

For location of earth faults in IT networks

GEOLUX GL 660-1



Benefits

- ▶ Mains filter for direct coupling to live cables up to 660 V
- ▶ Pulsed output current for easier detection of the test signal
- ▶ Filter for the suppression large interference signals
- ▶ Location of earth faults up to 150 kOhm



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For location of earth faults in IT in unearthed

Prelocation in insulated networks (IT networks)

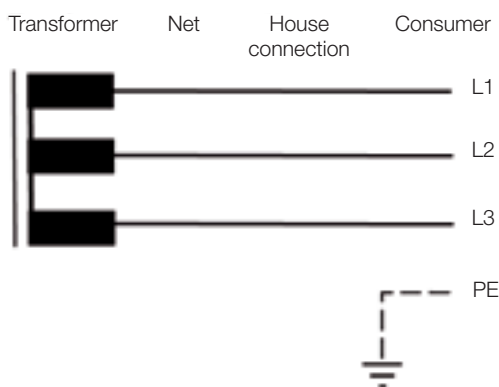
IT networks are specially protected networks which are designed in such a way, that the contact with a voltage-carrying line is harmless (hospitals) and that in the event of a short to the earth, no or only a small current will flow (explosion protection).

Important control, signal and supply systems, such as those for railway installations, hospitals, power plants or other industrial facilities, are designed to be potential-free and are monitored by earth fault indicators in order to ensure safe and uninterrupted operation.

With faults in IT networks, control lines or, for example, signal lines in railways, the term used for this is short-to-ground is called earth fault

A single earth fault will cause no service interruption. Only with the occurrence of a second earth fault a high risk of partial or complete breakdown of the installation arises.

For this reason, any earth fault must be located and repaired as fast as possible.

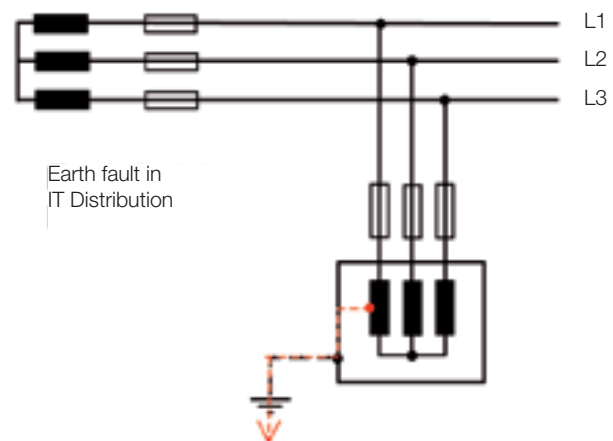


The star point of a feeding transformer in an IT network is not grounded. The protective earth of the load is separately grounded..

Especially in industrial systems in which the cables are nearly always in an environment with good electrical conductivity, a short-circuit is one of the greatest potential hazards faced.

As already mentioned, in an IT network, a short-to-ground initially will not trip any fuses, and thus does not interrupt any process.

However, the short causes the formerly unearthed, potential-free and floating system to set itself to the earth potential which was created by the fault.



As a consequence, the unaffected phases take up a defined potential against earth.

An additional short of a different phase (double earth fault) can now cause a true short-circuit and will lead to the total failure of the involved electrical system. This could then, for example, stop critical manufacturing process or create an arc due to the high current flow, which actually poses the highest danger in an explosion-protected environment.

Such installations have an insulation or earth fault monitoring system, which displays this state in the event of a earth fault, thus warning the operator.

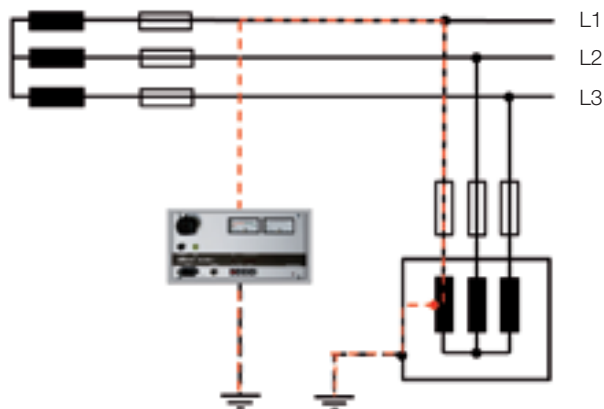
The operator can following localise and resolve this earth fault as fast as possible in order to restore the operating safety of the system.

networks up to 660 V and
control and signal cable systems

GEOLUX GL 660-1

One of the easiest and above all fastest options for the localisation these earth faults is the Geolux System.

The Idea behind the technology used in the Geolux is a location of the earth fault without interrupting the supply function or affecting data and control circuits. In the Geolux system, a low frequent signal current of 5 Hz is galvanically coupled to the conductor with the earth fault.

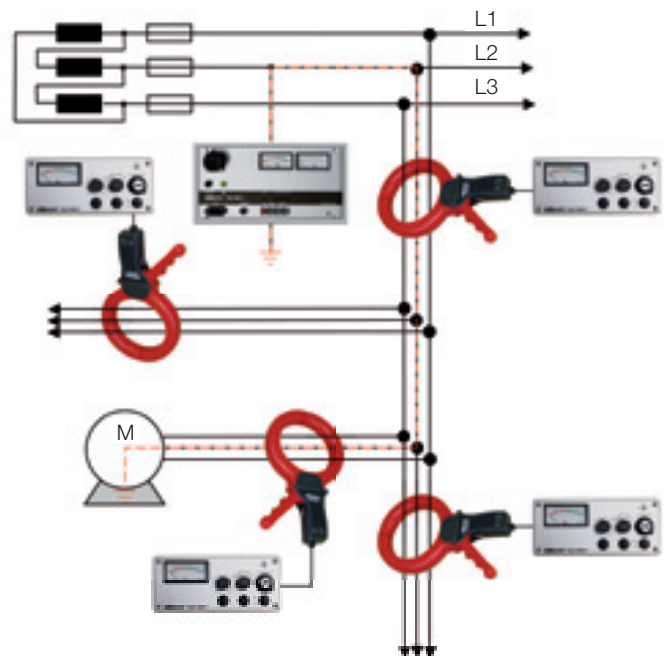


Path of the fault current with connected Geolux Transmitter

The integrated separation filter enables a direct galvanic coupling of up to 660 V AC and DC.

The electromagnetic field of this signal current is traced with inductive sensors and thus guides the user to the fault position. A pulse is used for better identification the signal current. The signal pulse of the generator is synchronised with the receiver and displayed accordingly.

A compensating circuit in the receiver and clamp enables the compensation of interfering cable capacities allowing the localisation of fault resistances of up to 200 kOhm.



The user follows the path of the signal current to the earth fault with inductive signal clamps or, where the cable bundling does not permit this, with an inductive contact sensor, until he reaches the position of the fault. There, the signal divides and can no longer be traced.

We are happy to provide you with information!



Standard accessories

- Reader clamps AZK 100, 100 mm **3**
- High voltage cable HSK 7-B **4**
- Connection cable VK 50, 10 m **5**
- Power supply cable **6**
- Probe GSK 1 **6**

Special accessories

- Cable drum with connection cable KTG 50, 50 m
- Reader clamps AZK 12, 12 mm **7**
- Carrying case GLT 660
- Probe for earth cable GS 5

Technical data

Receiver GLE 660-1 **1**

Amplification	70 dB ... 100 dB
Filter	16.66 and 50 Hz Notch;
Power supply	8 x 1.5 V AA batteries (LR 6)
Operating time	approx. 40 hours
Operating temperature	-10 °C ... +50 °C
Storage temperature	-25 °C ... +70 °C
Max. rel. humidity	< 80%
Weight	approx. 1.2 kg
Dimensions (W x H x D)	220 x 100 x 130 mm

Transmitter GLS 660-1 **2**

Power supply	Mains 230 V, 45 ... 60 Hz Battery (rechargeable) 12 V / 2.4 Ah
Operating time at 80 V	approx. 5 h
Transmitter frequency	5 Hz +/- 0.1 Hz
External dielectric strength	660 V AC / DC
Operating temperature	-10 °C ... +50 °C
Storage temperature	-25 °C ... +70 °C
Weight	approx. 12 kg
Dimensions (W x H x D)	366 x 183 x 260 mm

**For more information, see:
www.sebakmt.com**

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Our range of products: Equipment and systems to locate faults in power and communications networks, as well as for leak location on pipe networks · line location equipment · CCTV inspection · seminars · service · contracting.

Technical data subject to change without notice.

ISO 9001:2008