

Electrical Test & Measurement Instruments





SWT 16 Series

High Voltage Surge Tester

A Surge Wave Tester (SWT) is used for detection and location of faults in underground cables and cable drums by injecting high-voltage impulse surges that interact with impedance discontinuities at fault points. The equipment provides a selectable voltage range, is available in different models with higher energy delivering capacity, and can be equipped with optional arc and burn modules to suit various fault conditions.

It is further employed for pre-location of faults using a Motwane cable fault pre-locator, where electrical reflection techniques such as Time Domain Reflectometry (TDR), Impulse Current Method (ICM), and Arc Reflection Method (ARM) are used for estimation of the distance to the fault.

Finally, the system is used for pinpointing of the exact fault location using a Motwane surge wave receiver comprising a microphone and headphones. The surge-induced arc at the fault produces acoustic signals and ground vibrations, which are detected for accurate identification of the fault location.

Features

- ✓ Output voltage selectable in three ranges 4, 8, 16 kV.
- ✓ High energy of 2000J maximum at each range.
- ✓ Full energy delivering capacity at each select range.
- ✓ Continuously variable output voltage from 0 to 100 % of selected range
- ✓ Optimized surge energy for switchable capacitors values for each range.
- ✓ 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.
- ✓ Pin-pointing location of cable faults by acoustic method.
- ✓ Automatic discharging facility of cable under test, in case of power failure or after switching off.
- ✓ Fully protected operation with safety interlocks.
- ✓ Continued operation for an extended period during pinpointing and handling of difficult cable faults.
- ✓ Rugged construction and easy to carry on site.

Applications

- Detects and locates faults in underground cables and cable drums using high-voltage surge impulses
- Pre-locates faults using a pre locator with electrical reflection methods: TDR, ICM, and ARM
- Pinpoints exact fault location using a surge wave receiver through acoustic (thumping) method via surge-induced arc sound detection

Technical Details

16 kV HIGH VOLTAGE SURGE TESTER

Specifications	SWT 16	SWT 16D	SWT 16DS	SWT 16DPT	SWT 16DPTS	SWT 16D2T	SWT 16D2PTS	
Impulse Mode								
Voltage range (kV)	0 - 4/0 - 8/0 - 16							
Single Impulse	YES							
Auto Impulse	1.5/3/6 seconds							
Energy at each range (J)	500	1000				2000		
ARM module	NO	NO	YES	NO	YES	NO	YES	
DC test mode	NO	NO	NO	YES	YES	YES	YES	
Voltage range (kV)	NA			0-16				
Current (mA)	NA			20				
Burn Mode (Optional)								
Burn Current (mA) at 4kV	NA			200				
Burn Current (mA) at 8kV	NA			100				
Burn Current (mA) at 16kV	NA			50				
Sheath test (Optional)	NO			YES				
Voltage range (kV)	NA			0-8				
Current in mA	NA			50				
General Parameters								
Input Power Supply	230V AC ± 10%							
Power Frequency	50Hz or 60Hz ± 5%							
Operating temperature	-10 °C to +55 °C							
IP rating	IP21							
Approximate Weight in KG	60	80	120	150	180	190	200	
Approximate size (L x W x H) in mm	450 X315 X 550	540 X 320 X 615	620 X 400 X 650	620 X 530 X 720	650 X 600 X 720	690 X 630 X 720	690 X 650 X 720	
Standard Accessories								
50kV High Voltage cable in meter	5	Earth cable in meter				5		
Mains cable in meter	5	Rexin cover				YES		

Note : A) Standard warranty : 12 months B) Cutomisation in output DC voltage, surge enegyry, impulse period also possible based on requirement

C) Cable of other lengths shall be available as per requirement. D) Handles and wheels are not considered in mentioned size.

E) Size and weight may increase for optional features. F) Picture are for illustration purposes only. G) Specification can be changed without any notice.

Contact Details

THE MOTWANE MANUFACTURING CO. PVT. LTD.

**Regd. Office & Factory :**

Gyan Baug Nashik Road, Nashik, 422101 Maharashtra, India

**Pune Unit :**

Unit No. 07 & 08, Electronic Sadan No. 2, MIDC, Bhosari, Pune - 411 026



www.motwane.com



Nashik Head Office : 91-0253 -2463752 / 53

Pune Office : 91-20-27122936, 27123176



<https://www.linkedin.com/company/motwanemanufacturing>

Scan the QR code to visit
Motwane's website

