

NetPower

The essential tool  
for testing PoE  
networks and cabling.



## FEATURES

- » Tests network cable pairs for Power over Ethernet (PoE).
- » Identifies the power type as IEEE 802.3af, Cisco Inline Power (ILP), or nonstandard.
- » Makes power measurements with loads simulating powered devices.
- » Displays voltage, polarity, and power configuration for wire pairs.
- » Measures loop resistance to identify damaged cables and bad punchdowns.
- » Detects 10/100/1000BASE-TX link speed and duplex mode.
- » Measures cable length, opens, and shorts.
- » Provides a port ID function.

## OVERVIEW

Use [NetPower](#) to conduct power tests with simulated loads to ensure that VoIP phones, access points, security cameras, and other equipment will operate properly on your PoE network.

### The power is in your hands.

If you're responsible for installing and maintaining networks that use Power over Ethernet (PoE), make the [NetPower](#) an essential part of your toolbox.

This advanced, easy-to-use handheld tester can give you the peace

of mind you need to check and verify Power over Ethernet links—before you accidentally damage any equipment! You can even differentiate between IEEE standard power and manufacturer-specific power. In addition, power for devices can run over different pairs or on all pairs, and the [NetPower](#) will tell you in no time.

Other test functions include tone generation for cable tracing. You can also use the tester to measure cable length and identify switch or hub ports.

## Technically Speaking

### What is PoE?

The seemingly universal network connection, twisted-pair Ethernet cable, has another role to play: providing electrical power to low-wattage electrical devices. Power over Ethernet (PoE) was ratified by the Institute of Electrical and Electronic Engineers (IEEE) in June 2000 as the 802.3af-2003 standard. It defines the specifications for low-level power delivery—roughly 13 watts at 48 VDC—over twisted-pair Ethernet cable to PoE-enabled devices such as IP telephones, wireless access points, Web cameras, and audio speakers.

### How does PoE work?

The way it works is simple. Ethernet cable that meets CAT5 (or better) standards consists of four twisted pairs of cable, and PoE sends power over these pairs to PoE-enabled devices. In one method, two wire pairs are used to transmit data, and the remaining two pairs are used for power. In the other method, power and data are sent over the same pair.

When the same pair is used for both power and data, the power and data transmissions don't interfere with each other. Because electricity and data function at opposite ends of the frequency spectrum, they can travel over the same cable. Electricity has a low frequency of 60 Hz or less, and data transmissions have frequencies that can range from 10 million to 100 million Hz.

### Basic structure.

There are two types of devices involved in PoE configurations: Power Sourcing Equipment (PSE) and Powered Devices (PD).

PSEs, which include end-span and mid-span devices, provide power to PDs over the Ethernet cable. An end-span device is often a PoE-enabled network switch that's designed to supply power directly to the cable from each port. A mid-span device is inserted between a non-PoE device and the network, and it supplies power from that juncture.

Power injectors, a third type of PSE, supply power to a specific point on the network while the other network segments remain without power.

PDs are pieces of equipment like surveillance cameras, sensors, wireless access points, and any other devices that operate on PoE.

### PoE applications and benefits.

- Use one set of twisted-pair wires for both data and low-wattage appliances.
- In addition to the applications noted previously, PoE also works well for video surveillance, building management, retail video kiosks, smart signs, vending machines, and retail point-of-information systems.
- Save money by eliminating the need to run electrical wiring.
- Easily move an appliance with minimal disruption.
- If your LAN is protected from power failure by a UPS, the PoE devices connected to your LAN are also protected from power failure.

## TECH SPECS

**Cable Type** — UTP, STP  
**Network Types** — 10BASE-T (not for use with 10BASE-T4 equipment),  
100BASE-TX (IEEE 802.3u), 1000BASE-TX, PoE  
**Connectors** — (1) RJ-45  
**Power** — (4) AA batteries, included  
**Size** — 7"H x 13.2"W x 1.4"D (17.8 x 33.5 x 3.6 cm)  
**Weight** — 0.6 lb. (0.3 kg)

### Item

NetPower

### Code

**TS574A**



TS574A

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