

PoEsmart™
IEEE 802.3bt standard
Power Over Ethernet Inline Tester

User Manual

Item No. 256320

Warranty Information



Product Registration Guide



Introduction

PoEsmart 256320 is a IEEE 802.3bt standard Power Over Ethernet inline tester that is effective and an essential device when operating PoE technology. It conducts power test from PSE (power sourcing equipment) and provide an informative power supply status of PoE systems during PoE system installations. It identifies PoE standard IEEE802.3af, IEEE802.3at or IEEE802.3bt of PSE without the need of having a separate PD (powered device). PoEsmart, is fitted with an internal PD to simulate a powered device known as SPD (simulate powered device). When connected with a PD, PoEsmart innovative technology is able to analyze and monitor the voltage, current and power status supplied by PSE without interrupting data flow.

PoEsmart is a compact design unit equipped with an OLED high resolution display for an enhanced viewing quality and wider viewing angle when analyzing PoE type, polarity, voltage, current and power in various settings. Its rich display provides a balance layout that offers complete visibility of data eliminating the inconvenience of scrolling or rotating for contents. PoEsmart is the next generation of Power Over Ethernet Inline Tester that is designed for all users when managing PoE Systems.

Features

- Battery-free operation technology.
- Identifies PoE standard of PSE: IEEE802.3af, IEEE802.3at, IEEE802.3bt or non-standard without having of a separate power device.
- Identifies the polarity of PoE data pair and spare pair.
- Monitor and troubleshoot IEEE802.3af/802.3at/802.3bt Type 3 (4PPoE) and 802.3bt Type 4 standard PoE systems.
- Real time IEEE802.3bt inline status analysis and monitoring.
- Full display of PoE information without scrolling.
- Measures current and power from DC supplies.
- Compact and lightweight design.

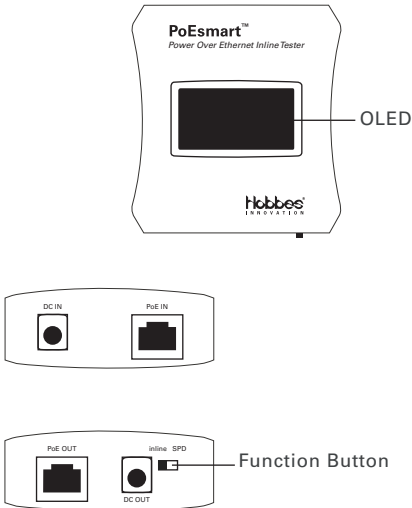
Specification

- Data rate**
10/100/1000
- DC power input**
2.1mm DC barrel
- Display range (DC input)**
6.5 to 57 volts, 0 to 0.5 Amps
- Display range (PoE input)**
12 to 57 volts, 0 to 1.5 Amps
- Maximum detected power**
100W
- Detection resolution**
0.1V; 0.001A; 0.01W
- Measurement accuracy**
± 5%

- Display type**
OLED
- Operating temperature range**
-10°C to 60°C
- Operating humidity**
5% to 90%
- PoE Method**
Standard BT PD
- PoE standards supported**
IEEE802.3af/at/bt

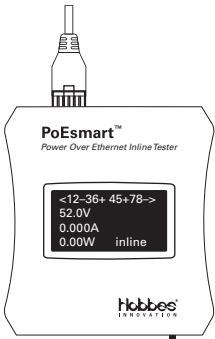
- Dimension**
74mm x 67.9mm x 25.3mm
- Weight**
75g

Operating Instructions



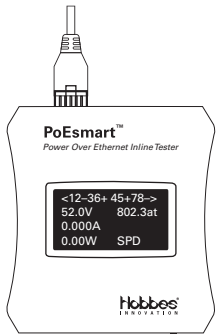
Testing PoE Non-Standard PSE

- 1. Switch the function button left to inline mode.**
PoEsmart will display the voltage, the polarity of the operated PoE data pair and spare pair. This indicates PSE is sending power without any handshake or negotiation process (Passive PoE).



2. Switch the function button right to SPD mode.

PoEsmart will display whether the PSE is a standard or non-standard UPoE. If OLED displays voltage from all four pairs and shows IEEE802.3af or IEEE802.3at standard, this indicates non-standard UPoE PSE.



Testing PoE Standard (PSE)

A. Simulate Powered Device

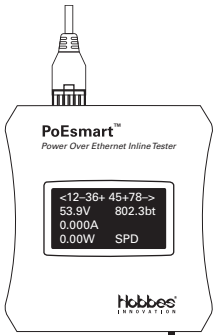
1. Switch the function button right to SPD mode.

2. Connect a PSE to the PoE IN port.

- PoEsmart displays the PoE is transferred by data pairs 1-2, 3-6, spare pairs 4-5, 7-8, or both data pairs and spare pairs 1-2, 3-6, 4-5, 7-8.
- PoEsmart displays the polarity of PoE data pair and spare pair.
- PoEsmart displays the PoE standard of PSE.
- PoEsmart displays the voltage delivered by PSE, but no current and power showed.

Remark

When testing PoE standard (PSE), function button must be set to SPD mode before connecting to PoEsmart.



B. Inline Test

1. Switch the function button right to SPD mode.

Remark

When connecting to standard PSE, it is normal for PoEsmart to not power on during the initial connection made if function button is set to inline mode. This indicates PoEsmart need to establish a handshake or negotiation process with PD (Active PoE).

2. Connect a PD to PoE OUT port.

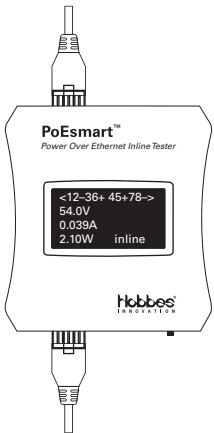
Remark

During inline testing, connecting PSE (PoE IN) prior to connecting a PD (PoE Out) may cause PoEsmart to shut down and reboot to establish a handshake or negotiation process with PSE.

3. Connect a PSE to PoE IN port.

4. Switch the function button from SPD mode to the left for inline mode.

PoEsmart will analyze PSE power supply status and display the voltage, current and power without interruption to the data flow.



Testing DC Power Supplies

1. Switch the function button left to inline mode.

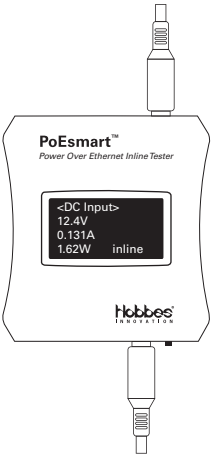
2. Connect a DC power supply to the DC input port to measure voltage.

3. Use the jumper cable from DC OUT port to your device to measure the current and power.

4. PoEsmart will show inline on the display when testing DC power supply.

Remark

When testing DC power supply, PoEsmart should only be set to inline mode.



OLED Display Explanation

OLED display is OFF: PSE is not distributing power presently or power failure.

Possible Causes:

- Connected to Non-PoE/Defective Port
- Defective Cable
- Defective PSE

OLED display is ON:

Under SPD mode: PoEsmart receives the signal and establishes a handshake or negotiation process with PSE.

Under inline mode: PoEsmart connected to a non-standard PSE without a handshake or negotiation process with PSE

12-36+: PSE is sending power through data pair 1-2 with negative electrode and pair 3-6 with positive electrode in Mode A endspan.

45+78-: PSE is sending power through spare pair 4-5 with positive electrode and pair 7-8 with negative electrode in Mode B midspan.

12-36+ 45+78-: PSE is sending power through both data pair 1-2 with negative electrode and pair 3-6 with positive electrode, and spare pair 4-5 with positive electrode and pair 7-8 with negative electrode in 4PPoE or 802.3bt.

48.0V: PSE is sending 48 volts to PoEsmart presently.

0.040A: PSE is sending 0.04 amps to PoEsmart presently

2.10W: PSE is sending 2.1 watts to PoEsmart presently.

802.3af: PSE is a standard IEEE802.3af equipment.

802.3at: PSE is a standard IEEE802.3at equipment.

802.3bt: PSE is a standard IEEE802.3bt equipment.

SPD: PoEsmart is on SPD (simulate Powered Device) mode

inline: PoEsmart is on inline mode.

NO LOAD: No PD connected to PoEsmart during Testing DC Power Supplies or when it's under inline test.