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DATASHEET

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WHY BUY
WHEN YOU CAN HIRE

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. transflective color display**

- ■ **Safety / grounding check**

- ■ **USB interface**

DESCRIPTION

The SMART THUMP ST16 Portable Cable Fault Locating System provides safe, efficient and extremely easy-to-use solutions for quickly identifying, prelocating and pinpointing various types of cable faults for power cables. The ST16 was developed to meet the requirements for typical low- and medium-voltage distribution cable fault location markets.

Circuit parameters include:

- ■ System voltage up to 35 kV

- ■ Insulation EPR or XLPE

- ■ Typical conductor sizes between #2 and 500 MCM (34 mm² to 250 mm²)

- ■ Typical circuit lengths from a few hundred feet (100 m) up to 3 miles (17,000 ft or 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 been already proven in other products (EZ-Thump, EZ-Restore Overdrive, and TDR T3090) and which will be carried forward into new Megger products in the future. The E-Tray adds the unique capability to access and operate every function through an innovative and intuitive user interface, without the need to make adjustments and the software suggesting the next logical step.

APPLICATIONS

The SMART THUMP ST16 represents a new generation of advanced underground cable fault locating systems that require less training than a traditional thumper-only system. It 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 heavy-duty wheels of the unit are ideal for use in rough terrain. The ST16 is capable of being permanently installed in a vehicle (truck mount version).

FEATURES AND BENEFITS

This fully inegrated system can be operated from either its internal battery/inverter, external 12 VDC or 120/230 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 individual TDR features to the experienced user for optimum fault locating 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 or faulty and 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 (optional in North America), standard other countries	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 (25,000 ft, optional 100,000 ft)

Energy 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 @ max output
Automatic cable and system discharging

Display Features

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

Power Options

120/230 V, 60/50 Hz ac operation
12 V deep cycle marine 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 IP54 (open)
(Also available as vehicle-mount unit)

Digital "Analog" Meter

Displayed on LCD screen

Environmental

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

IP Rating

IP54 (with top open)

Weight

318 lbs (134 kg) includes wheels, battery and inverter & 50 ft of HV / Ground Cable

Dimensions

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

ORDERING INFORMATION

MODEL		ST16	--	WW	XX	YY	Z
SELECT MOUNTING OPTION	Cart Mount			M1			
	Vehicle Mount with Inverter			M2			
	Vehicle Mount w/o Inverter/Battery (AC only)			M3			
	Cart Mount AC Only			M4			
	Remote interface, available only with vehicle mount			M5			
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 Connectos)					T3	
	10 mm Female MC with Battery Clamps (excluding North America)					T4	
***SELECT SOFTWARE OPTION	ICE (Surge Pulse)						I
	Sheath fault testing / Secondary Fault Locating						H
	Sectionalizing Software						S
	Manual voltage Selection						M

***Selection of software option can be any combination

Item	Cat No.	Item	Cat 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 North America and Mexico ****	
Instruction manual	AVTMST16	C401 Cable rack system, HV 50kV, 230Vac mains, GND cable, 125 ft each	1003-916
Optional Accessories		C403 Cable rack system, HV 50kV, GND cable, 125 ft each	1003-917
15-kV elbow 14 mm female MC connector	865000100100000	C403HT Cable rack system, HV 50kV, GND cable, 125 ft each, mounted on 15" wheel hand cart	1003-918
25-kV elbow 14 mm female MC connector	865000200100000	C403-150 Cable rack system, HV 50kV, GND cable, 150 ft each	1003-919
35-kV Elbow 14 mm female MC connector	865000300100000	C403P Set of 2 individual hand reels (HV and GND), 125 ft each	1003-920
Digiphone Plus surge wave receiver	871500500100000	**** Standard Rest-of-world terminations on cable reels:**	
ESG NT digital earth fault locator	871500200200000	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 and 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)

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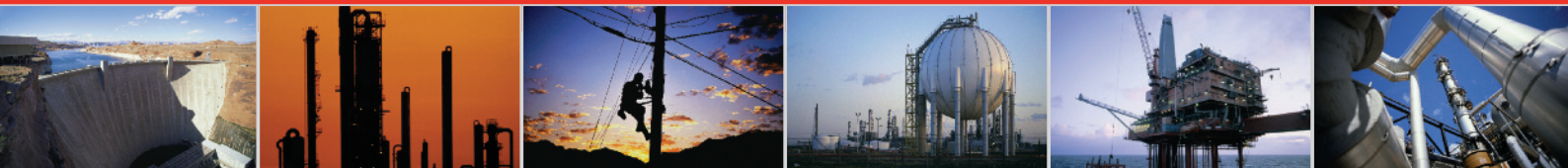
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*subject to availability and conditions

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