MV Fault Indicator IDT10 and IDT20

Type IDT 10 FOR HIGH VOLTAGE OVERHEAD NETWORKS

INDICATES INSULATION FAULTS BY DETECTION OF CURRENTS IN GROUND CIRCUITS
USABLE ON ALL HIGH VOLTAGE DISTRIBUTION NETWORKS REGARDLESS OF NEUTRAL RATES
CONNECTS DIRECTLY TO THE GROUNDCABLE OF THE POLES
MAY BE RESET AFTER OPERATION
OPERATES AUTONOMOUSLY, WITHOUT BATTERIES
RESISTANT TO TOUGH WEATHER CONDITIONS
INSENSITIVE TO LIGHTNING AND OPERATING CURRENTS
DETECTS DAMAGE TO LIGHTNING ARRESTERS, TRANSFORMERS AND INSULATORS

Presentation

The insulation fault indicator is presented in the form of a compact case made of a highly sturdy synthetic material. A window on the front enables the viewing of a red warning light in case of operation. This signal may be seen from 10 meters away, across a 120 ° sector.
The IDT20 Comp counts current pulses due to lightning - A6- digits electromechanical meter indicate the number of lightning strikes.

Two conductive contacts on the front allow the indicator to be reset.

The case contains a 16 mm diameter hole for the passage of a ground cable. The indicator is delivered with an 80 cm cable section and two crimping sleeves to prevent the ground circuit from being cut during installation. Two openings on the back enable the device to be attached to the pole by metal strip.

Operation

Ground currents caused by insulation faults are measured by an integrated current transformer. An electronic panel processes the transformer output signal and controls the operation of the warning light in the event it exceeds a preset threshold. The signal is maintained even after power on the line has been disconnected, enabling the operator to quickly detect the fault location.

Resetting and testing of the indicator are ensured by an IDT 101 type reset device.

Before fault

After fault

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Technical characteristics

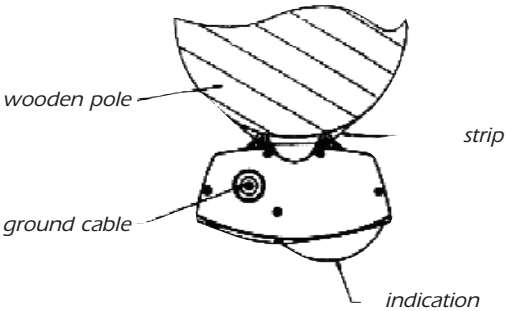
	IDT 10	IDT 20	IDT 20 Com
Reference numbers	D210223	W229099	V225970
- Detection currents: 50 Hz	15A / 500ms	15A / 100ms	15A / 100ms
50 Hz	10A / 143ms	10A / 110ms	10A / 110ms
- Minimum detection currents:	9A	4A	4A
- Sensitivity to 3 waves 5ms (EDF specification)	50A	no	no
- Non detection current: 2ms rectangular wave	150A	250A	250A
- Non detection current: wave 4/10µs	100kA	100kA	100kA
- Resetting unit	E210753	F229867	F229867
- Weight	0.950kg	1kg	1.2kg
- Counting lightning current pulses	No counter		
- Minimum operating current for the counter. Ipeak:			400A wave 8/20µs
- Maximum operating current for the counter. Ipeak:			100kA wave 4/10µs
- Insensitivity of the counter: - 1/2 sinusoid wave Ipeak:			300A / for 3.1ms
- 50Hz, Ipeak:			300A / for ≤700 ms
- Power supply	Completely independent power supply		
- Isolated from pole @	(no batteries) 2kV 50Hz and 5kV wave 1.2/50µs		
- Climatic conditions	-25 to +70°C / Relative humidity 100%		
- Protection rating / impact withstand	IP 56 / IK 07		

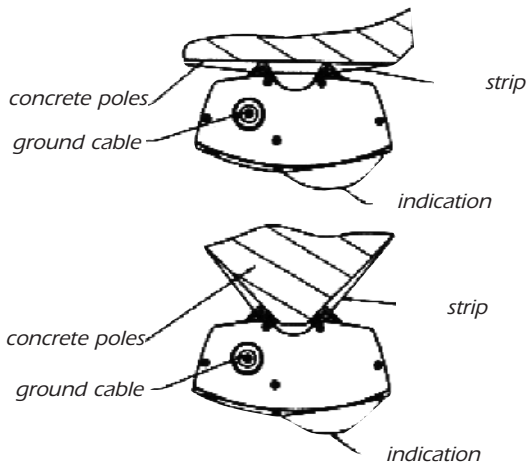
A/ Fixing indicator to electric pole

- The indicator is installed in a horizontal position, facing in either direction.
- The indicator may be attached to a wooden or concrete pole.
- On concrete poles, the indicator may be placed either on flat side or in a corner.

The different configurations are described below.

- Two openings located at the back of the case are designed to accommodate a stainless steel strip, 20 mm wide and 0.4 mm thick, in order to fix the indicator to the post by hooping.
- The hole in the indicator case must be positioned as closely as possible to the ground cable.
  WARNING: During attachment, the strip must pass between the ground cable and the post in order to prevent the cable from being tightened against the post during hooping.





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B/ Connecting the ground cable

Once the indicator is attached to the pole:

- Introduce the cable section into the case via the 16 mm hole
- Approximately center the cable section within the case
- Place and crimp a C25 E connector to attach the upper end of the cable section to the ground cable
- Place and crimp the second C25 E connector to attach
- Ensure that both connections are properly completed
- Cut the ground cable just below the upper connector and just above the lower connector
- Remove the piece of ground cable shunted by the cable section