

PROTECTION FROM RESIDUAL CURRENTS

Preventing electrical accidents



605

reportable electrical accidents per year*



nearly 90%

of electrical accidents occur in the low-voltage range**

*) Source: BG ETEM (2014) statistics of electrical accidents in Germany

**) Source: BG ETEM (2020) statistics of electrical accidents in Germany



In the event of a fault, residual current protective devices (RCDs) reliably disconnect power to protect humans.

Fault protection

“Protection against indirect contact”

Protects people in the event of contact with extraneous electrically conductive parts (such as heating, water pipe) through automatic power shutdown – if a risk exists as a result of a fault due to the magnitude or duration of the touch voltage.

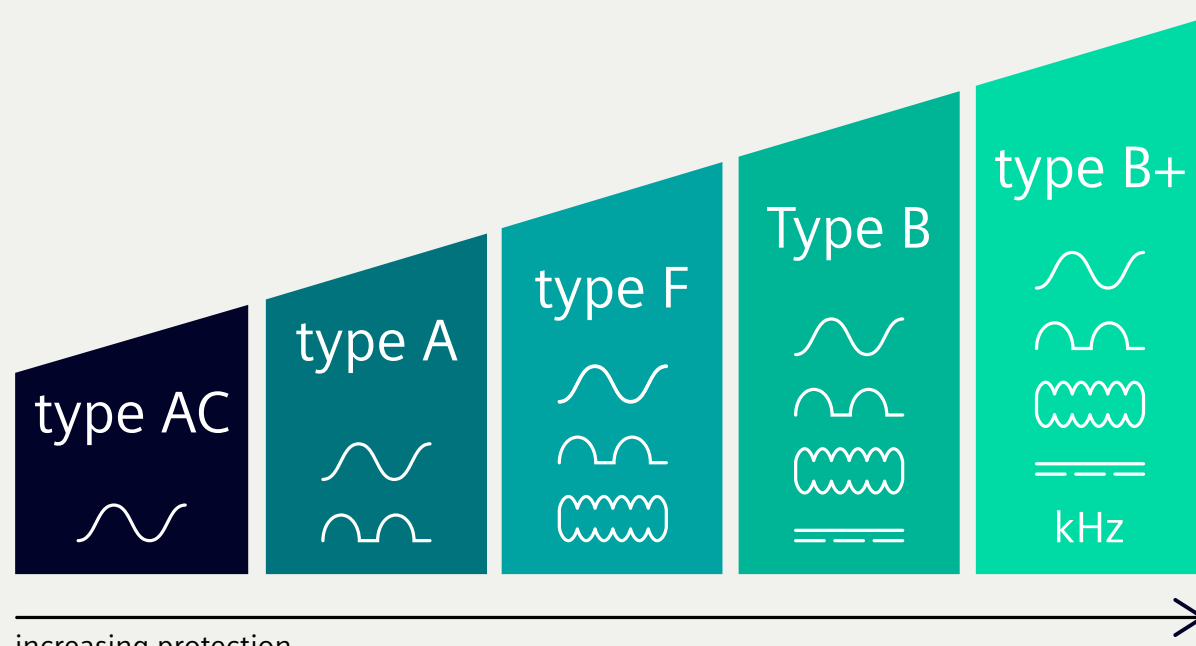


Additional protection

“Protection in case of direct contact” with $I_{\Delta n} = 30 \text{ mA}$

Protects individuals if they come into direct contact with an active live part under normal operation conditions if the basic and/or fault protection fails.

The right type



- sinusoidal alternating currents (type AC; not permitted in Germany)
- pulsating DC residual currents (type A)

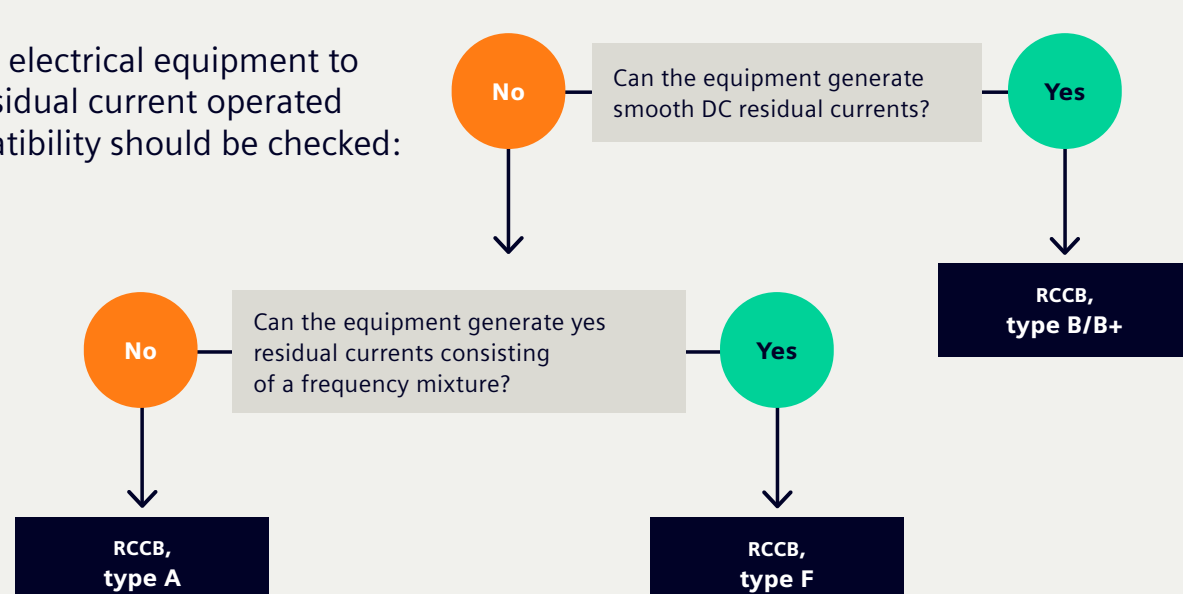
- electrical loads with frequency converters in the single-phase alternating currents (type F)

- smooth DC residual currents (type B/B+)

More information available at:
[siemens.com/protection-concept](https://www.siemens.com/protection-concept)

When to use which residual current circuit breaker (RCCB)?

Before connecting electrical equipment to a network with residual current operated devices, the compatibility should be checked:



48 months no use of the test button needed at the RCCB

5SV3 RCCB type A or type B/B+ with SIGRES function

SIGRES = $\textcircled{f+}$
48 months no use of the test button needed

An overview of the key aspects:

- 48 months no use of the test button needed
- Reduce testing costs and minimize workload
- Easy exchange of RCCB type A by RCCB type A SIGRES
- Easy exchange of RCCB type B by RCCB type B with integrated SIGRES functions
- Use of SIGRES at normal environmental conditions -25°C...+45°C

- Use under harsh environmental conditions with increased noxious gas exposure
- Integrated heating function for adverse weather conditions
→ No corrosive impacts
- Patented active condensation protect
→ Significantly extended service life

Play it safe with Siemens!

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