

## SWT 16 High Voltage Surge Tester



### Description

High Voltage Surge Tester SWT16 is useful equipment to pin-point underground power cable fault by acoustic method with a suitable surge wave receiver.

In power cable fault location most of majority faults pin-points test are carried out using a high voltage and high energy HV surge tester.

It offers 500 Joules of energy on 4, 8 and 16 kV selectable ranges, which is use on low and medium voltage cable networks effectively.

It is also used to 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 in secondary impulse SIM / ARM mode with the help of suitable pre-locator unit.

### Application

It is used to pin-point underground cable faults in power transmission, distribution cable networks in acoustic mode with the help of suitable surge wave receiver.

### Features

- Optimized surge energy for switchable capacitors values for each range.
- Pin-point location of cable faults in Low and Medium voltage cables by acoustic method.
- Output voltage selectable in three ranges 4, 8, 16 kV.
- High energy of 500 Joules and optional 1000 Joules.
- Full energy delivering capacity at each select range.
- Continuously variable output voltage from 0 to 100 % of selected range.
- Fully protected operation with safety interlocks.
- 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.
- 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

The High Voltage Surge Tester ignites an arc or spark at the fault, these results in a transient at fault point, i.e. a spreading and repeatedly reflected traveling wave between the fault point and the surge wave tester. Inductive couplers record this transient wave with the help of a pre-locator unit and convert it into fault distance, this called as pre-location of fault. Surges of high energy are applied to the fault at the set voltage with

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

## Function

The High voltage 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 voltage tapping to give the constant energy output on low voltage / high capacitance or high voltage / low capacitance. This high voltage output is supplied 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 16D ( 4, 8, 16kV - 1000J)</b>
Associated receiver use to pin-point cable faults with surge tester	<b>Surge wave receiver SLE90 or SLE200</b>

## Specifications

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 Over Heat Protection Input current Limiter in input supply
Output Ranges	0 - 4, 8, 16 kV selectable & continuously variable	Cooling System	Air cooled
Output Energy	500 Joules full energy at each range (Optional 1000Joules)	Operating Time	2 - 3 hours continuous
Impulse Mode	Single and Auto	Earth Discharge	Soft and automatic discharge
Auto Impulse Sequence	1.5, 3 and 6 seconds intervals	Operating Temperature	0 Deg C ~ 55 Deg C
Indication	ON / OFF lamp indication Analog moving coil meter for output voltage (kV) Indication Over Heat indication	Storage Temperature	- 5 Deg C ~ 60 Deg C
Over Load Protection	Input current limiter switch in mains input supply Fast blow fuse in controlled supply	Dimensions	450 (L) x 310 (W) x 550 (H) mm +Handle 50mm + Wheel 65mm
		Weight	60 Kg Approx

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