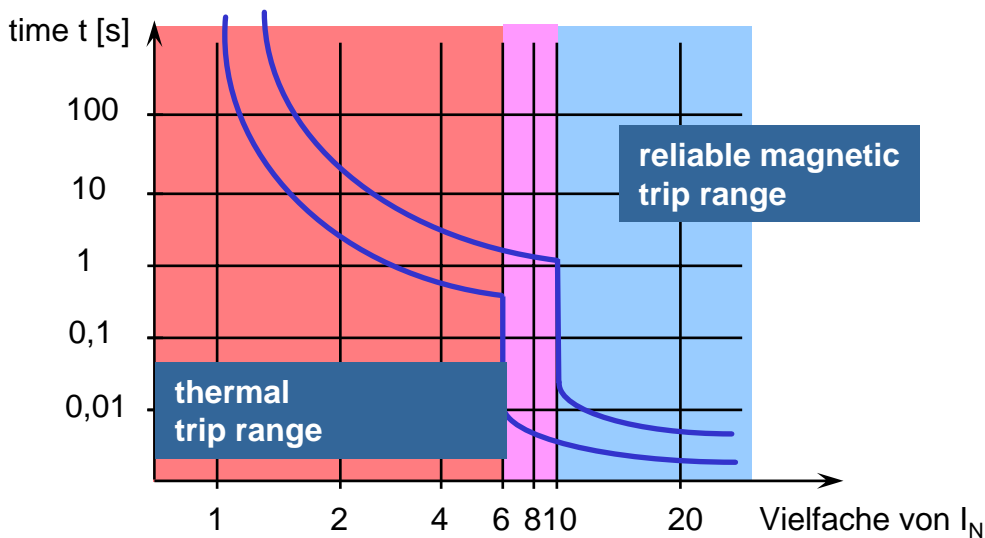
Protection



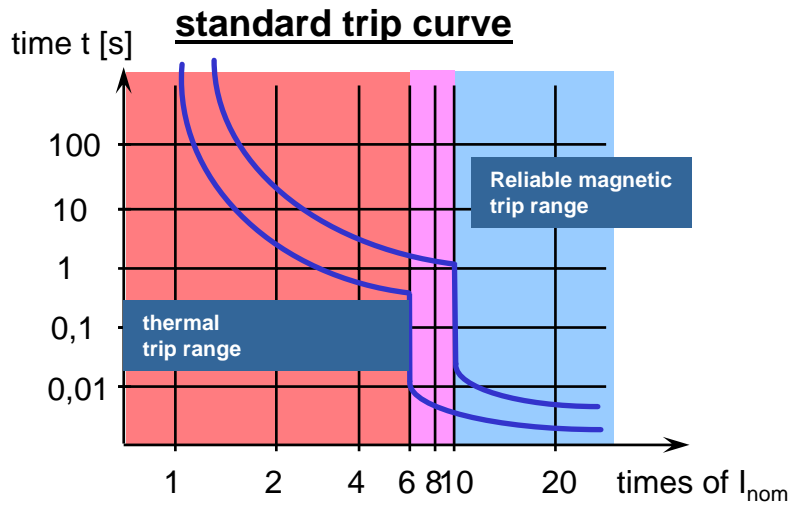
Safety first
Reduce fire hazard

Protection of the individual load:

- against short circuit
- against overload
- with short and long cables
- fault indication
- and switching on of capacitive loads



There is a choice of configurations.



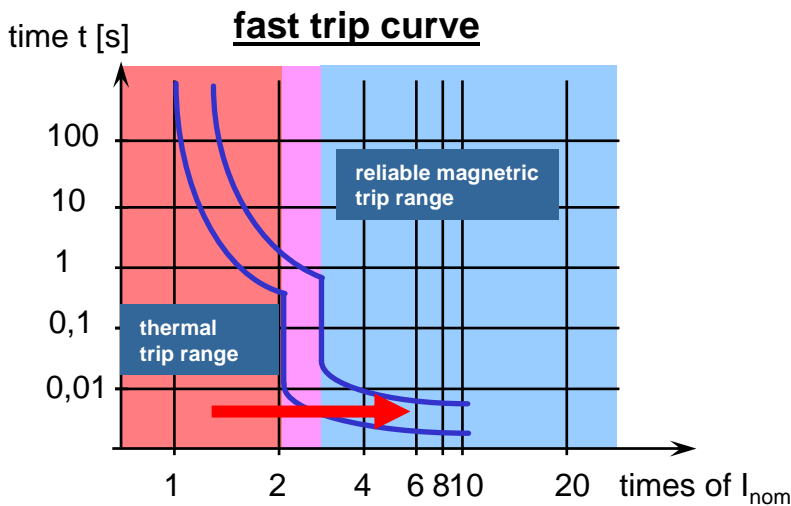
Undelayed protection (too?) fast circuit breaker trip performance

Fast protection

- only a low trip current necessary

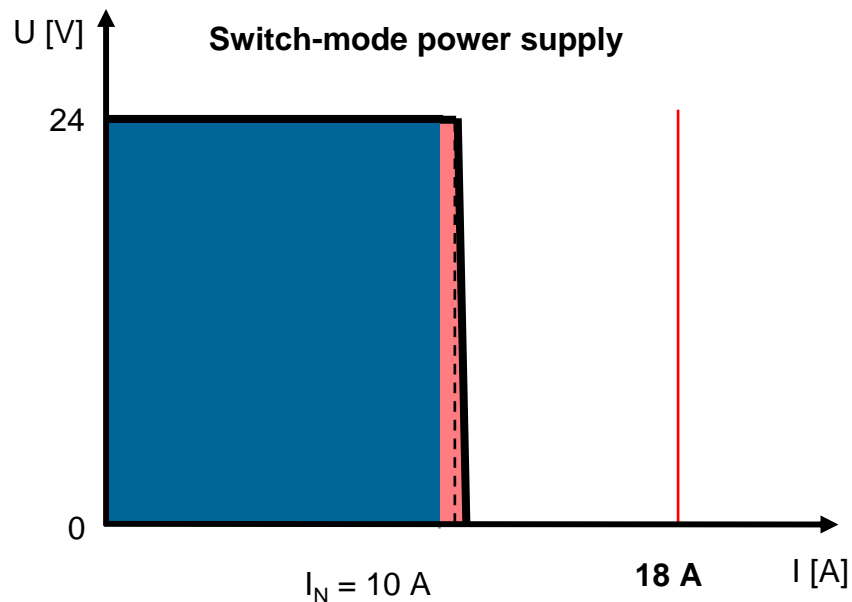
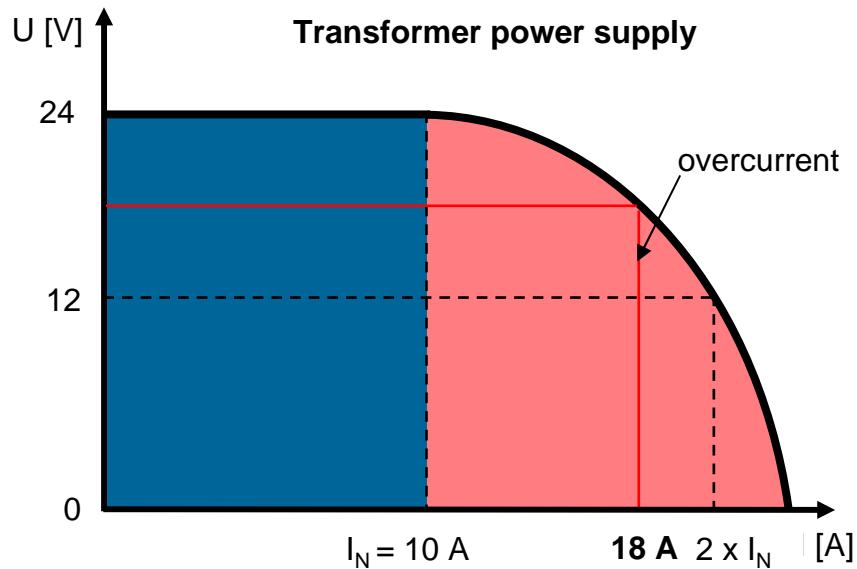
but:

capacitive loads cannot be switched on!



Selectivity reducing operatability!

The difference In the event of a failure



transformer power supply

- trip current flows even at reduced voltage

switch-mode power supply

- voltage dips at all loads

Ensuring a reliable power supply:

selective protection of loads.

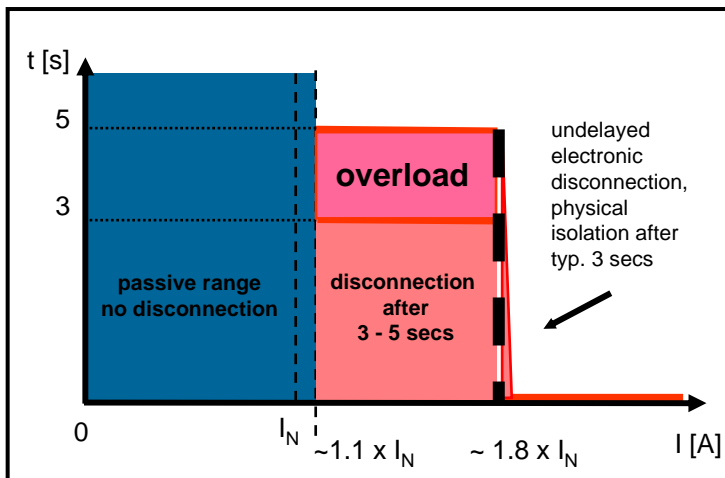
The ultimate solution

Electronic circuit breaker ESS20



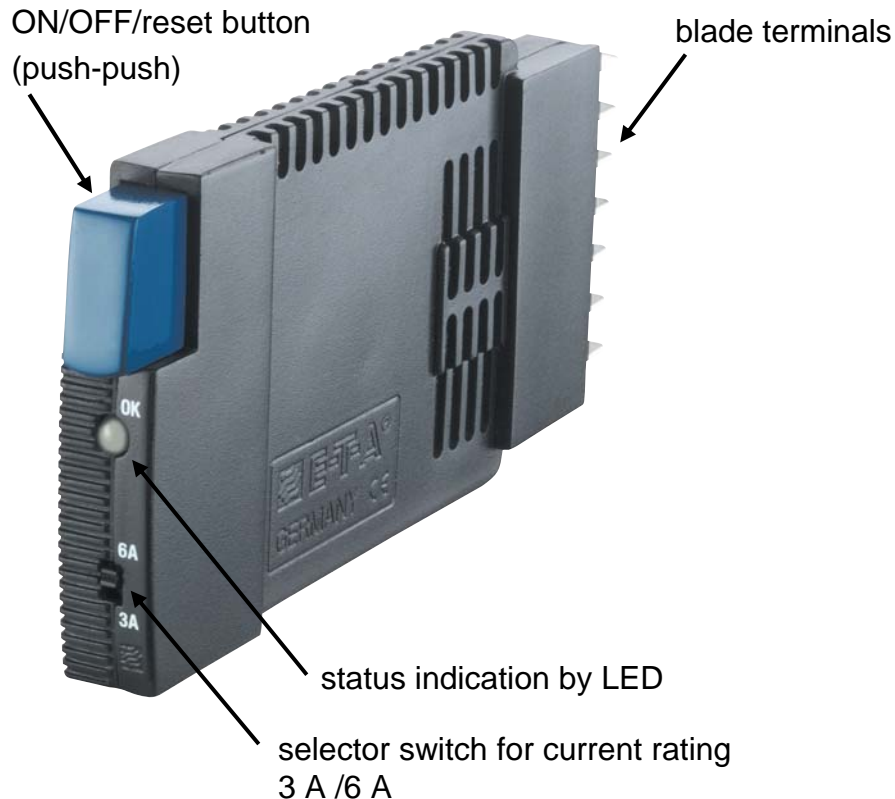
The ESS20 offers selective protection

- current measurement
- fault evaluation
- active current limitation
- physical isolation



ESS20

selectivity and functionality combined



Second-to-none Features and benefits

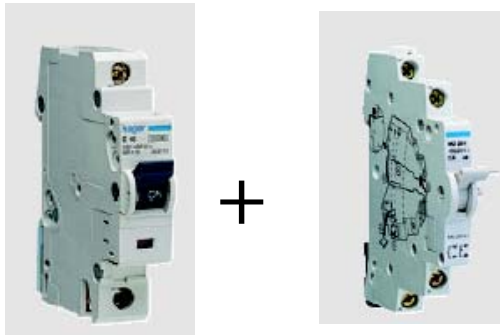
- width per unit only 12.5 mm
- single unit with selectable current ratings
- manual ON/OFF button
- potential-free signal contact
- plug-in mounting utilising power distribution system Module 17plus
- fail-safe element

Benefits offered by the ESS20:

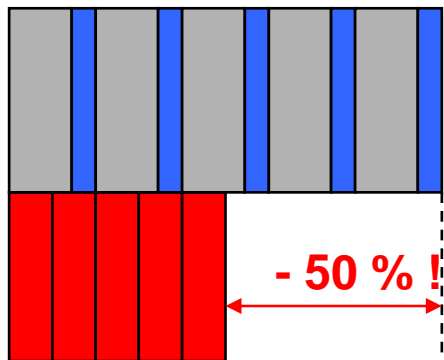
- safe connection of capacitive, inductive and resistive loads
- active current limitation
- physical isolation
- clear status indication

MCB

Auxiliaries



Save Space
Quick and easy



System performance

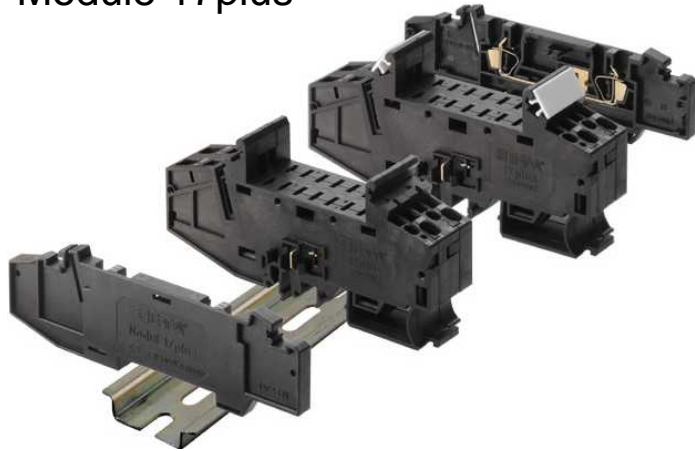
- including auxiliary contacts
- reliable spring-loaded terminals
- terminal block for screw terminals available
- integral signal contacts



ESS20

Reduced space requirement
Lower cost

Module 17plus

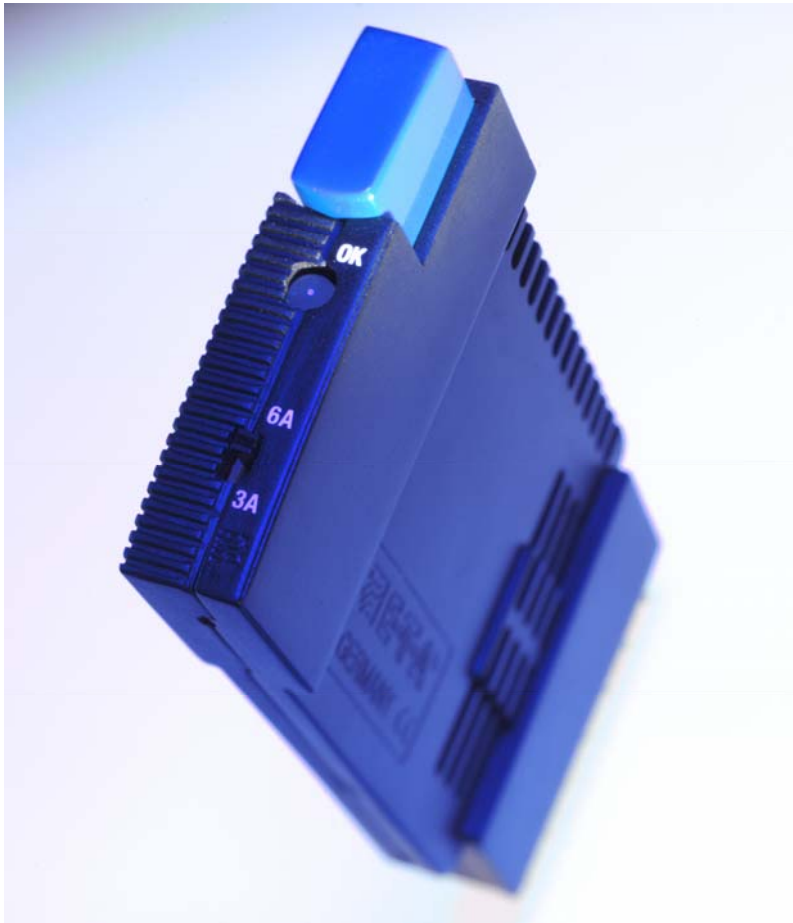


Mounting Quick and easy

Power distribution system Module 17plus

- DIN rail mounting
- spring-loaded terminals
- busbar supply feed (up to 50A)
- integral signal contacts

...easy-to-fit: plug in the ESS20!



ESS20

The best possible choice

value added for the customer:

- functions suited to a choice of applications
- future-oriented general concept

E-T-A's latest product.