Fluke Networks MS2-100

Fluke Networks LinkIQ Kit with MS2-100 Cable Verifier User Manual

Model: MS2-100

Introduction

The Fluke Networks LinkIQ Kit with MS2-100 Cable Verifier is a comprehensive solution designed for network professionals to test, verify, and troubleshoot twisted pair and coax cabling infrastructure. This kit enables qualification of copper cable up to 10 Gb/s, testing of switch and network connectivity, identification and tracing of copper cables, and pinpointing of twisted pair and coax faults. It is an essential tool for ensuring reliable network performance.

What's in the Box

Your Fluke Networks LinkIQ Kit includes the following components:

Image: All components included in the Fluke Networks LinkIQ Kit, neatly laid out, showing the main LinkIQ tester, MicroScanner2, Intellitone Pro 200, various accessories, and the carrying bag.

- **LinkIQ Cable+Network Tester:** The primary unit for advanced cable and network testing.
- **MicroScanner2 Cable Verifier:** A secondary unit for basic cable verification and troubleshooting.
- **IntelliTone Pro 200 Probe:** Used for tracing and locating cables with tone generation.
- **Carrying Case:** Durable bag for transporting and protecting the kit components.
- **Remote ID 1:** For identifying cable ends.
- Various adapters, patch cords, and power supplies.
- Lithium Ion batteries (included).

Safety Information

Always observe the following safety precautions when using the Fluke Networks LinkIQ Kit:

- Read and understand all instructions before use.
- Do not use the device if it appears damaged.
- Use only specified accessories and replacement parts.
- Do not operate the device in wet environments or near explosive gases.
- Ensure proper ventilation during operation.
- Refer to the full safety manual for detailed warnings and precautions.

Setup

Battery Installation and Charging

The LinkIQ and MicroScanner2 units are powered by rechargeable Lithium Ion batteries. The IntelliTone Pro 200 Probe uses standard alkaline batteries.

1. **LinkIQ/MicroScanner2:** Connect the provided power adapter to the device and a power outlet. The battery indicator on the screen will show charging status. Ensure the device is fully charged before first use.
2. **IntelliTone Pro 200 Probe:** Open the battery compartment on the back of the probe and insert the required alkaline batteries, observing polarity.

Initial Power-On

Press and hold the power button on the LinkIQ or MicroScanner2 until the screen illuminates. Follow any on-screen prompts for initial setup, such as language selection or date/time settings.

OPERATION

LinkIQ Cable+Network Tester Overview

Image: The LinkIQ device displaying a successful cable test, indicating cable length and pair status, along with speed qualification icons.

The LinkIQ is designed for advanced cable qualification and network testing. Its intuitive interface allows for quick assessment of cable performance and network connectivity.

Cable Qualification to 10 Gb/s

1. Connect one end of the cable to the LinkIQ's RJ45 port and the other end to a remote identifier or network device.
2. Select the "Cable Test" or "Qualification" option from the main menu.
3. The LinkIQ will automatically perform tests for cable length, wire map, and qualification speed (e.g., 10BASE-T, 100BASE-TX, 1000BASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T).
4. Results will be displayed as "PASS" or "FAIL" with detailed information on any detected issues.

Testing Switch and Network Connectivity

1. Connect the LinkIQ to an active network port.
2. Select the "Network Test" option.
3. The LinkIQ will display information such as switch port speed, duplex settings, PoE (Power over Ethernet) voltage, and VLAN information.
4. It can also perform ping tests to verify connectivity to network devices.

MicroScanner2 Cable Verifier Overview

Image: The MicroScanner2 device displaying cable test results, including wire map and length, on its monochrome LCD screen.

The MicroScanner2 provides basic cable verification, including wire map, cable length, and identification of common faults like opens, shorts, and split pairs. It also detects PoE and media services.

Basic Cable Verification

1. Connect the cable to the MicroScanner2's RJ45 or Coax port. For remote testing, connect the remote identifier to the other end.

2. Press the "Test" button.
3. The screen will display the wire map, cable length, and any detected faults.

IntelliTone Pro 200 Probe Overview

Image: The IntelliTone Pro 200 Probe, a yellow and blue handheld device with a speaker and LED indicators, used for tracing cables.

The IntelliTone Pro 200 Probe is used in conjunction with the LinkIQ or MicroScanner2 (which can generate a tone) to trace and locate cables in bundles, at patch panels, or behind walls.

Identifying and Tracing Copper Cables

1. Connect the LinkIQ or MicroScanner2 to the cable you wish to trace and activate the tone generation function.
2. Turn on the IntelliTone Pro 200 Probe and select the appropriate toning mode (e.g., digital or analog).
3. Move the probe along the cable path. The probe will emit an audible tone that increases in volume as it gets closer to the toned cable.
4. Use the visual signal strength indicator on the probe for precise cable identification.

Pinpointing Twisted Pair and Coax Faults

Both the LinkIQ and MicroScanner2 provide capabilities to pinpoint faults:

- **Wire Map:** Displays the connection status of each wire pair, identifying opens, shorts, and crossed pairs.
- **Length Measurement:** Indicates the distance to a fault, helping to locate breaks or shorts along the cable run.
- **Time Domain Reflectometry (TDR):** The LinkIQ uses TDR technology to precisely locate the distance to faults.

Image: The Remote ID 1, a small passive device used to identify the far end of a cable when testing with the main unit.

Maintenance

Cleaning

Wipe the exterior of the devices with a damp cloth. Do not use abrasive cleaners or solvents. Ensure ports are free of dust and debris.

Battery Care

- Recharge the Lithium Ion batteries regularly, even if the device is not in frequent use, to maintain battery health.
- Store the devices in a cool, dry place when not in use.
- Remove alkaline batteries from the IntelliTone Pro 200 Probe if storing for extended periods to prevent leakage.

Storage

Image: The durable black and orange carrying case provided with the Fluke Networks LinkIQ Kit, designed for secure storage and transport.

Store all components in the provided carrying case to protect them from dust, moisture, and physical damage.

Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery.	Charge the battery. For IntelliTone, replace alkaline batteries.
Inaccurate cable length measurement.	Incorrect NVP (Nominal Velocity of Propagation) setting or damaged cable.	Verify NVP setting in device menu. Inspect cable for physical damage.
No tone detected by probe.	Tone not activated on main unit, or probe batteries low.	Ensure tone is active on LinkIQ/MicroScanner2. Check/replace probe batteries.
"FAIL" result on cable test.	Cable fault (open, short, split pair, crossed pair).	Examine wire map and fault location on screen. Repair or replace cable.

Specifications

Feature	Detail
Model Number	MS2-100

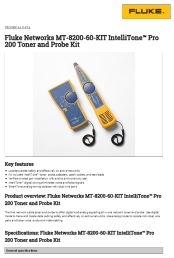
Feature	Detail
Product Dimensions	16.94 x 7.38 x 5.63 inches
Item Weight	6.04 Pounds
Batteries	1 Lithium Ion battery (included) for main units
Manufacturer	Fluke
UPC	195112120262
Cable Qualification	Up to 10 Gb/s for copper twisted pair
Connectivity Testing	Switch port speed, duplex, PoE, VLAN

Warranty and Support

Fluke Networks products are designed for reliability and performance. For information regarding warranty coverage, technical support, or service, please refer to the official Fluke Networks website or contact their customer service department. Keep your purchase receipt as proof of purchase.
For authorized distributors and genuine product verification, please visit the official Fluke Networks website.

Related Documents - MS2-100

	Fluke Networks MicroScanner2 Cable Verifier User Manual User manual for the Fluke Networks MicroScanner2 Cable Verifier, providing information on its features, operation, safety precautions, and troubleshooting.
	LinkIQ™/LinkIQ™ Duo Cable+Network Tester Quick Reference Guide A quick reference guide for the Fluke Networks LinkIQ™/LinkIQ™ Duo Cable+Network Tester, covering basic network testing, PoE/Ping, IntelliTone™, and Wi-Fi analysis.

	[Fluke Networks MicroScanner Series Cable Verifiers User Manual - Network Testing Guide] Comprehensive user manual for Fluke Networks MicroScanner Series Cable Verifiers (MicroScanner², MicroScanner PoE). Covers features, twisted pair/coaxial testing, PoE detection, toning, specifications, and troubleshooting.
	[Fluke Networks TS90 and TS100 Cable Fault Finders: Efficient Cable Management] Discover the Fluke Networks TS90 and TS100 Cable Fault Finders, the fast and easy-to-use tools for measuring cable opens, shorts, and length. Save time and money with these competitively priced cable management solutions.
	[Fluke Networks MT-8200-60-KIT IntelliTone Pro 200 Toner and Probe Kit] The Fluke Networks MT-8200-60-KIT IntelliTone Pro 200 Toner and Probe Kit offers advanced digital and analog signaling for safe and effective cable tracing on active networks. It includes a toner, probe, adapters, patch cables, and test leads, with features like end-to-end continuity testing and noise elimination.
	[Fluke Networks PRO3000 Toner and Probe Users Guide] User guide for the Fluke Networks PRO3000 Toner and Probe, providing instructions on cable tracing, pair identification, polarity checking, continuity testing, and specifications.