

ELF7 – Portable Earth Fault Locator

General Description

Definition of a specific earth fault location, based on values measured at supplying substations is still not fully satisfactory and reliable, so there is still necessary to perform visual inspections directly in the field. Portable device ELF7 was designed as a lightweight tool for the service teams to help them with searching of a problematic line segment.

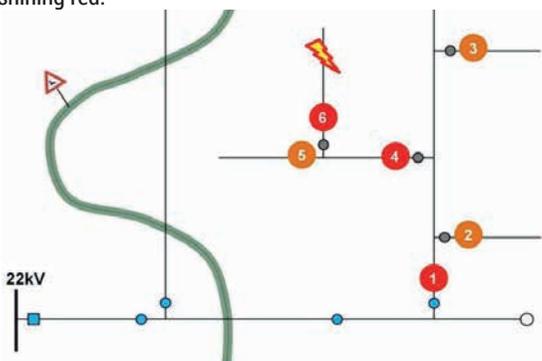
The measurement is done directly under the overhead MV lines by a service technician – during evaluation process must be ELF7 in parallel orientation with the overhead lines, no matter in which direction. Locator can't only automatically recognize an earth fault occurrence, but also can determine its relative position. So, the result of this process is a clear information, if the earth fault is behind or in front of a measurement point relatively to the supplying substation.

Basic Features

- ❑ fast and reliable determination of an earth fault location on compensated, isolated and low impedance earthed MV networks,
- ❑ contactless method based on electric and magnetic field measurement principle,
- ❑ simple and accurate definition of examined fault location – behind or in front of a measurement point relatively to the supplying substation,
- ❑ possibility of device configuration and fault records downloading via USB connector,
- ❑ acoustic and optical signalization, lightweight and durable case,
- ❑ rechargeable accumulator with status signalization (USB charging).

Example of Use – a Line Segment with Branches

The numbers below represent the measurement order, each colors represent the result of each measurement – so as a LED color on ELF7. Service technician performs the measurement on each branch – when the branch is affected by the earth fault, the LED is shining red.



Main Benefits

- ❑ significant reduction of time required to find a specific fault location,
- ❑ shortening of power outages,
- ❑ reduced number of necessary manipulations in the network,
- ❑ limitation of fire risk and other destructions caused by high current at the earth fault location,
- ❑ positive impact on SAIDI and SAIFI indicators.



Example of Use – a Long Line Segment

The numbers below represent the measurement order, each colors represent the result of each measurement – so as a LED color on ELF7. Service technician performs the measurement on places with easy access – for example directly from the road.

