

## M-THUMP5

# Portable LV Cable Fault Location System

# Megger<sup>®</sup>



- Delivers up to 1000 J at 5 kV
- 0-5 kV DC high voltage proof test
- 0-5 kV insulation resistance test
- Burn Current up to 500 mA
- TDR pre-location with Phase Comparison
- ARM/Multishot pre-location up to 5 kV
- Burn ARM pre-location up to 5 kV
- ICE pre-location up to 5 kV
- Pinpointing, surge method 0-5 kV / max.1000 J
- Pinpointing, voltage gradient method  
0-1 kV, max. 500 mA,  
1-5 kV max. 70 mA
- E-TRAY automatic test sequence to proof test, pre-locate and pinpoint
- Interprets test results for user
- 7 in. HiBrite color display
- F-Ohm safety check (correct lead connections)
- USB interface
- Internal isolation transformer for proper earth/ground
- CE Certification EN ISO 17050-1:2010

## DESCRIPTION

The M-Thump5 Portable Cable Fault Locating System provides safe, efficient, and extremely easy-to-use solutions for quickly identifying, pre-locating, and pinpointing various types of cable faults in low and some medium voltage power cables. The M-Thump5 was developed to meet the requirements for typical low and lower medium voltage distribution cable fault location markets. The unit features a light weight aluminium enclosure, equipped with handles as a portable unit, or as a permanently installed vehicle mount unit.

Circuit parameters include:

- Circuit voltage up to 6.6 kV
- Insulation EPR, XLPE, PVC, and PILC
- Typical conductor sizes between #2 and 500 MCM (34 mm<sup>2</sup> to 250 mm<sup>2</sup>)
- Typical circuit lengths from a few hundred feet (100 m) up to 3 miles (17000 ft or 5000 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 M-Thump 5 unit incorporates Megger's "E-Tray" technology, a concept that has been already proven in other products (EZ-Thump, EZ-Restore Overdrive, SMART-Thump, and TDR T3090) and which will be carried forward into future Megger products. 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 procedural step.

## APPLICATIONS

M-Thump5 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, pinpoint and sheath test the fault from one convenient control panel. No adjustments are required, unless the operator chooses otherwise. The M-Thump5 features an automatic safety check to protect the user from incorrect or faulty ground and return connections (F-Ohm).

## FEATURES AND BENEFITS

This fully integrated system is operated from 230 V AC. Additional features are:

- "Quick-Steps" menu 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
- Customer configurable menus for the TDR function
- DC testing up to 5 kV with indication of insulation resistance
- Burning/fault conditioning up to 1 kV max current 500 mA and up to 5 kV 70 mA
- Pre-location methods:
  - TDR with phase comparison, ARM with multishot, ARM burn, ARM with multishot, ICE (surge pulse)
- Pinpointing Methods:
  - Surging/thumping up to 5 kV,
  - Voltage gradient at 1 kV/500 mA or at 1-5 kV/70 mA
- Heavy-duty lightweight aluminium enclosure.
- Safe-op check protects user from incorrect or faulty and ground connections (F-Ohm)
- E-Tray interface eliminates lengthy training

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## Portable LV Cable Fault Location System

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### SPECIFICATION

#### Impulse generator (thumper)

#### Operating modes:

Arc Reflection Method (ARM®) with multishot  
ICE (Surge pulse)  
Direct surge (thumping)

#### DC HV

DC-HV proof test with insulation resistance readout ( $\Omega$ )  
2 Stage burning/fault conditioning  
TDR ARM Burn Reflection with multishot  
Sheath fault test and pinpointing/secondary fault locating

#### TDR

TDR mode and all pre-location functions, max. range  
160,000 ft/52 km  
TDR with on-screen multi phase comparison  
TDR ARM Burn Reflection with multishot

#### Energy Output

Single stage: 1000 J at 5kV  
Proof test: 0 - 5 kV DC continuous  
Burn current: 500 mA 0-1 kV, 70 mA 1-5 kV

#### Key Features

Single-shot thump in ARM with multishot TDR  
Built-in inductive type ARM filter  
TDR Burn ARM Reflection with multishot  
6 second thump cycle at max output  
Automatic discharging of unit, test lead and tested circuit

#### Display Features

HiBrite TFT color display, sunlight proof  
7 in Display, 1280 x 800 pixel resolution

#### Power

230 V, 50/60 Hz AC operation/internal isolation transformer

#### SMART Features

Entirely automatic test sequences includes proof test, pre-locate, and pinpoint

Automatic interpretation regarding type of fault (i.e., open, burnt in the clear, short)

Automatic adjustment of thump voltage (user selectable)

Automatic alphanumeric display of cable end and fault distance

#### USB

Host interface 2.0

TDR trace export and system upgrades

#### Certification

EN ISO 17050-1:2010

#### Test Leads (hardwired to unit)

15 ft / 4.5 m HV cable

15 ft / 4.5 m safety ground

(50 ft / 15 m are also available)

#### Enclosure

Heavy duty aluminium enclosure with handles

#### Digital 'Analog' Meter

Displayed on LCD screen

#### Environmental

Operating temperature: -20 °C to +50 °C; -4 °F to +122 °F

Storage temperature: -25 °C to +65 °C; -13 °F to +149 °F

#### IP Rating

IP53 (with top open)



#### Weight

51 kg / 112 lbs

#### Dimensions

25 x 18 x 32 in (635 x 457 x 812 mm)

### ORDERING INFORMATION

MODEL	MT5	--	WW	XX	YY	Z
ENCLOSURE / MOUNTING	Portable, 2 carrying handles on both sides		M9			
SELECT CABLE LENGTH	15 ft (4.5 m) 50 ft (15 m)			15 50		
STANDARD CONNECTION INTERFACE <b>Not selectable! Mandatory</b>	<b>HV 10 mm female MC with battery clamp</b> <b>HV Return 10mm male MC with battery clamp</b>				T9	
<b>One</b> of the following 2 Terminations Kits* must be ordered as a separate part number, fully compatible with the STANDARD Connection Interface	North America (US,CA,MX) Termination Kit, P/N 1015-525-US Hotline Clamps with MC Interface, <i>please review data sheet CFL_ACCESS_DS_US_V06 for details</i>			US / CA / MX		
	All other countries, Termination Kit HD Battery Clamps with MC Interface, P/N 1015-526-AOC			DE / EN / INT		
NOTE : For pinpointing procedures, ESG-NT2 or Digiphone2+ Pinpointer are required.						
INCLUDED ACCESSORIES	Instruction manual 6ft (1.8m) mains supply lead set (US, SCHUKO, UK, UK)					

#### SALES OFFICE

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#### M-Thump\_DS\_V03

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