Guidelines for the selection of residual current circuit-breakers

Doepke

Start

Does the electrical equipment contain multi-phase frequency converts that can produce smooth DC residual currents?

examples:
- HVAC and heat pumps
- escalators and lift systems
- medical equipment
- photovoltaic systems
- welding equipment
- charging stations for electric vehicles

Is electrical equipment with single-phase frequency converters used?

examples:
- washing machines
- pumps
- hammer drills

Will the circuit-breaker be used for a charging station for an EV charging station?

Is an integrated emergency switching-off facility required?

Will the circuit-breaker be used for a photovoltaic system?

Will the circuit-breaker be used for a heat pump?

Is an integrated emergency switching-off facility desired?

Is detection of mains faults (e.g. interruption of the neutral conductor) desired?

Where an RCCB is required to provide selectivity with downstream RCCBs?

examples:
- mode 3 chargers
- sockets
- lighting

Is detection of mains faults (e.g. interruption of the neutral conductor) desired?

Is an integrated emergency switching-off facility needed?

Is an additional facility for reclosure desired?

Is the electrical installation operated on a supply with unknown or insufficient residual current protection?



DFS 2/4 F

HD

safety with mixed frequencies

Sensitive to mixed frequencies. Reliable protection for installations with single-phase frequency converters, numerous power supplies or LED lighting.

DFS 4 A NA

HD *

protected in emergency situations

Pulsating current sensitive and AC sensitive. Specifically developed for circuits that require emergency switching-off.

DFS 2/4 A

HD

reliable standard protection

Pulsating current sensitive and AC sensitive. Reliable protection for standard applications such as socket-outlet and lighting circuits.

DFS 2/4 A S

HD

time delayed tripping

Pulsating DC current sensitive and AC sensitive. Ideal for installations where time delayed is required.

DFS 6 A NU

*

protection in the event of mains faults

Pulsating current sensitive and AC sensitive. Detects upstream mains faults, such as neutral conductor interruption, and switches off before overvoltage damage occurs.

DFS B SK NU

*

protection in the event of mains faults

AC-DC sensitive. Reliable protection for installations where high frequency fire protection is not required. Detects upstream mains faults, such as neutral conductor interruption, and switches off before overvoltage damage occurs.

DFS 2/4 B SK

HD

safe and reliable system availability

AC-DC sensitive. Reliable protection for installations where high frequency fire protection is not required.

DFS 4 B SK MI

HD

for mobile installations

AC-DC sensitive. Reliable protection for installations where high frequency fire protection is not required. Ideal for mobile installations where RCCBs of type A or unknown types are installed upstream.

DFS 4 A EV NA

HD *

for electromobility

Pulsating current sensitive and AC sensitive. Specifically developed for use in charging stations for electric vehicles. DC tripping threshold 6 mA and additional emergency switching-off function.

DFS 4 A EV

HD

for electromobility

Pulsating current sensitive and AC sensitive. Specifically developed for use in charging stations for electric vehicles. DC tripping threshold 6 mA.

DFS 2/4 PV

HD

for safe solar energy

AC-DC sensitive. Reliable protection for installations that require fire protection for frequencies > 1 kHz. Optimal for the protection of photovoltaic systems.

DFS 2/4 HP

HD

the heat pump specialist

AC-DC sensitive. Reliable protection for installations that require fire protection for frequencies > 1 kHz. Ideal for installations where heat pumps are used.

DFS 4 B SK NA

HD *

protected in emergency situations

AC-DC sensitive. Reliable protection for installations where high frequency fire protection is not required. Ideal for circuits that require emergency switching-off.

DFS 4 B SK FANA

*

emergency switching-off and remote operation

AC-DC sensitive. Reliable protection for installations where high frequency fire protection is not required. Ideal for circuits that require emergency switching-off. Including remote control to enable switch on from a distance.

mains monitoring

energy transition

HD Available as Heavy duty – for harsh environmental conditions

* Additional function also available as a main switch

Sensitive to mixed frequencies

Pulsating current sensitive and AC sensitive

AC-DC sensitive

! Note:
The rated residual current is not considered in this diagram and must be selected in accordance with the protective measure.

Doepke Schaltgeräte GmbH