

Safety on the building site

- Type B — Retrofitting building-site distribution boards with AC-DC sensitive residual current circuit-breakers
 - Type B MI can also be placed downstream of Type A or F residual current circuit-breakers
 - Also available in HD (heavy duty) version for harsh environmental conditions
- ISΩ HD — Audit-proof residual current protection





Ensure occupational safety and personal protection

Whether it's a new build or renovation project, electrical safety on a building site is the responsibility of qualified electrical specialists. Multiphase operated or frequency-controlled electronic equipment is often used on building sites, including cranes, pumps, ventilators, stone and wire saws, sand sifters, compactors, agitators etc. Alongside AC residual currents, these can also produce residual currents not equal to 50 Hz and smooth DC residual currents, which cannot be detected by conventional Type A residual current devices.

As per device standards, Type A RCCBs may only be subjected to a maximum of 6 mA smooth DC residual currents as they are no longer able to maintain their protective function reliably at a higher DC residual current. In the worst-case scenario, an incorrect choice of residual current device could even cause a malfunction. This switch failure will go unnoticed, increasing the risk of an accident caused by residual current.

Doepke's Type B AC-DC sensitive residual current circuit-breakers enable you to achieve a fully reliable power supply on the building site as these detect smooth DC residual currents and AC residual currents up to 150 kHz with absolute reliability.

Standards and guidelines

ISO

- A look at the standard** — The DIN VDE 0100-704 standard on the construction of low-voltage installations on building sites stipulates that three-phase sockets up to 63 A must always be protected using Type B AC-DC sensitive residual current devices. Sockets with a rated current up to and including 32 A must be protected using a residual current circuit-breaker with a rated residual current of max. 30 mA. Residual current circuit-breakers with a rated residual current of max. 500 mA must be used for circuits with sockets exceeding 32 A.
- DIN VDE 0100-704** — The requirements of this part apply to installations of electrical systems for the duration of construction and demolition work.
- DIN EN 61008-1 (VDE 0664 part 10)** — This standard describes the general requirements for using residual current circuit-breakers, particularly with regard to temperature, humidity and magnetic fields. It also contains requirements and tests for all types of RCCBs.
- VDE 0100 part 510** — Installers of electrical systems are responsible for ensuring equipment is selected in accordance with the ambient conditions that will occur – with extra protection for harsh environmental conditions.

Use electricity safely on construction sites.

VDE

DIN



Use electricity safely on construction sites: robust and compliant

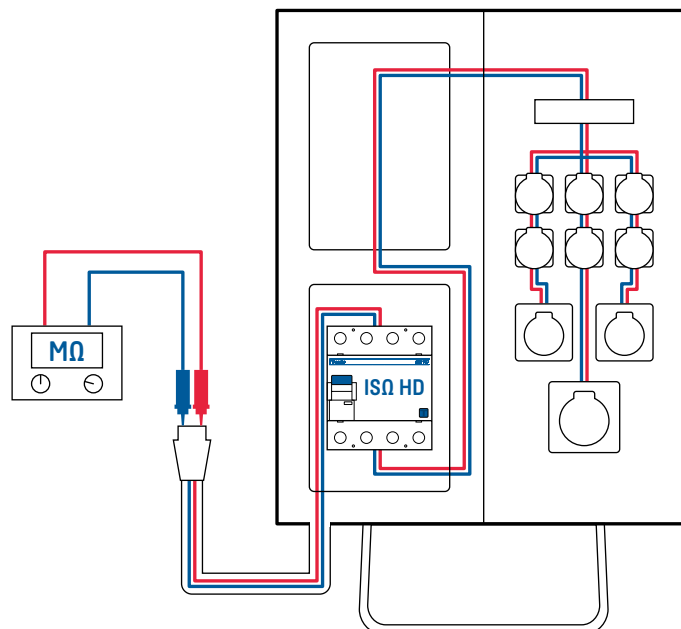
DIN VDE 0100-600 defines the requirements for initial and recurrent testing of electrical installations, as well as measurement of insulation resistance. Test results document the proper condition of an installation and the associated electric equipment. Failure to carry out an inspection can have serious consequences in the event of damage.

With the new ISΩ HD design from Doepke, there is now an AC-DC sensitive residual current circuit-breaker that is compliant with the standard. Insulation testing can therefore be carried out without prior disconnection.

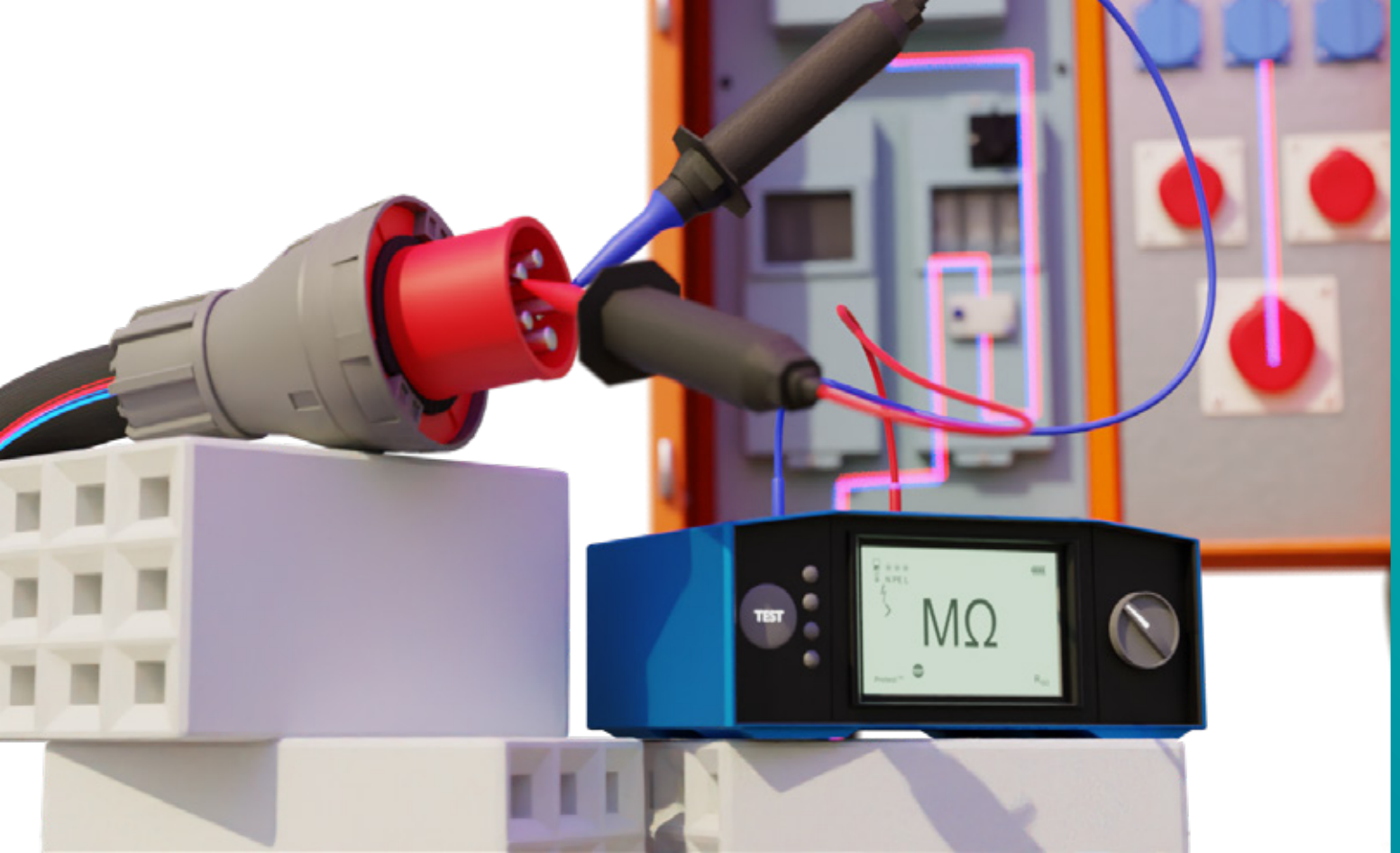
Saves a lot of time during insulation measurement

The ISΩ HD no longer needs to be disconnected before the insulation measurement. This in itself considerably reduces the overall effort required. However, the actual testing time is also reduced. With building-site distribution boards, for example, it is possible to take measurements from the connection point, through the box, up to the last socket in a single step. The supply side and the system side no longer need to be measured separately.

New!
With the ISΩ HD,
you no longer
need to
disconnect.



With power disconnected, the DFS ISΩ HD is switched on, in order to access the system during insulation measurement with the test voltage.

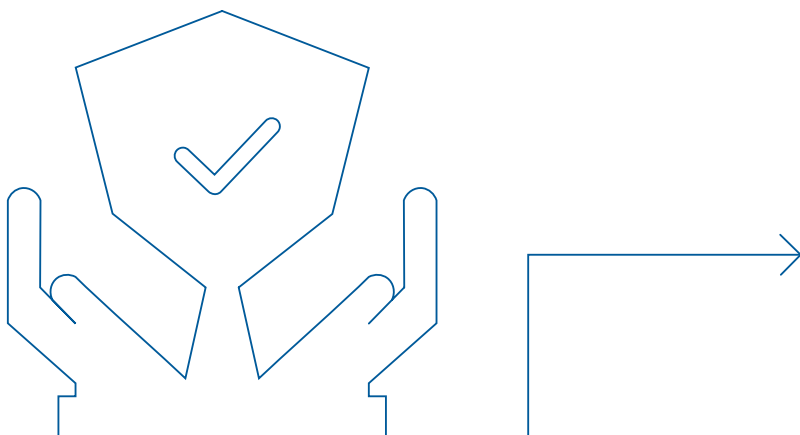


No corruption of measured values by the electronics

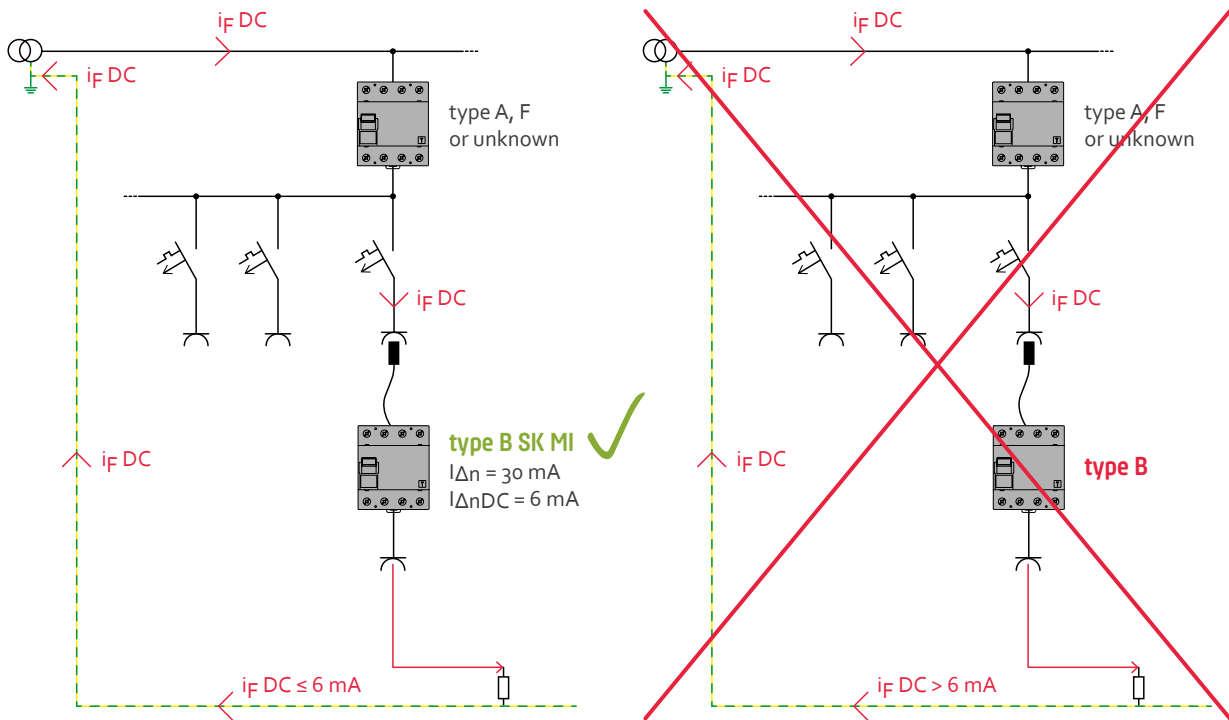
The AC-DC sensitive residual current circuit-breaker DFS ISQ HD has been conceived in such a way that, with a measured DC voltage of up to 1000 V, an insulation measurement can be taken through the circuit-breaker without the measured values being falsified by the integrated electronics.

No mechanical stress due to repeated disconnection

Repeated tightening and loosening has an impact on screws and terminals. As there is no need to disconnect the DFS ISQ HD for the recurrent insulation measurements, this prevents excessive wear on the terminal screws.

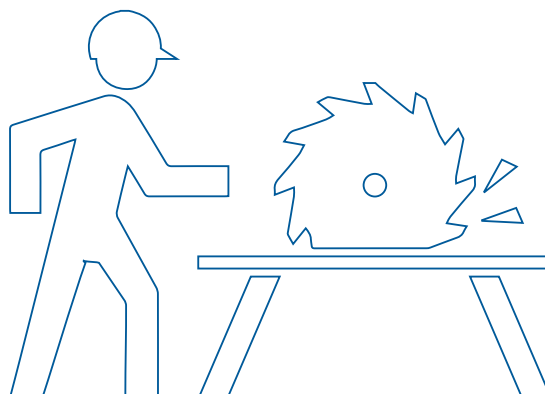


Series connection of different residual current protection types



Only the DFS B SK MI can be connected downstream of a Type A or F residual current circuit-breaker.

- MI – for mobile installations**
- AC-DC sensitive protection for electrical consumers that can cause DC residual currents and are used in different locations
 - trips from a DC residual current of 6 mA
 - by doing so, it prevents pre-magnetisation of upstream Type A or F residual current circuit-breakers and ensures their protective function works
 - the only Type B residual current circuit-breaker that can be connected downstream of a Type A or F RCCB
 - ideal, even if the residual current circuit-breaker in the upstream fixed installation is unknown
 - ideal on building sites:
DFS 4 B SK MI for high system availability



Reliable residual current protection in harsh conditions

Installers of electrical systems must ensure that the equipment used works safely and reliably even in tough environmental conditions, such as extreme temperature fluctuations or under the effects of corrosive gases. To do so, the residual current devices themselves must be protected. This is often done using special distribution boards with interiors that should provide the most optimal climatic conditions for problem-free, standard-compliant operation of the residual current circuit-breakers.

Heavy duty for harsh environments



Frost



Heat



Dust



Moisture



Corrosive gases

No compromises when it comes to functional protection

Residual current circuit-breakers that are already designed for adverse environmental conditions, such as the HD (heavy duty) versions from Doepke, are another possible solution. Due to their special design, our HD circuit-breakers are especially corrosion-resistant even when disconnected from the power supply.

High-quality components like the latch made from robust stainless steel ensure that the trip – the core of the RCCB – is particularly well protected and does its job even in harsh conditions.

Wide range of applications

Harsh environmental conditions prevail in many locations – whether it is on the building site, in industrial environments or in agriculture. Residual current circuit-breakers with an HD design are also the safe choice for use in facilities that process solvents, such as printers and paint shops, as well as in swimming pools and spas.



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