DATASHEET

# MicroScanner™ Cable Verifier Series

## Overview

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? MicroScanner2 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 (MicroScanner2 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


**Package contents:**

- MicroScanner PoE Cable Verifier
- Detachable wiremap adapter
- 2 AA alkaline batteries
- Soft carrying case
- Detailed use instructions

## MicroScanner2 Cable Verifier


## Ordering Information

| Ordering Information | |
|---|---|
| MicroScanner PoE and MicroScanner2 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 | MicroScanner2 Cable Verifier with main wiremap adapter, multi-language Getting Started Guide, batteries, and Fluke Networks carry pouch |
| MS2-KIT | The MicroScanner2 Professional Kit Includes MicroScanner2, 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 MicroScanner2 Termination Test Kit Includes MicroScanner2 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- | Includes MicroScanner2 Cable Verifier with main wiremap adapter, Simplifiber Pro optical power meter, 850/1300 multimode source, SC power- |

| | |
|---|---|
| FTK | meter adapter, multi-language Getting Started Guide, batteries, Magnetic Strap Attachments and carrying case |

| Accessories | Description |
|---|---|
| MS2-IDK27 | MicroScanner2 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 | MicroScanner2 Kit Soft Carry Duffel |
| MS2-MAG-KIT | Magnetic Strap Attachment and Spare Holster |

Specifications and availability subject to change

| **Comparison Chart** | | |
|---|---|---|
| | MicroScanner2 | MicroScanner PoE |
| Twisted Pair (RJ-11, RJ-45) | | |
| Wiremap | ✓ | ✓ |
| Length / Distance to Fault | ✓ | ✓ |
| | | |
| Coaxial | ✓ | |
| 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 MicroScanner2 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**

MicroScanner2 Termination Test Kit includes MicroScanner2 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 MicroScanner2, 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 |