

SFL 1 Sheath Fault Tester



Description

Sheath Fault Tester SFL1 is a powerful system. It is an intact sheath of a plastic insulated medium, high or extra high voltage cable is the prerequisite for the avoidance of water ingress and subsequent cable faults. Different test can be carried using sheath fault locator.

Sheath/earth faults is develop in any type of underground cable network such as low, medium, high voltage power cables or unshielded multi core control cables.

It can be a manufacturing defect or can be caused by

improper handling during laying / external damage /any other reason due to which the metallic armor or cores develop leakage with the mass of earth. These faults can remain undetected for longtime as they do not hamper the working of the cable. It develops into a fully fledged fault over a period of time.

That can successfully locate sheath/earth faults on any type of cable.

It offers different modes such as DC test / HV Test, Burning, pre-location and pin-pointing.

Application

It is use to Conditioning / DC Test / Burn, Pre-locate and Pin-point sheath faults in underground extra high voltage power cable transmission networks.

Features

- There manually selectable convince DC ranges for application.
- Cable and cable sheath testing up to 6 kV between metallic sheath / armoured and mass of earth.
- Automatic sheath fault pre-location with high precision measuring bridge method.
- Cable sheath fault pin pointing by pool of potential method.
- Automatic discharging facility of cable under test, in case of power failure or after switching off.
- Conversion of high-resistance faults in low-voltage cables.
- Burn mode for conditioning the sheath fault.
- It is extremely user friendly in obtaining the fault distance; it uses a micro-controller based fault distance calculator that enables the operator to get the pre-location measurements with precise accuracy.
- Continues operation for extended period in case of pin-point difficult sheath faults.
- Rugged construction and easy to carry on site.



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Working Principle

Completely isolated cable (including earth connections removed at both ends) is subjected to HV Test up to 6kV DC with respect to the mass of earth. This gives diagnostic result of the health of the insulation of the cable under test.

A high resistance nature of the fault on the cable can be altered by burning it. This is necessary in some specific cases. SFL derives Voltage drop from either end of the cable, which is used for evaluating the fault distance from the test end using bridge method. Voltage drops on the conductors are measured on either side of the cable with respect to earth. Digital meter offers precise readings required for calculating fault distance.

Function

Sheath Fault Locator is a device that works on the potential difference voltage method for cable testing, cable sheath testing, fault pre-location and fault pin pointing.

Output of sheath fault locator is connected between the cable and the mass of earth at pulsed mode. The DC current flows through the cable up to fault point and returns back through the mass of the earth to the sending end. This produces currents in the ground whose paths fan out at the fault point.

These currents can be monitored by two metallic ground sticks connected to a highly sensitive receiver with center zero galvanometer gives deflection in one direction before the fault point on the cable length and changes the direction beyond the fault point. Null (no deflection) is achieved at the fault point.

It works on the bridge measuring principle using the Murray loop method. The fault pre-location analyses are done automatically with feeding proper data and the results are displayed digitally.

Standard Accessories

- HV Output 10 sq mm single core screen cable 5 meter length
- Mains supply cord 3 meter length.
- Yellow / Green 10 sq mm earthing cable 5 meter length

Standard Accessories

- Dual single core cable for pre-location 5 meter length
- Two single core cable for pre-location 5 meter length
- External battery charger for DPM supply

Standard Warranty

One Year

Other models available

Sheath Fault Tester SFL 12 (12kV)

Associated receiver use to pin-point cable faults with sheath fault tester

Sheath Fault Locator EFL 1

Specifications

Power Supply	230V AC \pm 10%, 50 Hz, Single phase	Fault distance Calculator	LCD display-16x2 characters with back light
Test Voltages	0 - 3 & 0 - 6 kV DC continuously variable	DPM Power Supply	6V, 1.5Ah Rechargeable battery
Test Current	3 kV - 200 mA, 6 kV - 100 mA,	Over Load Protection	Mains Input current MCB switch in Live & Fast blow fuse in input mains supply
HV Range Selection	Manual	Safety Protection	Variac Zero inter-lock, Output cable Plug inter-lock, HV Switch inter-lock & Over Heat Protection
Indication	ON / OFF lamp indication, Analog moving coil meter for output voltage (kV) indication, Analog moving coil meter for output current (mA) indication, Over heat LED indication, Fault pre-location distance on LCD display & Sheath voltage drop indication on DPM	Earth Discharge	Soft automatic discharge through in-built contact
Pulse ratio for Pin-pointing	1:3 second and 1:6 second selectable ON OFF time ratio	Working Temp.	0 Deg C ~ 55 Deg C
Cooling System	Air Cooled	Storage Temp.	- 5 Deg C ~ 60 Deg C
		Dimensions	485 (L) x 304 (W) x 415 (H) mm + Handle 50mm + Wheel 65mm
		Weight	52 Kg Approx

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