

SMART THUMP ST16

Portable cable fault location system



- **Delivers 1500 J at 8/16 kV**
- **16 kV DC high voltage proof test and insulation resistance test**
- **Easy Go automatic test sequence to proof test, prelocate and pinpoint**
- **Interprets test results for user**
- **5.7 in. transfective color display**
- **USB interface**

DESCRIPTION

The SMART THUMP ST16 portable cable fault location system provides safe, efficient and easy-to-use solutions to quickly identify, prelocate and pinpoint various types of cable faults for power cables. The ST16 was developed to meet the requirements of typical low/medium voltage distribution cable fault location markets.

Circuit parameters include:

- System voltage up to 35 kV
- Insulation EPR or XLPE
- Typical conductor sizes between 34 mm² to 250 mm²
- Typical circuit lengths from 100 m to 5,000 m

Typical end users include:

- Operations department of power utility companies
- Electrical departments within municipalities including street light maintenance
- Private network operators
- High voltage electrical contractors
- Service companies
- Port authorities
- Mining
- Airports
- Military bases
- Petrochemical and paper companies

The ST16 unit incorporates HDW's "E-Tray" technology, a concept that has already been proven in other products (EZ-Thump, EZ-Restore Overdrive). This technology will also be carried forward into future Megger products. Uniquely, the E-Tray allows the user to access and operate every function through an intuitive interface, without the need to make adjustments; the software will suggest the next logical step.

APPLICATIONS

The SMART THUMP ST16 represents a new generation of advanced underground cable fault location systems. It requires less training than a traditional thumper-only system, and is the only fault locator with built-in intelligence to interpret the results of the initial test sequence. The "turn & click" rotary button operation lets the user automatically proof test, pre-locate, and pinpoint the fault from one convenient control console. No adjustments are required. The unit automatically sets the thump voltage to minimize the stress applied to the cable.

The ST16 features an automatic safety check to protect the user from incorrect or faulty ground connections (F-Ohm). The unit's heavy-duty wheels are ideal for use in rough terrain. The ST16 can be permanently installed in a vehicle (truck mount version).

FEATURES AND BENEFITS

This fully integrated system can be operated from either its internal battery/inverter, external 12 VDC or 110/230 VAC. Additional features are:

- "Quick-Steps" is especially convenient where operators may not be called upon to use the equipment on a regular basis
- "Expert Mode" provides up to 20 additional TDR features for experienced users to optimize their fault location results
- Custom configurable menus for the TDR function
- DC testing up to 16 kV with indication of insulation resistance value
- Rugged, powder coated IP54 designed enclosure
- Safe Op check protects user from incorrect and/or faulty ground connections (F-Ohm)
- Easy Go operation eliminates lengthy training
- Quick access to all components in case of service

SPECIFICATIONS

Impulse Generator (Thumper)

Operating modes

Arc Reflection Method (ARM®)	0-8/0-16 kV
ICE surge pulse	0-8/0-16 kV
Direct surge (Thumping)	0-8/0-16 kV
DC-HV proof test and resistance readout (Ω)	
Burning / Fault Conditioning	0-8/0-16 kV
Sheath fault test & pinpointing / Secondary Fault Locating (optional)	0-5/10 kV

TDR

TDR mode and all prelocation functions

Output

Dual stage: 1500 J @ 8 kV and 16 kV
Proof test: 0 to 16 kV continuous
Burn current: 60 mA max

Key Features

Single-shot thump in ARM
Built-in inductive type ARM filter
8 second thump cycle
Automatic cable and system discharging

Display Features

Transflective TFT color display, sunlight proof
5.7 in., 640 x 470 pixel resolution

Power Options

110/230 V, 50/60 Hz AC operation
12 V deep cycle battery with internal dc charger/inverter (standard)

SMART Features

Entirely automatic test sequences includes proof test, prelocate, and pinpoint
Automatic interpretation regarding type of fault (i.e. open, burnt in the clear, short)
Automatic adjustment of thump voltage (uses selectable)
Automatic alphanumeric display of cable and fault distance

USB

Host interface 2.0
TDR trace export and system upgrades

Mounting and Enclosure

Mounted on heavy-duty wheels (14")
Rain tight powder coated enclosure
(Also available as vehicle-mount unit)

Digital "Analog" Meter

Displayed on LCD screen

Temperature range

Operating Temperature: -20C to +50C; -4F to +122F
Storage Temperature: -25C to +65C; -13F to +149F

IP Rating

IP54 (with top open)

Weight

134 kg includes wheels, battery, inverter and HV / Ground Cable

Dimensions

20 x 46 x 24 in. (500 x 1170 x 600 mm) W x H x D

Optional Accessories , see next page for ordering information



- 1 - Elbow adapter 25 kV
- 2 - Elbow adapter 15 kV
- 3 - Elbow adapter 35 kV
- 4 - Female MC 10 mm with rubber boot
- 5 - Male MC 14 mm with rubber boot
- 6 - Female MC 14 mm with rubber boot
- 7 - HD battery clamp with 10 mm male MC
- 8 - HD battery clamp with 10 mm male MC

- 9 - Vise grip with nutted stud
- 10 - Vise grip with 14 mm female MC
- 11 - Vise clamp brass
- 12 - Vise clamp brass on mounting plate
- 13 - Bushing pin connector 15/25 kV with 14 mm female MC
- 14 - Narrow hot line clamp with 14 mm female MC
- 15 - Hotline clamp
- 16 - Small hotline clamp

*For other configurations of termination please contact factory

ORDERING INFORMATION

	MOUNT	REMOTE CONTROL	POWER	ST16	MODEL			
					WW	XX	YY	Z
SELECT MOUNTING OPTION	CART	NO	AC / Battery / EXT DC	Cart mounted Unit, Standard ,3 Power Options: AC120/230V 50/60Hz, Internal Battery 12V, External 12VDC	M1			
	TRUCK	NO	AC / EXT DC	Truck Mount Unit AC only / ext. DC option	M2			
	TRUCK	NO	AC ONLY	Truck Mount Unit AC only	M3			
	CART	NO	AC ONLY	Cart mounted Unit AC Only	M4			
	TRUCK	YES	AC ONLY	Truck Mount Unit AC Only / remote control	M5			
	TRUCK	YES	AC / EXT DC	Truck Mount Unit AC Only / remote control / ext. DC option	M6			
SELECT CABLE LENGTH				12 ft Custom Cable		12		
				25 ft Custom Cable		25		
				50 ft Standard Cable		50		
SELECT CABLE TERMINATION				14 mm Male MC with Hotline Clamps (North America)			T1	
				14 mm Male MC with Vise Grips (North America)			T2	
				Hardwired to Battery Clamps on HV & "G" Clamp to Ground (No MC Connectors)			T3	
				10 mm Female MC with Battery Clamps (excluding North America)			T4	
SELECT SOFTWARE OPTION (Selection of software option can be any combination)				ICE (Surge Pulse)				I
				Sheath fault testing / Secondary Fault Locating				H
				Sectionalizing Software				S
				Manual voltage Selection				M

Item	Order no.	Item	Order no.
Included Accessories			
6 ft (1.8 m) mains supply lead set (US/SCHUKO/UK)	1002-889	Cable racks and reels - terminations typical in markets outside North America and Mexico **	
Instruction manual	AVTMST16	C401 Cable rack system, HV 50kV, 230Vac mains, GND cable, 125 ft each	1003-916
Optional Accessories			
15-kV elbow 14 mm female MC connector	865000100100000	C403 Cable rack system, HV 50kV, GND cable, 125 ft each	1003-917
25-kV elbow 14 mm female MC connector	865000200100000	C403HT Cable rack system, HV 50kV, GND cable, 125 ft each, mounted on 15" wheel hand cart	1003-918
35-kV Elbow 14 mm female MC connector	865000300100000	C403-150 Cable rack system, HV 50kV, GND cable, 150 ft each	1003-919
Digiphone Plus surge wave receiver	1003316-5	C403P Set of 2 individual hand reels (HV and GND), 125 ft each	1003-920
ESG NT digital earth fault locator	1004629-5	** Standard terminations on cable reels in markets outside North America and Mexico: HV output cable: 10mm female MC, w/ battery clamp HV Return (far end): 10 mm female MC, w/ battery clamp Cable reel HV input: 10mm male MC HV Return: 10 mm male MC	
Cable racks and reels - terminations typical in North America and Mexico *			
C401 Cable rack system, HV 50kV, 115Vac mains, GND cable, 125 ft each	864000100100000		
C403 Cable rack system, HV 50kV, GND cable, 125 ft each	864000200100000		
C403HT Cable rack system, HV 50kV, GND cable, 125 ft each, mounted on 15" wheel hand cart	864000200200000		
C403-150 Cable rack system, HV 50kV, GND cable, 150 ft each	864000200300000		
C403P Set of 2 individual hand reels (HV & GND), 125 ft each	864002002500000		
* Standard North America and Mexico terminations on cable reels: HV output cable: 14mm male MC , Cable reel HV input: 14mm female MC HV Return: Open spade lug (hook)			

* We reserve the right to make technical changes.

GERMANY

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CERTIFICATION ISO

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www.megger.de

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