LevelOne

User Manual

PPM-1000

PoE Power Measurement

On-site PoE Power Measurement

PPM-1000 OVERVIEW

PPM-1000 is a handheld tester for the applications of Power over Ethernet (PoE). It performs on-site measurement of the running voltage and supplying power at the end of Ethernet cable terminal in any length for PoE PSE/PD devices which complies with IEEE802.3af.

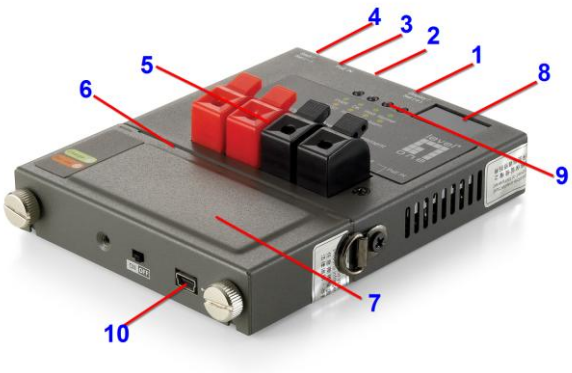
PPM-1000 provides for field engineer a convenient on-site tester with compact size to verify PoE, measure the voltage, and examine the maximum power from PSE to PD at the end point of the Ethernet cable.

Powered by replaceable and rechargeable battery, the portable PPM-1000 allows the technical personnel to test terminal for PD in the fields.

With 3-digit LED display, it shows the PoE status and the maximum power available from PSE. Pass/Fail LED indicators may inform technician the results instantly.

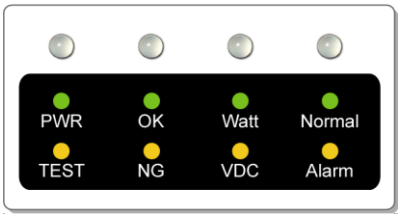
With built-in Terminal Block connectors, PPM-1000 is able to clamp and hold the bare wires of network cable for test before clamping into the RJ-45 connector. PPM-1000 is truly the best handy tool for the installation of PoE PD devices. With the tester, it shall successfully guarantee the PoE power provision to PD devices.

Mechanical Description



❶ Display/Set(+) Button	❷ Console Port (for upgrade)
❸ Network RJ45 UTP Port	❹ Start/Set(-) Button
❺ Power Probing Terminal	❻ USB Power Port
❼ External Battery Pack	❽ 3-Digit Display
❾ LED Indicators	❿ USB Port (charge battery)

❾ LED Indicators



❷ Console Port

Connect PPM-1000 to PC by console cable. Run HyperTerminal in Windows at 38400 bps (Baud Rate) to connect and open the default settings. Press Ctrl+C to enter main menu. Select A to check firmware version or B to update firmware with using X modem protocol.

Buttons and LED Indicators

Start/Set(-) Button：

Set the desire maximum power (Watt) for test:

Push and hold Start/Set(-) button for 3 seconds to enter for configuration of maximum power limit. It confirms with a beep sound and the 3-digit LED display start blinking. Press the Start/Set(-) or Start/Set(-) buttons to set the desired power limit Then, push and hold Start/Set(-) button for 3 seconds to exit the configuration stage.

Press once to start measurement and press again to finish the test procedure.

Display/Set(+) Button

Select options for displaying the Voltage, Power Consumption Limit and Temperature.

- While LED PWR/TEST is in orange during testing, the 3-digit Display shows the instantaneous power values.
- While LED PWR/TEST is in green, the 3-digit display will show the final result of power measurement.

Note that if the LED OK/NG is in green OK, it indicates the power from PSE is able to provide the desired power consumption limit; else LED OK/NG will be in orange NG, indicating the power is not enough for the PD requirement.

PWR/TEST LED

- When test is started, PWR/TEST LED is blinking orange
- When test is finished, PWR/TEST LED keeps orange
- When test is finished ready for next test, PWR/TEST LED keeps green

WATT/VDC LED

- When LED is in green, the 3-digit LED display shows the PoE power in unit of Watt.
- When LED is in orange, the 3-digit LED display shows the PoE DC voltage.
- When LED is off and Normal/Alarm LED is green, the 3-digit LED display shows the value of temperature.

OK/NG LED

- When LED is in green, it indicates the power from PSE is able to provide the desire maximum power to PD.
- When LED is in orange, it indicates the power is not enough to support the desire maximum power to PD.
- When LED is in blinking orange, the measurement is failed and the Current is too high (over 2A).
- When LED is off and Normal/Alarm LED is in orange, the measurement is failed and the device is over-temperature (over 100℃).

Normal/Alarm LED

- When LED is in green, the LED digits display shows the value of temperature
- When LED is in orange, the device is over-temperature (over 100℃).

Measurement Procedures

Hardware connection

Screw tightly the battery pack and connect the cable as the illustration. Switch power on at the bottom.
For cable bare wires, these can be clamped into Power Probing Terminal directly for Mode A (Power via Pin 1, 2, 3, 6) or Mode B (Power via Pin 4, 5, 7, 8) of IEEE802.3af standard.
Note: Network cable can not be connected to UTP port and Power Probing Terminal simultaneously.

Operation Procedure

1. To set desire maximum power from PSE to PD for test.
   Push and hold **Start/Set(-) Button** for 3 seconds to enter for configuration of maximum power limit. It confirms with a beep sound and the 3-digit LED display start blinking. Press the **Start/Set(-)** or **Start/Set(-)** buttons to set the desired power limit Then, push and hold Start/Set(-) button for 3 seconds to exit the configuration stage.
2. Press **Start/Set(-) Button** to start power measurement test.
   The **PWR/TEST LED** will start orange blinking, and the 3-digit LED display will show the changing power measurement. After the test is done, if the **OK/NG LED** is green ON, it indicates that the power from PSE could support the desire maximum power.
   If the **OK/NG LED** is orange ON, it indicates that the power from PSE could **NOT** support the desire maximum power.
   Note that if PPM-1000 is over 50°C, the test will be prohibited. Wait till it cools down for normal start. Once it starts testing, the tolerated temperature will be up to 100°C.
3. Press **Display/Set(+) Button** to show the real-time value or measurement results.
   - Show value of measurement results while the **PWR/TEST LED** is orange after test.
     Press once **Display/Set(+) Button** to show the value of power measurement when the **WATT/VDC LED** is green.
     Press again **Display/Set(+) Button** to show the value of DC voltage when the **WATT/VDC LED** is orange.
     Press again **Display/Set(+) Button** to show the device temperature when the **Normal/Alarm LED** is green.
   - Show real-time value (by pressing **Start/Set(-) Button)** while the **PWR/TEST LED** is green.
     Press once **Display/Set(+) Button** to show the value of power measurement when the **WATT/VDC LED** is green.
     Press again **Display/Set(+) Button** to show the value of DC voltage when the **WATT/VDC LED** is orange.
     Press again **Display/Set(+) Button** to show the device temperature when the **Normal/Alarm LED** is green.
4. Alarm notification
   When Normal/Alarm LED is orange ON, it indicates that PPM-1000 is over-temperature (over 100℃). Please stop the measurement until the device is cool down below 50°C.

Specifications

Detection Range:	• Watt: 0~96W • Voltage: 24~60V (Over 40V is required initially.) • Current: 0~2A
Overload Protection:	Polyswitch over current protection
Operation Temp:	-20°C ~ 50°C
Humility:	0% ~ 85% RH
Power:	• External Battery Pack • Provide 7 hours of standby time, shorter if operations keep going.
Battery Pack:	• Li-Ion, 2,400 mAh, 3.7 V, • Charged by USB cable • Charge Time: 3~4 hours