

Earth Fault Indicator DF-01(M)



features



- Designed for installation up to 33 kV cable line distribution networks
 - Monitors and locate earth fault
 - LED & Mechanical flag indication for trip
 - Permanent Fault Indication (double flashing of trip LED)
 - Single front push-button for manual test/reset & battery check
 - Lithium battery operated (easily replaceable AA / 3.6 V / 2600 mAh)
 - Input for automatic reset on power restoration (80 ~ 260 Vac input)
 - Input for supervisory reset (12~110 Vdc input)
 - 5 selectable trip current level (DIP switch)
 - 4 selectable trip delay (DIP switch)
 - 4 selectable reset timer (DIP switch)
 - Split core CT for easy installation
 - IP65 for signalling unit
 - IP67 for current sensor unit
- The signalling unit is able to keep attached & withstand short circuit of 24 kA in the cable to which it is attached to.

technical data

Power supply	Lithium battery (LiSOCL ₂) type AA / 3.6 V / 2600 mAh
SCADA contact rating	1 x NO and 1 x NC (max. 230 Vac / max. 2 A / max. 30 W)
Relay operate time	≤ 4.5 ms
Relay release time	≤ 3.5 ms
Indication of earth-fault trip	Red LED (single flashing of trip LED) & mechanical flag (flips to red)
Indication of persistent earth-fault	Red LED (double flashing of trip LED)
Indication of battery health	Yellow LED (single flash = full, 5 flashes = weak)
Operation temperature range	-25°C to +70°C
Humidity	95%
IP rating	IP65 (Signalling unit) , IP67 (Current sensor)
Installation	Wall / Surface mounted
Weight (Signalling unit)	0.25 kg
Standard of compliance	IEEE 495-2007
Earth-fault sensor (CT)	Current transformer for a multi-core cable or three single-core cables Steel belt diameter: 110 mm or 300 mm Cable length :16 m

DIP switch setting

Earth-fault trip current (A)	Selectable : 40 / 80 / 120 / 160 / 240
Trip delay (ms)	Selectable : 50 / 100 / 150 / 200
Reset time (hour)	Selectable : 4 / 8 / 16 / 32
Auto reset	Selectable : On / Off

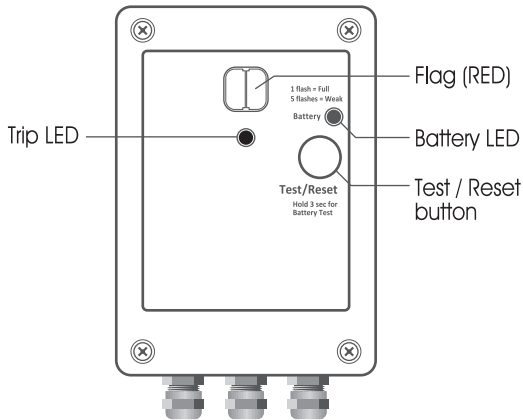
Signalling unit function test

1. Front push-button to test
2. Potential-free remote test

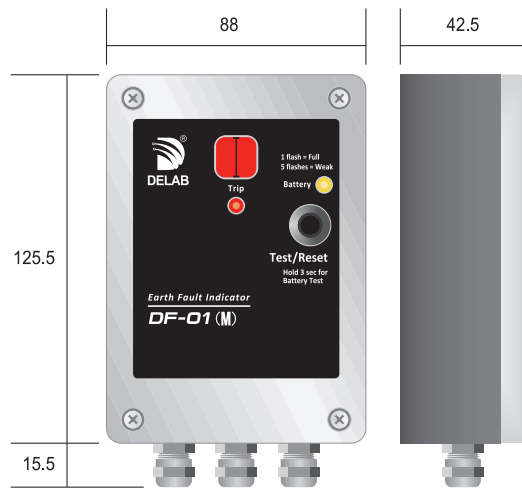
Resetting the signalling unit

1. Front push-button to reset
2. 4 DIP switch selectable reset timer
3. Potential-free remote reset
4. Supervisory reset (12 ~ 110 Vdc input)
5. Automatic reset on power restoration (80 ~ 260 Vac input)

panel description



casing dimension



setting of functional values

The adjustable values are presented on the back of the front cover. For adjusting the requested trip currents, the cover has to be removed. The requested values can be adjusted by switching the respective DIP switch to "ON" position.

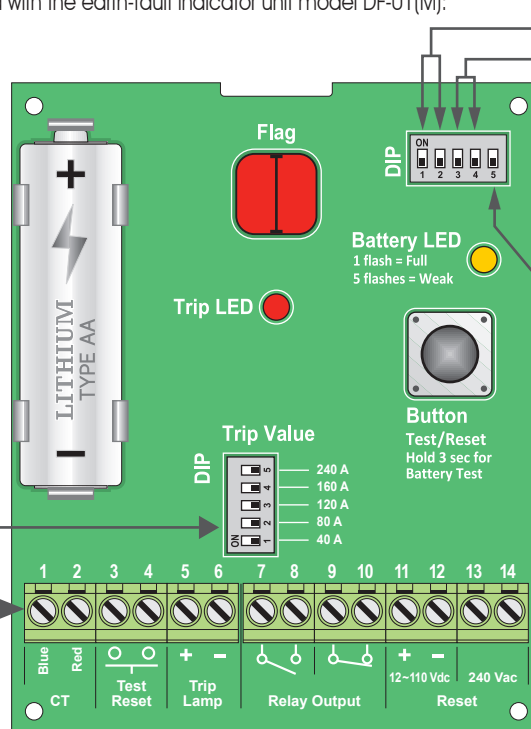
The following functions can be adjusted with the earth-fault indicator unit model DF-01(M):

- 1) Trip current for earth-fault (5 values)
- 2) Reset time (4 values)
- 3) Trip delay (4 values)
- 4) Auto reset (enabled or disabled)

DIP switch : Trip current		
ON	OFF	Value
DIP 1	DIP 2,3,4,5	40 A
DIP 2	DIP 1,3,4,5	80 A
DIP 3	DIP 1,2,4,5	120 A
DIP 4	DIP 1,2,3,5	160 A
DIP 5	DIP 1,2,3,4	240 A

NOTE: **Only 1 DIP switch** is to be in ON position at any one time.

Connector terminal
1 - 2 : Earth Fault sensor (CT)
3 - 4 : Remote reset or test
5 - 6 : External trip lamp
7 - 8 : SCADA contact NO
9 - 10 : SCADA contact NC
11-12 : External voltage input reset (12~110 Vdc)
13-14 : External voltage input reset (240 Vac)



DIP switch : Reset time		
DIP 1	DIP 2	Value
OFF	OFF	4 h
OFF	ON	8 h
ON	OFF	16 h
ON	ON	32 h

DIP switch : Trip delay		
DIP 3	DIP 4	Value
OFF	OFF	50 ms
OFF	ON	100 ms
ON	OFF	150 ms
ON	ON	200 ms

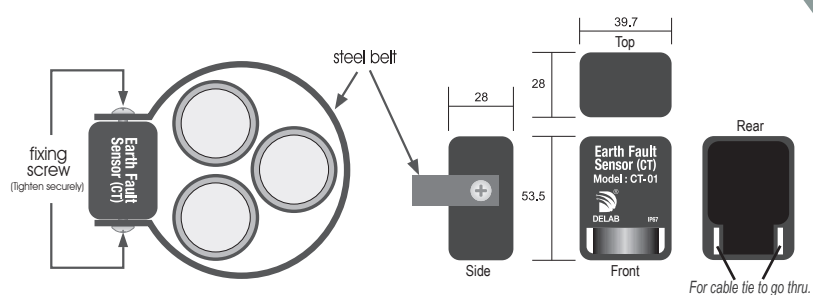
DIP switch : Auto reset	
DIP 5	Value
ON	Enable
OFF	Disable

If enabled, auto reset will activate within 2 seconds only if fault is cleared.

earth fault sensor (CT)

The earth fault sensor is equipped with a detachable steel belt.

For installation, unmount one side from the housing of sensor by loosening the fixing screws. The belt has to be laid around the multi-core cable or around the three single-core cables. The sensor is to be wrapped tightly around the three-phase system using the adjustable cable tie provided.



ordering information

Model	Description
DF-01(M) -110	C.T. sensor (110 mm diameter)
DF-01(M) -300	C.T. sensor (300 mm diameter)

Note: All measurement in mm.