



## LIVE CABLE FAULT MONITORING MODULE

### INSTANT FAULT LOCATION AND CABLE THEFT DETECTION

The Mantis™ LW-MM200 is the first live cable testing and reporting module that monitors energized cable runs and electrical circuits around-the-clock. It detects, locates, and characterizes faults, either static/persistent or intermittent, and reports where and when they occur. This information can then be transmitted wirelessly or over data cables for alerts and instant response to the event or outage.

The Mantis uses revolutionary Spread Spectrum Time Domain Reflectometry (SSTDTR) technology to “see” into the cable environment and watch for changes that could lead to outages or alert system owners of tampering and removal of electrical cables.

#### Features (Mantis Ver. 1.5)

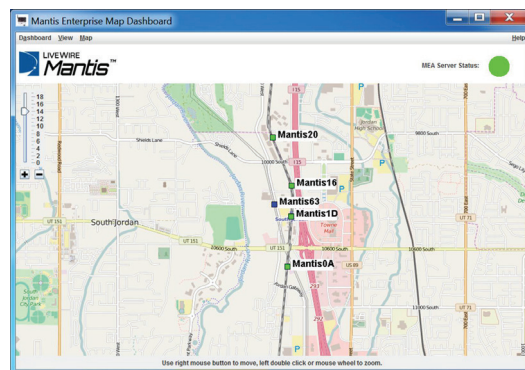
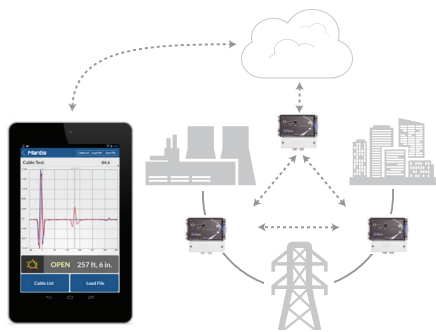
- Detection, location, and characterization of faults during system operation
- Static/persistent or intermittent faults
- Fault data logging
- Email notification for faults and system alerts
- Support for WiFi, Cellular, and Internet communications protocols
- Built-in rechargeable Lithium-ion battery back-up option
- Works on both energized and un-energized cables
- Monitors cable for intermittent faults
- Saves reports transferrable to PCs for storage and printing
- Cable fault finding or end point discovery and associated locations
- Enterprise application software and map- and device-based dashboards available for monitoring and control of multiple Mantis units.
- DIN rail mounting
- Waterproof enclosure optional
- Remote software update / upgrade availability



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## Specifications

## Description

Housing Dimensions	Size: 7.24"W x 6.83"H x 4.23"D Weight: 2.25 lbs. (1.02 kg)
Power Supply	Input Voltage Range 10 to 28 VDC (12 V Nominal), 20W (110-240 VAC adapter available as optional accessory) During power failure, battery will keep Mantis functioning.
Battery	3100mAh totos Li-ion rechargeable 8-10 Hours Typical Battery Life for Back-up Power 4 hour typical charge time
Voltage Rating	The Mantis is designed for use on cabling systems with voltage up to 1000 Volts. For higher voltages, contact LiveWire. The Mantis unit is designed to ratings of CAT II 1000V/CAT III 600 V (6 kV transient).
Electrical connector interface	Easy-to-use terminal block for electrical connections (Capacity 28 - 12 AWG gauge wire; with 0.20 inch x 0.33 inch maximum diameter insulation)
Measurement Method	Spread Spectrum Time Domain Reflectometry (SSTDR)
VOP Range	3-digit precision ranging from 20.0% to 99.9%
Distance to Fault Accuracy	+/- 2% accuracy for cables > 100 feet (+/- 1% for controlled impedance cables) +/- 2 feet for cables < 100 feet <i>Note: Accuracy Range applies with known VOP and consistent cable parameters</i>
Maximum Testable Distance/Length	Up to 20,000 ft. (6 km.) maximum testable cable length <i>Note: Maximum testable cable length varies with VOP and cable type. Contact LiveWire Innovation for cables beyond this length</i>
Output Signal Amplitude	0.016 - 1.1 V peak-to-peak, adjustable to desired minimum/maximum amplitudes
Operating Environment	Operating temperature: -20 to 70 °C ( -4 to 158 °F) Storage temperature: -30 to 85 °C (-22 to 185 °F) Humidity: 10% to 90%, non-condensing Altitude: 6,500 ft. (2,000m) operating
Communication Protocols	SSH over WiFi (modem not included) or wired ethernet (RJ45 jack included) or cellular coverage (Cellular USB dongle (not included) and service required)
Data Storage Limit	8 GB with automatic overwrite of oldest data if exceeded
Enterprise Software/Dashboards	Software and map- and device-based dashboards for monitoring and control of multiple Mantis units through PC interface.
PC or Tablet Interfaces	Easy-to-use Android tablet (not included) or Windows PC (not included) interfaces for controlling and reading info from the Mantis
No calibration needed	No metrology calibration required
English or metric measurements	International applications
Designed to Meet (Pending)	ANSI/ISA 82.02.01 (61010-1) 2004 CAN/CSA-C22.2 No 61010-1-04 UL 61010-1 IEC/EN 1010-3 2nd Edition for measurement Category II, 1000 V EMC EN61326-1 WEEE Compliant
Required Additional Equipment	Either an Android tablet (OS 4.0+; 1+GB RAM; 7"+ display with minimum resolution of 1280 x 800) or Windows PC (Windows 7+; 4+ GB memory) is required to set up or reprogram the Mantis, to start and stop certain static tests, and to read test results/data from the Mantis.
Accessories	110 – 240 VAC power adapter with a 5 ft. cord.



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