

SWT 4PT Low Voltage Surge Tester



Description

Occurrence of cable fault can not be avoided due to many factors. Long outage of a cable from service results in heavy loss of revenue to the power distribution company, production loss to industries as well as unpleasant condition to general.

This requires an efficient equipment capable of locating the fault and test cable in minimum possible time and restoring the supply.

In power cable fault location the vast majority of pin-pointing and cable test are carried out using a surge wave tester.

It is a powerful equipment and offers 500 Joules energy on 2 and 4 KV ranges, and DC high voltage (high pot) test which allows its use on LT networks effectively.

It is also used to pin-point the cable faults in power cables with the help of surge wave receiver and pre-locate cable fault distance with the help of suitable pre-locator unit in Impulse Current (ICM) mode.

It has an advance feature to connect arc reflection filter additionally to pre-locate fault distance on secondary impulse SIM / ARM mode with the help of suitable pre-locator unit.

Application

It is used to pin-point underground cable faults in acoustic mode with the help of suitable surge wave receiver and to perform DC high voltage di-electric test up to 4 kV in power transmission and distribution cable networks.

Features

- Three working mode Surge, ARF and DC high voltage (High-Pot) test.
- Pin-point location of cable faults in Low voltage cables by acoustic method.
- Perform Surge and DC high voltage test up to 4 kV.
- Output voltage selectable in two ranges 2, 4 kV.
- High energy of 500 Joules.
- Full energy delivering capacity at each select range in SWT mode.
- In-built Arc reflection filter
- Cyclical pulse repetition for precise pin-pointing of cable faults in Acoustic Method.
- Fully protected operation with safety interlocks.
- Pre-location of cable fault distance with suitable pre-locator unit in ICM & SIM mode.
- Automatic discharging facility of cable under test, in case of power failure or after switching off.
- Continues operation for extended period in case of pin-point difficult cable faults.
- Rugged construction and easy to carry on site.



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Working Principle

In surge mode ignites an arc or spark at the fault. This results in a transient, i.e. a spreading and repeatedly reflected traveling wave between the fault point and the connected end of LV Surge Tester. Inductive couplers record this transient wave with the help of a pre-locator unit and convert it into the fault distance.

Surges of high energy are applied to the fault at the set voltage and time interval for pin-pointing the exact spot on the cable length.

These surges create noise and vibrations at the fault point. The intensity of the noise and vibrations get attenuated during their travel to the ground surface. A sensitive surge wave receiver with ground microphone carried out on the cable route at the pre-located area and pin-point the exact spot of the fault in minimum time.

The HV DC test up to 4 kV is carried out to check the dielectric strength or insulation of cable on DC test mode. The respective voltage and leakage current is indicated on the meters.

Function

The LV Surge Tester used for fault pin-point location is basically a variable DC high voltage power supply, connected to a high voltage capacitor bank. The value of capacitance is usually selectable by parallel, series- parallel and series combination. This combination being linked with suitable high

voltage taping to give the constant energy output on low voltage / high capacitance or high voltage / low capacitance in surge mode. In DC test mode the internal capacitor bank is isolated through a mode switch and DC high voltage is applied to the cable under test through a spark discharge device.

Standard Accessories

- HV Output Cable 6 sq mm single core screen cable 20 meter length wound on drum with heavy duty clamp,
- Mains supply cord 20 meter length wound on drum.
- Yellow / Green 10 sq mm earthing cable 20 meter length wound on drum

Standard Warranty	One Year
Associated receiver use to pin-point cable faults with surge tester	Surge wave receiver SLE90

Specifications

Working Mode Surge, ARF & DC Test

Surge Mode

Output Ranges 0 - 2, 4 kV selectable & continuously variable

Output Energy 500 Joules full energy at each range

Impulse Mode Single and Auto

Auto Impulse Sequence 1.5, 3 and 6 seconds intervals or customer request

Indication ON / OFF lamp indication
Analog moving coil meter for output voltage (kV) Indication
Over Temp Trip LED indication

Cooling System Air Cooled

Earth Discharge Soft and automatic discharge

ARF / SIM Mode

Working Voltage 4kV max - 500Joules

Degree of Protection - IP 51 (Top & Back flap closed)

DC Test Mode

Output Voltage 4 kV

Output Current 5 & 10 mA

Indication Analog moving coil meter for output voltage (kV) Indication
Analog moving coil meter for output current (mA) Indication
Over Current Trip LED indication

Burn 30mA @ 4kV

Power Supply 230V AC \pm 10%, 50 Hz, Single phase

Safety Protections Variac zero inter-lock
Output cable plug inter-lock
HV Switch inter-lock
Mode Switch inter-lock
Over Temperature & Current Trip
Mains input circuit breaker (MCB)
Fast blow fuses in controlled supply

Working Temp. 0 Deg C ~ 55 Deg C

Storage Temp. - 5 Deg C ~ 60 Deg C

Dimensions 540(L) x 420(W) x 600(H) mm +Handle 55mm + Wheel 100mm

Weight 95 Kg Approx

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