

## SWT 16CPT High 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 4, 8 and 16 KV ranges, and DC high voltage (high pot) test which allows its use on LT, Medium and HT 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 can couple to an arc reflection filter to pre-locate faults in Secondary Impulse (SIM) Mode.

### 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 16 kV in power transmission and distribution cable networks.

### Features

- Two working mode Surge and DC high voltage (High-Pot) test.
- Pin-point location of cable faults in Low, Medium and high voltage cables by acoustic method.
- Perform Surge and DC high voltage test up to 16 kV.
- Output voltage selectable in three ranges 4, 8, 16 kV.
- High energy of 500 Joules.
- Full energy delivering capacity at each select range in SWT mode..
- Cyclical pulse repetition for precise pin-pointing of cable faults in Acoustic Method.
- Fully protected operation with safety interlocks.
- Emergency OFF facility.
- Pre-location of cable fault distance with suitable pre-locator unit in ICM mode.
- Easy to connect with arc reflection filter and pre-locate fault distance in SIM mode with suitable pre-locator unit.
- 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.



## 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 HV 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 16 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 HV 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 tapping 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 10 sq mm single core screen cable 5 meter length with heavy duty clamp.
- Mains supply cord 3 meter length.
- Yellow / Green 10 sq mm earthing cable 5 meter length

Standard Warranty	<b>One Year</b>
Other models available	<b>HV Surge Tester SWT 32 CPT (8,16,32kV-1000J/2000J &amp; DC Test 32kV-10mA) HV Surge Tester SWT 32/40 CPT (8,16,32kV-1000J/2000J &amp; DC Test 40kV-10mA)</b>
Associated receiver use to pin-point cable faults with surge tester	<b>Surge wave receiver SLE90</b>

## Specifications

### Working Mode Surge & DC Test

#### Surge Mode

Output Ranges	0 - 4, 8, 16 kV selectable & continuously variable
Output Energy	500 Joules full energy at each range (Optional 1000J/1500J)
Impulse Mode	Single and Auto
Auto Impulse Sequence	1.5, 3 and 6 seconds intervals
Indication	ON / OFF lamp indication Analog moving coil meter for output voltage (kV) Indication Over Temp Trip LED indication
Operating Time	Surge Test 2 - 3 hours continuous DC Test 3 minutes
Cooling System	Air Cooled
Earth Discharge	Soft and automatic discharge

#### DC Test Mode

Output Voltage	16 kV
Output Current	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
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 Emergency OFF switching 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	515(L) x 360(W) x 580(H) mm +Handle 55mm + Wheel 100mm Approx.
Weight	85 Kg Approx

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