FLUKE networks®

LinkIQ™ Cable+Network Tester

Cable testing you trust. Network testing you need.

LinkIQ™ enables you to:

- Find maximum cabling speed (Up to 10 Gb/s)

- Install and troubleshoot PoE devices via Switch Negotiation and PoE Load Test

- Identify connected switch information (Switch Name, Port Number, and VLAN)

- Document your work through LinkWare™ PC

Overview

The LinkIQ™ Cable+Network Tester is the testing solution to verify cable performance up to 10 Gb/s and solve network connectivity problems. LinkIQ validates cable performance using frequency-based measurements and provides distance to fault information along with a wire map of the cable under test. The LinkIQ also performs nearest switch diagnostics to identify key network issues and validate switch configuration eliminating the need of using another device. Additional features include Analog and Digital Toning, Port Blink, 802.1x authentication, Remote Office Locators, and the ability to manage results via LinkWare™ PC.

Cable Testing You Trust

The LinkIQ™ is capable of measuring lengths up to 1000 feet (305 m) and provides distance to faults such as opens, shorts, and unterminated cable. Using the remote ID allows for a complete wire map of the cable pairs which helps identify miswired and split pairs. The primary cable testing feature of LinkIQ™ is the

cable performance test which qualifies the cabling bandwidth from 10BASE-T to 10GBASE-T (10 Mb/s up to 10 Gb/s). It performs these tests via frequency-based measurements. Using IEEE-standards-based measurements ensures that tested links meet performance requirements as opposed to transmission testers which only prove that the specific test devices can communicate over the link.
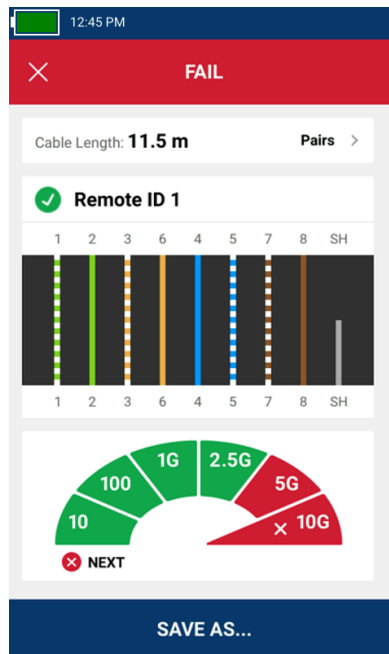
Operators may set performance requirements from 10 Mb/s to 10 Gb/s for a simple pass/fail indication.
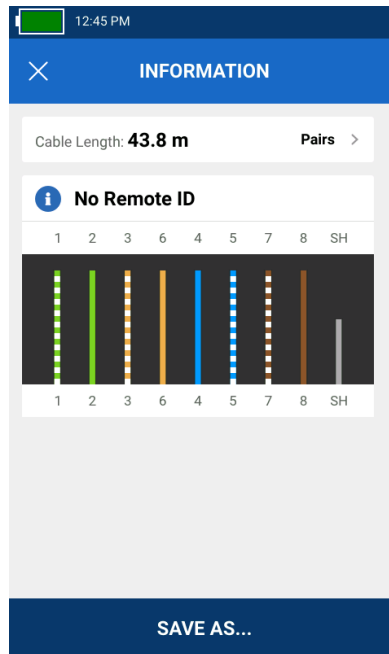
Cable test without remote attached shows length and pairing of each wire
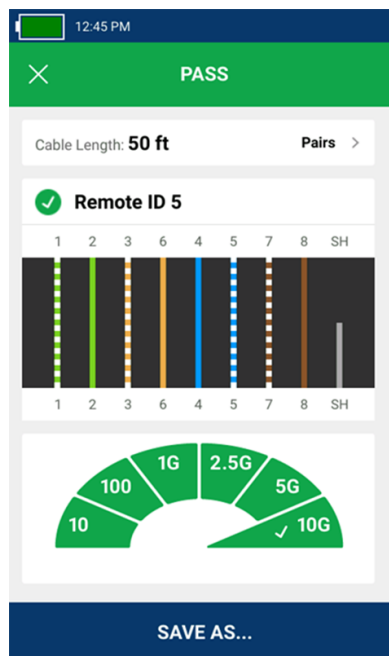
Cable test with remote attached shows remote ID number 5, length and pairing of each wire and cable performance of up to 10 Gb/s

Cable test with remote attached shows remote ID number 1, length and pairing of each wire and cable performance of up to 2.5 Gb/s but failed the test due to a user-set limit of 10 Gb/s performance.

Network Testing You Need

Along with the robust cable testing features, the LinkIQ™ also provides detailed information on the nearest connected switch. The LinkIQ™ negotiates with the switch to identify the advertised data rate (up to 10GBASE-T), half/full duplex identification, the switch name, port number, and VLAN info.
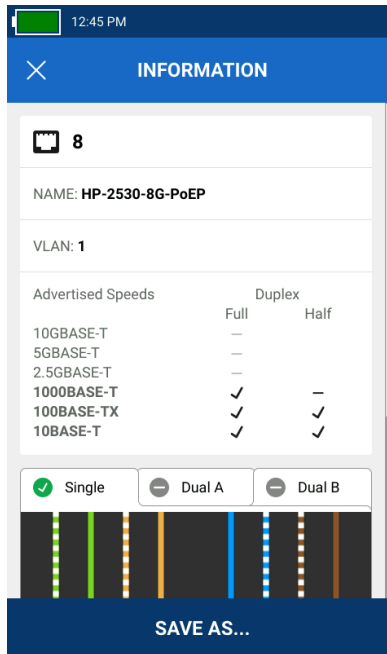
Switch port test shows port number, switch name and port VLAN along with advertised speed and duplex settings. Scrolling down shows Power over Ethernet results.
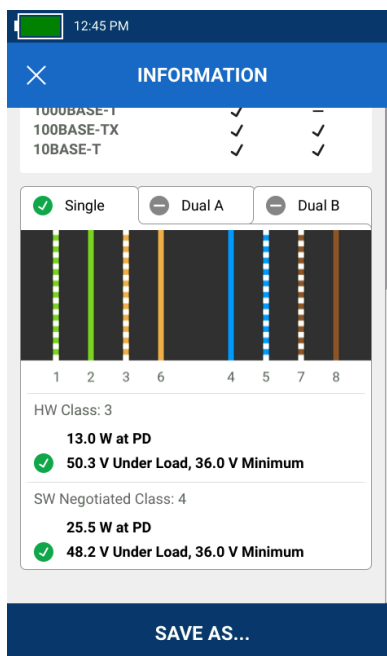
Switch port Power over Ethernet settings shows pairs used, power and class available and results of the PoE test under load.

In-Depth PoE Testing

While Power over Ethernet makes installation of devices such as security cameras and access points simpler, a survey by the Ethernet Alliance of over 800 installers, integrators and end users found that four of five respondents experienced difficulties in integrating PoE systems. Part of this can be traced to the fact that the IEEE offers three PoE standards, the term "PoE" is not registered and there are a variety of non-standards-compliant implementations as well.

To simplify PoE installation and troubleshooting, the LinkIQ displays the pairs where power is provided, including the different power levels and pairs for dual-signature implementations. Further, the LinkIQ will actually place a load on the connection to ensure that the advertised power is actually being delivered by the switch across the cabling infrastructure.

LinkWare™ Documentation

The LinkIQ provides complete documentation abilities for the tests it performs. Up to 1,000 results can be stored in the tester with descriptive names and recalled. Test names and numbers automatically increment as each is saved ("Annex B-1", "Annex B-2", "Annex B-3", etc.) saving lots of time when testing cables in sequence.

Report data may be exported to a PC for documentation purposes. The LinkIQ uses LinkWare™ PC, Fluke Networks' reporting software which supports a variety of testers going back 20 years and is the industry's de facto reporting solution with tens of thousands of active users. LinkWare can be used to store the results as well as generate PDF reports.
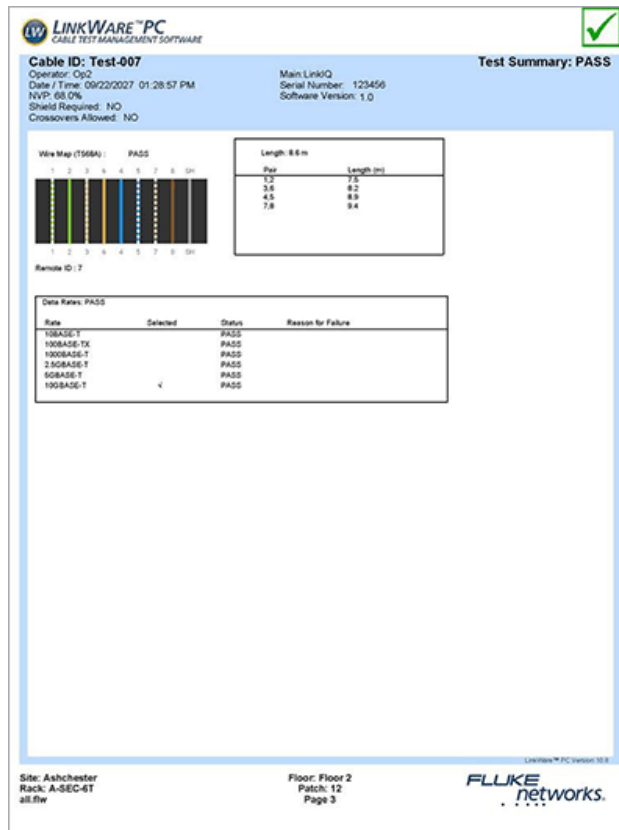
Use LinkWare PC to generate PDF test reports.

Additional Features

- Generates Analog or Digital tones compatible with the IntelliTone™ Probe or Pro3000™ to assist in locating cables in a wall or telecommunications room

- Blink Port light on switch to help identify the connected switch port

- Compatible with MicroScanner™ PoE Remote Identifiers for Ethernet outlet identification

- Touch Sensitive gesture-based display

- Rechargeable Li-Ion battery

- Easy Feature and Network Testing Upgrades via USB-C via LinkWare™ PC

- Charging via standard USB-C port

LIQ-100 includes LinkIQ mainframe and accessories.

LinkIQ™ Feature Breakout

1. RJ45 Port
2. PASS/FAIL frequency-based measurement results
3. Touch Screen Color Display
4. Length measurement shows distance to termination, open or short
5. Wiremap shows type and location of fault (miswires, split pairs, shorts, breaks)
6. USB-C port for data export, software updates and charging
7. Cable "Speedometer" provides bandwidth information up to 10G
8. Save up to 1000 test results on the unit and export to LinkWare™ PC

Ordering Information

MODEL	DESCRIPTION
LIQ-100	LinkIQ Cable+Network Tester with Remote ID 1, Quick Reference Guide, USB-C to USB-A cable, Charging cable, Cat6A patch cord, RJ45/11 Modular Adapter, hanging strap with Remote ID holder, and Carrying Case
LIQ-KIT	LinkIQ Cable+Network Tester with Remote IDs 1-7, IntelliTone Probe, Quick Reference Guide, USB-C to USB-A cable, Charging cable (with international adapters), Cat 6A patch cord, RJ45/11 Modular Adapter, hanging strap with Remote ID holder, and Duffle Bag
REMOTEID-1	Replacement ID for LinkIQ Remote ID #1
REMOTEID-KIT	Remote ID Kit (IDs #2-#7) for LinkIQ and MicroScanner PoE
GLD-LIQ	1 Year Gold Support LinkIQ Cable Performance & Network Tester
GLD3-LIQ	3 Year Gold Support LinkIQ Cable Performance & Network Tester

General Specifications

Feature	Description
Languages supported in UI	English (SW v1.0)
Weight	1 lbs 6 oz (624g)
Battery	Type: Lithium-ion, 3.6 V, 6400 mAh; Life: 8 hours typical; Charge time: 4.5 hours; Charging temperature range: 0 °C to +40 °C
Power Adapter	Input: 100 to 240 VAC ±10%, 50/60Hz; Output: 15 VDC, 2 A maximum; Class II
Host Interface	USB type C

Display	800 x 480 color capacitive multi-touch
Dimensions	8.5 in x 4.5 in
Operating Temperature	0°C to 45°C
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Relative Humidity	0 % to 90 %, 0°C to 35°C; 0 % to 70 %, 35°C to 45°C
Operating Altitude	4,000 m; 3,200 m with ac adapter
Vibration	Random, 2 g, 5 Hz-500 Hz
Drop	1 m drop, 6 sides

Active Network Diagnostics

Feature	Description
Diagnostic Protocols	Link Layer Discovery Protocol (LLDP), Cisco Discovery Protocol (CDP), Fast Link Pulses (FLP)
Nearest Device Diagnostics, (If available through diagnostic protocols)	Switch Name, Port Number, VLAN Name, Advertised Data Rates, Advertised Duplex
Power Over Ethernet Compatibility	IEEE 802.3af/at/bt, Hardware negotiation with signature resistance, Software negotiation with LLDP/CDP
Power Over Ethernet Diagnostics	Advertised Power Class (0-8), Advertised Available Power, Powered Pairs, Diagnostics for both Single and Dual signatures
Power Over Ethernet Measurements	Loaded Voltage (V), Loaded Power (W)
Port Blink	Blink the light of the connected port

Cable Test Specifications

Feature	Description
Test Port	Shielded 8-pin modular jack accepts 8-pin modular (RJ45) plugs
Commissioning Autotests	10GBASE-T, 5GBASE-T, 2.5GBASE-T, 1000BASE-T, 100BASE-TX, 10BASE-T, Wire map Only. Test Speed: 6 seconds for lengths < 70 m
Cable Types	Balanced twisted-pair cabling; Unshielded twisted-pair; Screened twisted-pair; 2-pair and/or 4-pair
Wire Map-Only Tests	Document wire map, Length of each pair, Diagnose split pairs, User selectable T568A or T568B, User selectable crossover settings (Straight through, Half-crossover, Full-crossover). Test speed: 1 second for lengths < 120 m
Length (Maximum)	305 m (1000 ft)
Nominal Velocity of	

Nominal Velocity of Propagation (NVP)	User settable
Tone Generator	Generates digital tones compatible with Fluke Networks IntelliTone probe. Generates analog tones compatible with general analog probes.
Remote ID Locators	Use remote ID terminations to identify up to 7 unique ports or office outlets

About Fluke Networks

Fluke Networks is the worldwide leader in certification, troubleshooting, and installation tools for professionals who install and maintain critical network cabling infrastructure. From installing the most advanced data centers to restoring service in the worst weather, our combination of legendary reliability and unmatched performance ensure jobs are done efficiently. The company's flagship products include the innovative LinkWare™ Live, the world's leading cloud-connected cable certification solution with over fourteen million results uploaded to date.

Descriptions, information, and viability of the information contained in this document are subject to change without notice.

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