Datasheet: MicroScanner™ Cable Verifier Series

Industry economics require that installations be done fast and accurately with little to no callbacks. And converging voice, data, and video technologies as well as the ever growing "Internet of Things" has given rise to new requirements for service testing and multimedia support.

The MicroScanner™ Series acknowledges these growing trends and streamlines every aspect of the verification job. From its time-saving user interface and integrated multimedia support to its expanded service detection capabilities, MicroScanner2 and MicroScanner PoE give technicians the power to perform their jobs faster and more accurately than ever.

Troubleshoot PoE based systems

The MicroScanner PoE makes testing your PoE based communication cabling fast, easy, and clear. The tester reports the maximum power class the switch can provide under 802.3af, 802.3at, and 802.3bt specifications and displays the 802.3 PoE class (0-8) or the voltage from passive PoE sources. This allows technicians to verify the exact issues that may be affecting a PoE based installation. The MicroScanner PoE also provides information on available services up to 10G Ethernet ensuring that your network is capable of performing to your needs.

Verify cables and connections

Today's communications technicians have more problems to deal with than just the cabling. They have to rule out a whole host of cable and service issues before determining the cause of a connectivity problem. Where is the cable broken? Are all the wires properly terminated? Is there a switch at the far end? Is PoE available?

MicroScanner^2 and MicroScanner PoE provides technicians the vision to verify today's most common voice, data, and video services.

Reduce test time and user error

Yesterday's **cable verification testers** force users to toggle between different modes (up to four) to view all test results. This not only slows the test process, but also causes user frustration and error. MicroScanner Series has defied this convention by displaying key test results – wiremap, pair lengths, distance to fault, cable ID, and far-end devices – all on one screen.

Locate elusive cables in seconds

The MicroScanner Series features built-in IntelliTone™ digital and analog toning to precisely locate virtually any cable or wire pair, regardless of work environment. Use digital mode to locate high-grade data cabling (Cat 5e/6/6A) in bundles, or at switches, patch panels, or wall outlets. Or, use analog mode on voice-grade cabling (Cat 3 and below), as well as coax (MicroScanner^2 only), security/alarm, and speaker wiring.

Repair or replace tools less often

With all the abuse you put your tools through, you can't afford for them to be delicate. The MicroScanner Series features a rubber wrap-around holster that makes it the right tool for even the toughest jobs. Toss it into your toolbox. Drop it from a ladder. It can handle it. It even comes standard with a vinyl carry pouch for enhanced protection and convenience. The optional MAG-KIT (included with selected models noted below) provides a powerful magnetized strap that lets you hang your MicroScanner from racks, cable trays or organizers.

MicroScanner PoE

MicroScanner^2 Cable Verifier

Ordering Information	
MicroScanner PoE and MicroScanner^2 Kits	
Model	Description
MS-POE	MicroScanner PoE Verifier with MS-POE Wiremap Adapter, multi-language Getting Started Guide, batteries, and Fluke Networks carry Pouch
MS-POE-KIT	MicroScanner PoE Verifier with MS-POE Wiremap Adapter, Intellitone Pro 200 Probe, RJ45 Remote IDs #2-7, Patch cords (Shielded RJ45 and RJ11), multi-language Getting Started Guide, batteries, Magnetic Strap Attachment, and deluxe Fluke Networks carry case
MS2-100	MicroScanner^2 Cable Verifier with main wiremap adapter, multi-language Getting Started Guide, batteries, and Fluke Networks carry pouch
MS2-KIT	The MicroScanner^2 Professional Kit Includes MicroScanner^2, Cable Verifier with main wiremap adapter, IntelliTone™ Pro 200 Probe, Remote Identifiers #2-7, patch cords (shielded RJ45, RJ11, coax), multi-language Getting Started Guide, batteries, Magnetic Strap Attachment, and deluxe Fluke Networks carry case
MS2-TTK	The MicroScanner^2 Termination Test Kit Includes MicroScanner^2 Cable Verifier with main wiremap adapter, IntelliTone™ Pro Probe, IS60 Pro-Tool™ Kit, multi-language Getting Started Guide, batteries, Magnetic Strap Attachment, and deluxe Fluke Networks carry case
MS2-FTK	Includes MicroScanner^2 Cable Verifier with main wiremap adapter, Simplifiber Pro optical power meter, 850/1300 multimode source, SC power-meter adapter, multi-language Getting Started Guide, batteries, Magnetic Strap Attachments and carrying case

Accessories	Description
MS2-IDK27	MicroScanner^2 Remote Identifier Kit #2-7
MT-8200-63A	IntelliTone Pro 200 Probe
REMOTEID-KIT	Remote ID Kits for Microscanner PoE
CIQ-RJA	RJ45/11 Modular Adapter
CIQ-COAX	Coax Adapter Kit for RCA, BNC
MICRO-DIT	MicroScanner^2 Kit Soft Carry Duffel
MS2-MAG-KIT	Magnetic Strap Attachment and Spare Holster

Specifications and availability subject to change

Comparison Chart		
	MicroScanner 2	MicroScanner PoE
Twisted Pair (RJ-11, RJ-45)		
Wiremap	✓	✓
Length / Distance to Fault	✓	✓
Coaxial		
Length / Distance to Fault	✓	
Service Identification		
Reports maximum power class		✓
10/100/1000BASE-T	✓	✓
2.5GBASE-T, 5GBASE-T, 10GBASE-T		✓
Power Over Ethernet	Detects 802.3af	Reports class and power for 802.3af, .3at and .3bt
Analog and Digital Toning	✓	✓
Optional Remote Identifiers	✓	✓

Copper Technician Kits

MS-POE-KIT

The MicroScanner™ PoE tester displays the available PoE class (0-8) from 802.3at, .3af and .3bt devices, the voltage from passive PoE sources, available services (up to 10G Ethernet), cable length, wiremap, and distance to fault are all shown. This kit also includes the IntelliTone Pro 200 probe using a digital tone to trace active data cables, six remote identifiers used to locate which cable is being tested, and a magnetic hanging strap to hang your tester from any nearby magnetic surface or from a hook.

MS2-KIT

The MicroScanner^2 Cable Verifier displays graphical wiremap, pair lengths, distance to fault, and far end device. This kit also includes the IntelliTone™ Pro 200 probe, six remote identifiers, and a magnetic hanging strap.

MS2-TTK

MicroScanner^2 Termination Test Kit includes MicroScanner^2 Cable Verifier, IntelliTone Pro 200 probe, a magnetic hanging strap, and the IS60 Installation and Termination tool set.

Copper and Fiber Basic Technician's Kit

MS2-FTK

As project requirements grow to include both copper and fiber cabling, the Copper and Fiber Basic Technician's Kit (MS2-FTK) provides the right set of tools to manage your network and keep it running smoothly. Along with the features of the MicroScanner^2, the MS2-FTK provides the fiber testing instruments needed to: Quickly verify optical loss and power levels with single-port simultaneous dual wavelength testing over six wavelengths (850, 1300, 1310, 1490, 1550, 1625 nm)

- Conduct efficient cable routing identification with **SimpliFiber Pro's FindFiber®** capability
- Save up to 1000 test results and upload and manage them on your personal computer via Fluke Networks' popular **LinkWare Cable Test Management Software**
- Track intermittent power fluctuations with the Min/Max feature

MicroScanner² and MicroScanner PoE Specifications

Specifications apply at 23 °C (73 °F), unless otherwise noted.

Environmental Specifications	
Operating temperature	32 °F to 113 °F (0 °C to 45 °C)
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)
Operating relative humidity (% RH without condensation)	90 % (50 °F to 95 °F 10 °C to 35 °C) 75 % (95 °F to 113 °F 35 °C to 45 °C)
Shock and Vibration	Random, 2 g, 5 Hz-500 Hz (Class 2) 1 m drop test with and without wiremap adapter attached
Safety	IEC 61010-1 3rd Edition
Altitude	4,000 m; Storage: 12,000 m
EMC	IEC 61326-1

General Specifications	
Test connectors	Shielded 8-pin modular jack accepts 8-pin modular (RJ45) and 4-pin modular (RJ11) plugs. MicroScanner²: F-connector for coaxial cable.
Power	Battery type: 2 AA (NEDA 15A, IEC LR6) alkaline batteries Battery life: 20 hours of typical use Other compatible battery types: 2 AA photo lithium, NIMH, NICAD
Dimensions and weight (with batteries installed and wiremap adapter attached)	3 in x 6.4in x 1.4 in (7.6 cm x 16.3 cm x 3.6 cm) MicroScanner²: 11.5 oz (363g) MicroScanner PoE: 10.6 oz (247 g)
Display	Monochrome LCD with backlight

Test Modes	
Cable test	Measures length, verifies wiremap, identifies remote ID locators, and detects Ethernet ports. MicroScanner PoE also shows HIGH Ω when the resistance of the cable is more than 12.5 Ω. Displays results on one devices.
Tone	Generates Intellitone™ and normal analog toning signals
PoE	MicroScanner²: Solicits and detects the presence of 802.3af compatible PoE (Power over Ethernet) devices MicroScanner PoE: Solicits and detects the presence of 802.3af, at, bt devices.

Performance Specifications	
Cable types tested	Twisted pair: UTP, FTP, SSTP Coaxial (MicroScanner²): 75 Ω, 50 Ω, 93 Ω
Length test	Range: 460 m (1500 ft) Resolution: 0.3 m (1 ft) Typical accuracy: ± 4% or 0.6 m (2 ft) whichever is greater. NVP uncertainty is an additional error. Calibration: User-settable NVP for twisted pair and coax (MicroScanner²). Can determine actual NVP with known length of cable.
Wiremap test	Detects single-wire faults, shorts, miswires, split pairs, and up to seven far-end adapter IDs. The wiremap is drawn with proportional length to visually indicate the approximate location of faults.
Ethernet port detection	MicroScanner²: Detects the advertised speed of 802.3 Ethernet ports with speeds of 10 Mbps, 100 Mbps, and 1 Gbps. MicroScanner PoE: Detects the advertised speed of 802.3 Ethernet ports with speeds of 10 Mbps, 100 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps.
Tone generator	Supports toning and cable mapping with a Fluke Networks digital IntelliTone™ probe. Generates four tones compatible with typical analog probes. SmartTone™ feature gives positive identification of cables in bundles when using an IntelliTone or an analog probe.

Simplifiber Pro Specifications (included in MS2-FTK)

General Specifications	
Temperature range	Operating: -10 °C to 50 °C Storage: -20 °C to 50 °C
Humidity range	95% (10 °C to 35 °C) non-condensing; 75% (35 °C to 40 °C) non-condensing; uncontrolled <10 °C
Certifications	CE, CSA, N10140, Class 1 laser-safe
Dimensions	Power meter: 6.4 in x 3.2 in x 1.5 in (16.5 cm x 8.0 cm x 3.9 cm) MM/SM sources: 5.6 in x 3.2 in x 1.6 in (14.2 cm x 8.1 cm x 4.1 cm)
Weight	Power meter: 11.5 oz (325 g) MM/SM sources: 9.8 oz (278 g)

Optical Sources	
Optical output connector	Fixed SC
Emitter type	850/1300: LED 1310/1550: FP Laser FindFiber: Laser
Emitter wavelengths	CE, CSA, N10140, Class 1 laser-safe
Power output (minimum)	MM: ≥ -20 dBm SM: ≥ 8 dBm minimum; -7 dBm nominal
Power output stability (8 hours)	MM: +/- 0.1 dB over 8 hours SM: +/- 0.25 dB over 8 hours
MM battery life (2 x AA IEC LR6)	40 hours typical
SM battery life (2 x AA IEC LR6)	30 hours typical
FindFiber battery life (2 x AA IEC LR6)	80 hours typical

Optical Power Meter	
Power measurement accuracy	+/- 0.25 dB
Optical connector	Removable adapter; SC adapter standard; Optional adapters include LC, ST
Detector type	InGaAs
Calibrated wavelengths	850, 1300, 1310, 1490, 1550, 1625
Power measurement linearity	850 nm: +/- 0.2 dB; +/- 0.2 dB for power from 0 dBm to -45 dBm, +/- 0.25 dB for power < -45 dBm; 1300 nm, 1310 nm, 1490 nm, 1550 nm, 1625 nm: +/- 0.1 dB; +/- 0.1 dB for power from 0 dBm to -55 dBm, +/- 0.2 dB for power > 0 dBm and < -55 dBm
Resolution	0.01 dB
Battery life	>50 hours typical
Memory	1000 loss or power measurements
Serial communication physical interface	USB