

Offline monitoring

Ready when it matters!



Design the future
of energy



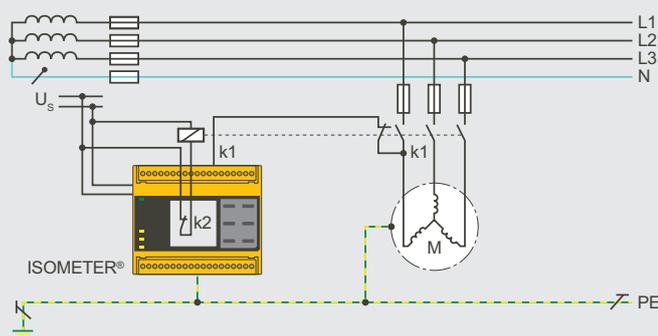
Continuously monitor switched-off loads and lines

Many types of loads that are temporarily or predominantly switched off must function reliably when needed, such as fire fighting pumps, gate valve actuators, lift motors or emergency power generators. However, during prolonged periods of inactivity, insulation faults can occur due to moisture or other influences in the supply line or at the load itself. If these insulation faults go unnoticed, the protective device will trip when the system is switched on and operation will not be possible. If the loads do not function, human lives may be at risk in the worst case scenario.

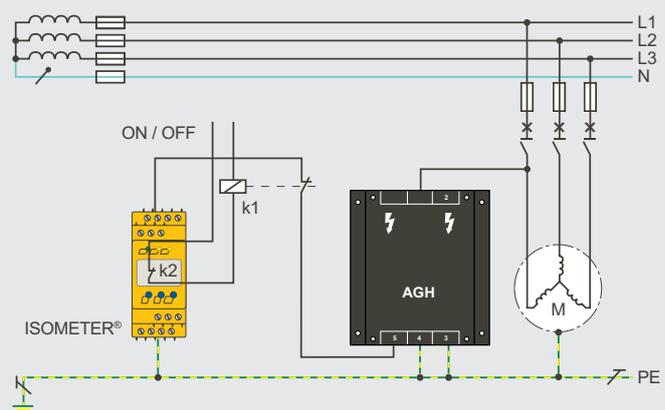
'Offline monitors' monitor the insulation resistance of electrical loads while they are switched off and report insulation deterioration at an early stage to ensure that they function properly when it matters. For this purpose, special ISOMETER® devices are used. This solution can be used regardless of whether the monitored loads are supplied from TN, TT or IT systems.

Areas of application

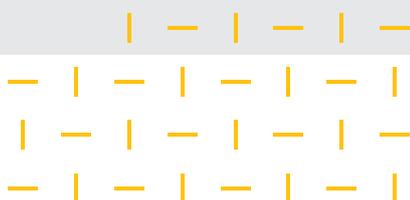
- Pumps (sprinkler systems, lifting pumps, etc.)
- Drives for emergency slide valves
- Signal box motors for railway systems
- Crane systems (e.g. on ships)
- Slide valve actuators in supply lines (gas, water, oil, etc.)
- Smoke extraction fans in tunnels
- Emergency power generators
- Emergency lighting systems
- Compressors (e.g. in industrial hydrogen production plants)
- Cables and wires



Offline monitoring principle



Principle offline monitoring of motors for medium voltage up to 12 kV

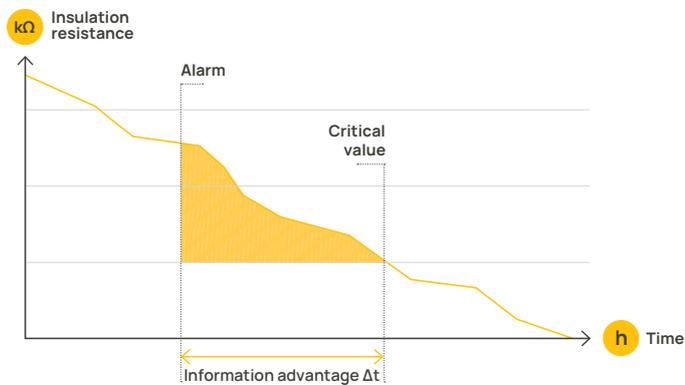


If the insulation resistance between the switched-off load and earth falls below the set response values, the ISOMETER® reports this insulation fault. The measured value is shown on the device display, via analogue output or via a communication interface. This also makes it easy to identify changes that occur over time or that may depend on certain environmental conditions.

Insulation deterioration can be caused, for example, by

- Rodent bite
- Mechanical damage
- Porous insulation due to UV radiation
- Leaks (water ingress)

Two response values, each with its own alarm relay, provide an early warning even in the event of very high-impedance insulation faults. The second response value, which is lower, can then prevent the faulty consumer from being switched on by means of a lock.



Your benefits

- Continuous monitoring instead of random insulation measurements during repeat testing
- No failure of rarely used loads in an emergency
- Optimised maintenance through early notification
- Prevention of operational disruptions and emergency call-outs
- Optimal monitoring of cabling and motor windings
- Reduction in operating and maintenance costs

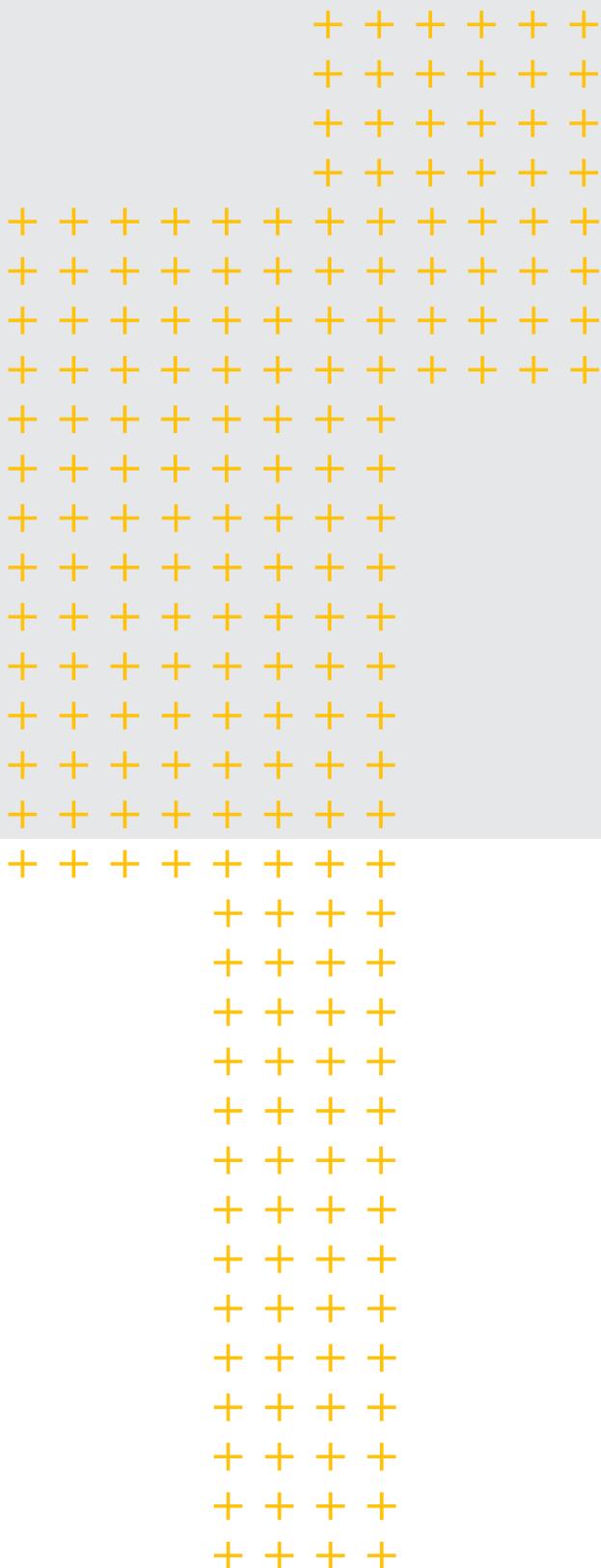
Device features

- Insulation monitoring for switched-off TN, TT and IT systems AC, 3(N)AC and DC
- Insulation value can be monitored via fieldbus, e.g. Modbus RTU, web server (device-dependent)
- Nominal voltage expandable via coupling device
- Two separately adjustable response values 100 kΩ ... 10 MΩ
- Two separate alarm relays, each with one potential-free changeover contact
- Fault storage selectable



Order details

Type	Supply voltage	Response value	System leakage capacitance C_e	Item no.
IR420-D6-1	DC 9,6...94 V / AC 16...72 V, 42...460 Hz	100 kΩ...10 MΩ	≤ 10 μF	B71016415 B91016415
IR420-D6-2	DC 70...300 V / AC 70...300 V, 42...460 Hz	100 kΩ...10 MΩ	≤ 10 μF	B71016407 B91016407
isoNAV685-D-B	AC 24...240 V; 50...400 Hz / DC 24...240 V	1 kΩ...10 MΩ	≤ 150 μF	B91067024



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