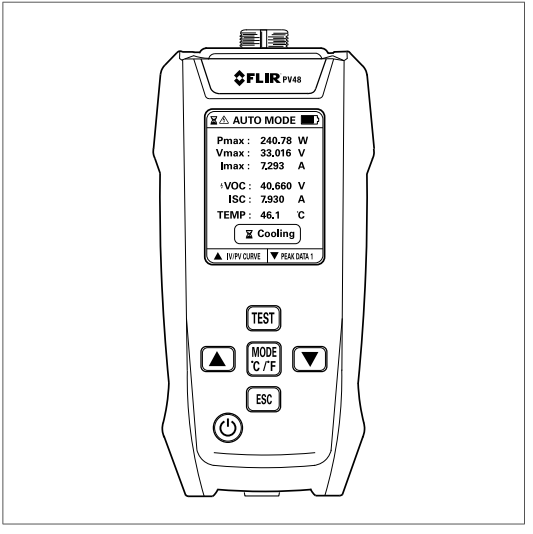
Quick Start

Solar Panel I-V Curve Tracer

MODEL PV48



Quick Start (en)

INTRODUCTION

Thank you for selecting the FLIR PV48 Solar Panel I-V Curve Tracer. The PV48 measures the maximum power output of a solar panel. The greater the power output, for any given sunlight intensity, the better the performance of the panel.

For complete instructions download the user manual from the FLIR support site.

flir.custhelp.com

SAFETY

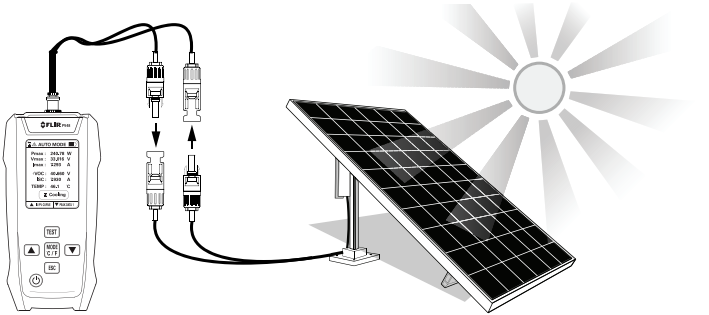
WARNING
To avoid electrical shock, use caution when working with voltages > 35 V DC.
Do not exceed the maximum rated input limits.
Do not measure solar panels with a power output > 800 W.
Do not measure solar panels with a voltage > 60 V.
Do not measure solar panels with a current > 30 A.

QUICK STEPS

1. Short press the power button ⏻ to switch the tracer ON.
2. Connect one of the supplied probes to the socket at the top of the tracer. Carefully align the connector pins and the connector key, insert the probe, and tighten the locking nut.
3. Connect the probes to the positive and negative terminals on the solar panel (see image in next section). Observe correct polarity, an alert message will appear if the polarity is reversed.
4. When the tracer is ready (check mark ⊘ shown), short press the TEST button.
5. The test icon ⊙ will appear on the upper left. The warning icon ⚠ will appear if voltage is detected.
6. The hourglass ⧗ appears when the test is done and switches off after the test data is processed.
7. Interpret the test results as shown in the Home screen section, below.
8. Use the arrows to select another mode (see Advanced Modes section, below).

PROBE CONSIDERATIONS

Use the supplied photovoltaic cables when the solar panel has matching mating connectors, as shown below. Use the Kelvin clips when connecting directly to the solar panel circuitry.



RECHARGEABLE BATTERY

The battery status icon ▮ is shown on the upper right of the display.

To recharge the battery, connect the supplied USB cable to the bottom of the meter and to a 5 V charger. The meter can be ON or OFF while charging.

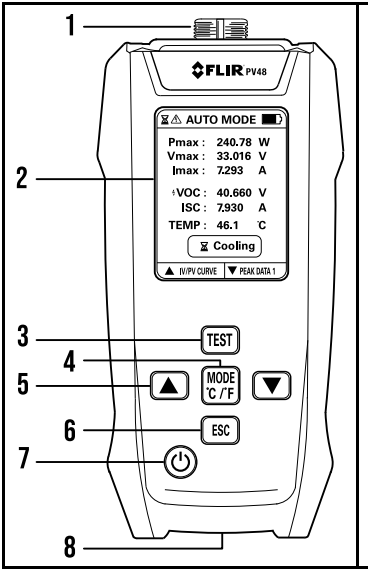
ADVANCED MODES

The arrow buttons are used to step through the modes. Refer to the user manual for complete instructions.

- Batch mode: Quickly analyze 10 readings.
- Peak Data mode: Log 30 readings.
- IV/PV curve: Plot power, voltage, and current, graphically.
- Manual mode: Optimize measurement accuracy on low power solar panels (< 100 W).

PRODUCT DESCRIPTION

TRACER

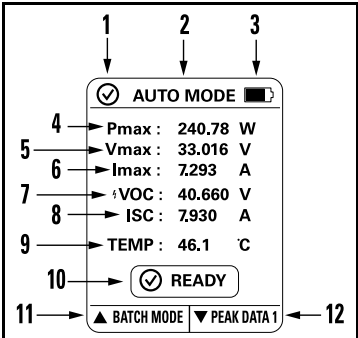


1. Probe socket.
2. Display.
3. Test start button.
4. Mode (short press) and Units (long press) button.
5. Up and down arrow buttons (to select other modes and to make adjustments in manual mode).
6. Escape button (to return to Home screen).
7. Power ON (short press) and OFF (long press) button.
8. USB-C port and tripod mount.

BUTTONS

⏻	Short press to switch ON. Long press to switch OFF.
MODE °C/°F	Short press to toggle automatic and manual modes. Long press to change temperature units.
▲▼	In automatic mode, select mode (Batch, Peak Data, IV/PV Curve). In manual mode, adjust the power scale.
TEST	Short press to start a test.
ESC	Short press to return to the Home screen.

HOME SCREEN



1. Tracer is ready to test.
2. Automatic mode.
3. Battery status.
4. Max. power measurement.
5. Max. voltage at maximum power.
6. Max. current at maximum power.
7. Open circuit voltage.
8. Short circuit current.
9. Temperature measurement.
10. Tracer is ready to test.
11. Use arrow buttons to select modes.
12. Use arrow buttons to select modes.

DISPLAY ICONS

	Battery status (lightning icon shown while charging).
	Ready to test.
	Actively testing.
	Detecting voltage.
	Processing test data or cooling.
	High temperature. Allow tracer to cool.
	Measurement overload.
	Voltage > 1 V DC detected.

SPECIFICATIONS

General Specifications

Temp. protection	140°F (60°C) maximum
Power supply	Rechargeable lithium-ion battery, 3.7 V, 1000 mAh
Battery charging	5 V (500 mA)
Operating temperature	14 to 122°F (-10 to 50°C)
Storage temperature	14 to 140°F (-10 to 60°C)
Operating humidity	< 80 % RH
Dimensions	6.0 x 2.8 x 1.5 in. (151.6 x 72.5 x 38 mm)

Electrical Specifications

Function	**Range**	**Accuracy** (of reading)
Open Circuit Voltage (V_{OC})	0 to 60 V	±1%
Short circuit current (I_{sc})	0 to 30 A	±1%
Max. power point (P_{max})	0 to 800 W	±5%
Max. power point voltage (V_{max})	0 to 60 V	±5%
Max. power point current (I_{max})	0 to 30 A	±5%

CUSTOMER SUPPORT

Customer Support Telephone List	https://support.flir.com/contact
Repair, Calibration, and Technical Support	https://support.flir.com

WARRANTY

This product is protected by FLIR's Limited 3-Year Warranty. Visit www.flir.com/testwarranty to read the warranty document.

Quick Start

Website
http://www.flir.com

Customer support
http://support.flir.com

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Publ. No.: NAS100245
Release: AA
Commit: 102100
Head: 102118
Language: en-US
Modified: 2025-01-30
Formatted: 2025-01-30

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PAP