MPP1000
Pinpointer

- **Universal, upgradeable, flexible pinpoint fault location system**
- **Electromagnetic, acoustic and time delay fault location methods**
- **Distance and direction to fault via single or dual detection configuration**
- **Ergonomic, rugged, weather resistant housing**
- **Ambient noise reduction headphones**
- **Easy, trouble-free probe connection/ detector with a detachable cable system**
- **Ballistic surge pulse scale provides flashover (thump) magnitude and surge period**
- **Background interference elimination via selectable filter/acoustic frequency band**

DESCRIPTION

Specifically designed for service, industrial and power utility companies, the MPP1000 pinpoints faults in cable networks using acoustic, electromagnetic and time of flight methods. The MPP1000 comes in three optional configurations: receiver only, single or dual probe/ detector. The single probe/detector version is easily upgraded at any time by purchasing a second probe/ detector. The MPP1000 stand-alone unit measures electromagnetic surge and supplies the amplitude of that surge which aids in finding the fault.

Overall, the versions can successfully detect both the electromagnetic and acoustic pulses emitted from an arcing fault/flashover, caused by the fault breaking down during an impulse from a surge generator. The MPP1000 can be used with any manufacturers' surge generator.

The single probe/detector version provides:

- Detection of the acoustic discharge ("thump") and measurement of acoustic signal strength
- Measurement of time delay between acoustic and electromagnetic signals
- Relative distance to fault calculated

The dual probe/detector version provides:

- Detection of the acoustic discharge ("thump") and measurement of acoustic signal strength
- Measurement of time delay between acoustic and electromagnetic signals
- Relative distance to fault calculated
- Direction to the fault

The instrument's receiver is contained in a lightweight, ergonomically designed housing that can easily be carried "hands free" using the adjustable strap around the neck. A convenient hook on the knurled geo-phone support poles/microphone carry handles also allows for safe cable holding. If geo-phones/ground microphones are not plugged in, a lock symbol is displayed and the headphones are automatically muted. Headphones easily cancel ambient noises travelling through the air.

A pushbutton controls the sound volume in the headphones and can be adjusted for user comfort. A single mute pushbutton simply mutes the headset, both the left and right detectors, on or off. The MPP will not automatically mute the headset on lift.

APPLICATIONS

The MPP1000 pinpoints faults while the cable is being surged by a surge generator, or "thumper." An arc/ flashover occurs when the high energy surge delivered from the surge generator breaks the cable fault down and a loud acoustic emission is created. Because acoustic emission from an arcing fault/flashover occurs at a single point along the cable path, information such as distance and direction to the fault becomes critical for efficient pinpointing. Without this information, the acoustic emission can mislead when pinpointing the fault.

If the cable fault is in a duct or conduit, the loudest acoustic emission will be detected either at the conduit end or the conduit's actual breaking location. When pinpointing over paving, the loudest sound may be at a crack or seam. In these situations, the MPP1000 becomes especially useful.

The receiver's display shows the acoustic signal strength

and the time delay between the electromagnetic surge and acoustic event. As the detector is placed closer to the fault, the acoustic signal strength increases while the time difference between surge and acoustic emission decreases. When directly over the fault, the time difference is at a minimum and the acoustic level is at a maximum. The same procedure can be used when placing the detector at a right angle to the cable path. Faults can be located quicker by using a second detector. When using two detectors, the receiver's display will show a direction arrow that points to the detector closest to the fault. When directly over the fault, the MPP display screen will alert the user of the location.

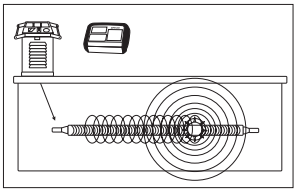
The receiver's display also provides electromagnetic surge level, a measurement of the volume of the acoustic emission, and the time difference between the two events.

FEATURES AND BENEFITS

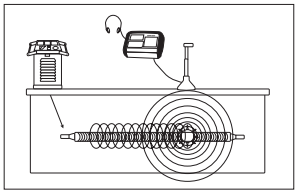
- Measures distance/direction to cable fault by measuring electromagnetic surge/acoustic emission, providing fast fault pinpointing.
- Durable, weather resistant enclosure.
- Durable carrying case holds all components.
- Alerts operator to surge period by scale providing cable distance and trigger information.
- Ambient noise-canceling headphones.
- Selectable acoustic frequency band (an advanced user feature) eliminates background interference.

SPECIFICATIONS

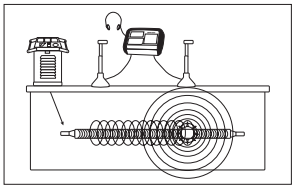
Operating Modes: .....MPP1000 stand-alone unit, single-probe/detector version or dual-probe/detector version
Range: .....0 to 99.9 ms
Resolution: .....0.1 ms
Inputs: .....2 (left/right) for acoustic pickups
Outputs: .....1 jack for headphones, 300 Ω per side
Volume: .....Headphone volume adjustable
Acoustic Level: .....Manual
Electromagnetic Gain: .....Automatic
Acoustic Bands: .....125 to 1000 Hz
Acoustic Pickup: .....6-ft (1.82 m) cord
Display: .....LCD with switchable backlight
Power: .....8 standard AA cell batteries
Automatic shutdown after 1 hour.
Battery Life: .....±65 hrs. continuous usage, alkaline; ±85 hrs. continuous usage, lithium (Equates to several weeks/months of normal usage.)
>200 hours, intermittent, less with backlight enabled
Operating temperature range: ...-4 to 122° F (-20 to +50° C)
Storage temperature range: .....-40 to 158° F (-40 to +70° C)
Environmental: .....Rated to IP54
Humidity: .....<95% noncondensing
MPP1000 Dimensions: .....8 L x 6.5 W x 3.25 H in.
203 L x 165 W x 83 H mm
MPP1000 Weight: .....2.15 lb (.98 kg)



The MPP1000 stand-alone unit measures electromagnetic surge and supplies the amplitude of that surge which aids in finding the fault.



Single probe/detector measures electromagnetic surge and acoustic emission, providing distance to the fault.



Dual probe/detector measures electromagnetic surge and acoustic emission at each detector, providing distance and direction to the fault.

ORDERING INFORMATION

Item (Qty)	Cat. No.
Pinpointer/Receiver, stand-alone unit	MPP1000
Pinpointer/Receiver, Single Probe/Detector Version Includes: (1) MPP1000, (1) carry strap, (1) headphone, (1) geo-phone/ground microphone, (1) carry case, (1) instruction manual, (8) "AA" batteries	MPP1001
Pinpointer/Receiver, Dual Probe/Detector Version Includes: (1) MPP1000, (1) carry strap, (1) headphone, (2) geo-phones/ground microphones, (1) carry case, (1) instruction manual, (8) "AA" batteries	MPP1002

Item (Qty)	Cat. No.
Included Accessories (Model Dependent)	
Geo-phone/Ground microphone [with cable, rod/carry handle, knob and spike]	36161
Headphone	36162
Carry strap	6220-780
Carry case	36120
"AA" battery (8 required)	23415
Instruction manual	AVTMMPP
MPP1000 Receiver upgrade to Single Probe/Detector	36177-1
MPP1000 Receiver upgrade to Dual Probe/Detector	36177-2
Upgrade from Single Probe to Dual Probe/Detector	36161

UK
Archcliffe Road, Dover
CT17 9EN England
T +44 (0) 1 304 502101
F +44 (0) 1 304 207342
UKsales@megger.com

UNITED STATES
4271 Bronze Way
Dallas, TX 75237-1019 USA
T 1 800 723 2861 (USA only)
T +1 214 333 3201
F +1 214 331 7399
USsales@megger.com

OTHER TECHNICAL SALES OFFICES
Valley Forge USA, College Station USA, Sydney AUSTRALIA, Täby SWEDEN, Ontario CANADA, Trappes FRANCE, Oberursel GERMANY, Aargau SWITZERLAND, Kingdom of BAHRAIN, Mumbai INDIA, Johannesburg SOUTH AFRICA, and Chonburi THAILAND

ISO STATEMENT
Registered to ISO 9001:2000 Cert. no. 10006.01
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