GEOLUX GL 660-1
For earth fault location in IT-networks

- **Mains filter for direct coupling to live cables up to 660 V**
- **Pulsed output current for easier detection test signals**
- **Filter for suppressing large interference signals**
- **Earth fault location up to 150 kΩ**

DESCRIPTION

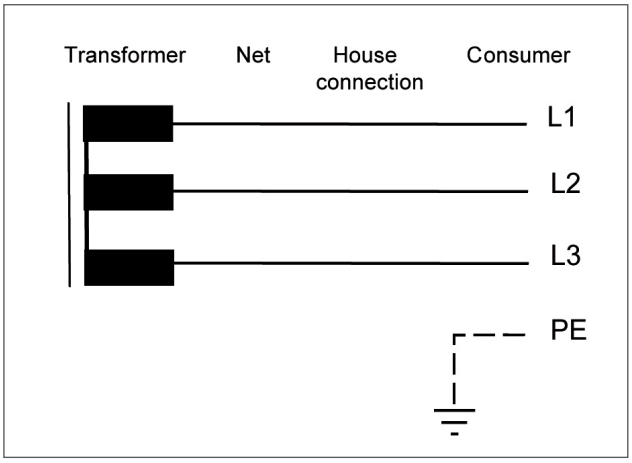
Specially protected IT networks, such as those found in hospitals, are designed in such a way that any contact with a voltage carrying line is harmless; in the event of a short to earth, explosion protection reduces current flow to zero.

Important control, signal and supply systems, such as those for railway installations, 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.

Short-to-ground faults in IT networks, control lines or, for example, signal lines in railways are referred to as earth faults.

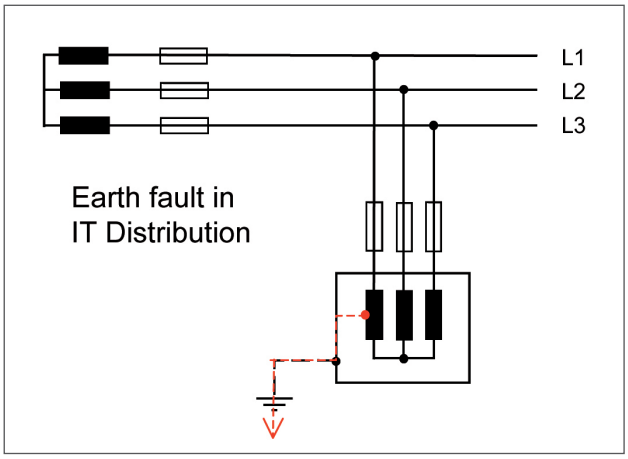
While a single earth fault will not disrupt the service, a second earth fault carries a high risk of partial or complete installation breakdown. For this reason, any earth fault must be located and repaired as fast as possible.

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



In industrial systems where cables are frequently in highly conductive environments, a short-circuit is one of the greatest potential hazards.

While a ground fault in an IT network won't initially trip any fuses or interrupt any processes, the short will cause the formerly unearthed, potential-free system to set itself to the earth potential created by the fault.



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

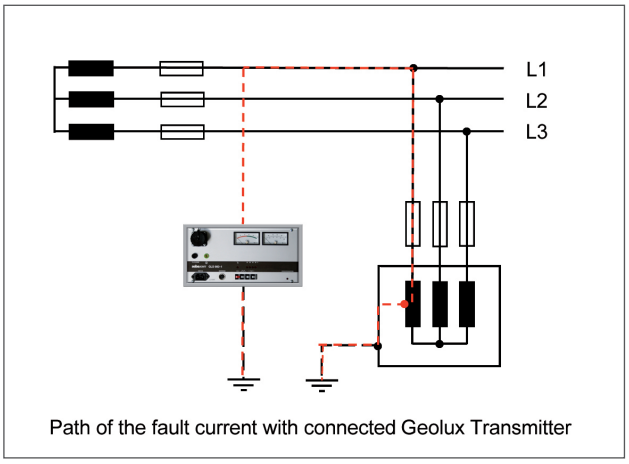
An additional short of a different phase (double earth fault) can now cause a true short-circuit, resulting in the total failure of the electrical system. Such a failure could stop critical manufacturing processes or create an arc due to high current flow, posing great danger in an explosion-protected 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 must localise and resolve this earth fault as fast as possible in order to restore the operating safety of the system.

One of the easiest and fastest options for localising these earth faults is the Geolux System.

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

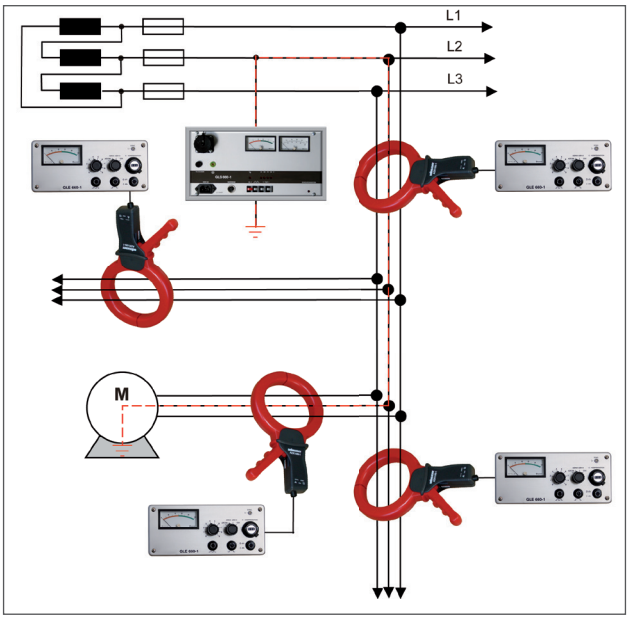


Path of the fault current with connected Geolux Transmitter

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

Inductive sensors trace the signal current's electromagnetic field and guide the user to the fault position. A pulse is used to better identify the signal current. The signal pulse of the generator is synchronised with the receiver and displayed accordingly.

A circuit in the receiver and clamp compensates for the interfering cable capacities, allowing fault resistances of up to 200 kOhm to be localised.



The operator follows the path of the signal current to the earth fault using inductive signal clamps (or an inductive contact sensor where cable bundling does not permit this). When the signal divides and can no longer be traced, he has found the earth fault.

Megger

TECHNICAL DATA*

Receiver GLE 660-1 ❶

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
Operation 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 mm x 100 mm x 130 mm

Transmitter GLE 660-1 ❷

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
Externel 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 mm x 183 mm x 260 mm

STANDARD ACCESSORIES

- Reader clamps AZK 100, 100 mm, compensated ❸
- Hight voltage cable HSK 7-B ❹
- Connection cable VK 50, 10 m ❺
- Probe for round conductor GSK 1 ❻
- Reader clamp AZK 12, 12 mm ❼

SPECIAL ACCESSORIES

- Cable drum for compensation KTG 50, 50 m ❽
- Probe for earth cable GS 5 ❾

ORDERING INFORMATION

Product	Order no.
Earth fault locator with compensation	813178
Receiver with compensation, carrying strap, generator 5 Hz, set of cables for generator, probe for round conductor, reader clamp 100 mm compensated, connection lead for reader clamp, identification tongs 12 mm compensated, carrying case for generator and receiver	
Options:	
Cable drum for compensation	810216
Probe for earth cable	810251
Connection lead for GS 5	810003828

* We reserve the right to make technical changes.

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