

PV150

The fast and simple PV tester.



The Seaward **PV150** Solar Installation Tester allows electrical safety and performance verification of photovoltaic installations in a safe and easy-to-use device.

Transforming the way PV systems are tested, the **PV150** combines ground continuity, DC operating power and operating current test functions in a hand-held device. It can also test insulation resistance, open circuit voltage and short circuit current at the push of a button. The unit can also wirelessly capture and record real time irradiance, ambient temperature and PV module temperature measurements from the Solar Survey 200R.

The **PV150** has memory to store up to 200 complete test records with USB connectivity to enable these to be quickly and easily downloaded to a PC. Professional test certificates and reports can also be created when used with Seaward's SolarCert software.

These are just a few of the reasons we believe you'll want to invest in our **PV150**.

Why buy the PV150?

- > **Easy to use** – single key testing and measurement.
- > **Small and compact** – hand held, rugged and robust device.
- > **Safe test connection** – safely test energized PV arrays.
- > **Easy to manage data** – on board memory for test records with PC download.
- > **Combines PV commissioning tests** – required by IEC 62446.
- > **Free online product training and support.**

To see the **PV150** for yourself, request your live online demonstration today at sewardsolar.com/PV150

T: +44 (0) 191 587 8741 E: sales@seaward.com

TESTED, TRUSTED... WORLDWIDE.



SEAWARD
ELECTRICAL SAFETY TESTING & MEASURING.

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Key Features:

- > Ground (earth) continuity measurement with test lead null for long test-leads.
- > PV string open circuit voltage measurement up to 1000V DC with polarity indication.
- > PV string short circuit current measurement up to 15A DC.
- > PV array insulation test at 250/500/1000V.
- > Tests individual PV modules or strings.
- > Memory for up to 200 records and USB download to PC (CSV file).
- > High contrast display, visible in bright light.
- > 2 x MC4 test lead adaptors.
- > 2 x Combiner box test probes and detachable alligator clips (MC4).
- > 2 x Test leads, with test probes and detachable alligator clips (4mm).
- > AC/DC current clamp.
- > Solar Survey 200R irradiance meter and temperature probe.
- > Solar Survey 200R mounting bracket
- > Rugged carry bag.
- > Quick Start Guide.
- > UKAS Calibration Certificate (PV150).
- > SolarCert PC Software.

Complete Kit Includes:

- > Seaward Solar Installation PV150 instrument.

Optional Accessories:

- > Solar Power Clamp.
- > MC4 fused / unfused test leads.

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Technical Specification:

Open Circuit Voltage Measurement (PV Terminals)

Display Range	0.0VDC - 1000VDC
Measuring Range	5.0VDC - 1000VDC
Resolution	0.1VDC maximum
Accuracy	$\pm (0.5 \% + 2 \text{ digits})$
Enunciators	DC voltage polarity correct or reversed

Short Circuit Current Measurement (PV Terminals)

Display Range	0.00ADC - 15.00ADC
Measuring Range	0.50ADC - 15.00ADC
Maximum Power	10kW
Resolution	0.01ADC maximum
Accuracy	$\pm (1\% + 2 \text{ digits})$

Earth Continuity Resistance Measurement (4mm Terminals)

Test Voltage Open Circuit	$>4\text{VDC}$, nominal
Test Current into 2Ω	$>200\text{mA}$
Display Range	$0.00\Omega - 199\Omega$
Measuring Range (EN 61557-4)	$0.05\Omega - 199\Omega$
Resolution	0.01Ω maximum
Accuracy	$\pm (2\% + 5 \text{ digits})$
Test Leads Zero	Zero up to 10Ω , by zero button
Visible Warning	$\geq 30\text{V AC}$ or DC at inputs
Circuitry Protection	Test inhibited if $\geq 30\text{V AC}$ or DC at inputs
Repeat tests as per IEC61557-4	Approx 4000 1 second test

Insulation Resistance (Auto Test Sequence, PV Terminals and Red 4mm Terminal)

Test Voltage Open Circuit	250V, 500V, 1000V (as per IEC61557-2)
Test Voltage Specification	-0% +20% (open circuit)
Test Voltage @ 1mA	$>1\text{mA}$ into $U_n \times (1000\Omega/\text{V})$
Test Current Short Circuit	$<2\text{mA}$
Display Range	$0.05\text{M}\Omega - 199\text{M}\Omega$



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Insulation Resistance (Auto Test Sequence, PV Terminals and Red 4mm Terminal Continued...

Measuring Range (EN 61557-2)	0.05M Ω - 199M Ω
Resolution	0.01M Ω maximum
Accuracy	0.05M Ω - 100M Ω \pm (5% + 5 digits) 101M Ω - 199M Ω \pm (10% + 5 digits)
Visible Warning	\geq 30V AC or DC at inputs
Circuitry Protection	Test inhibited if \geq 30V AC or DC at inputs
Repeat tests as per IEC61557-4	Approx 3000 1 second tests

Rpe Voltage Measurement (4mm Terminals)

Display Range	30V - 440VAC/DC
Voltage Measuring Range	30V - 440VDC 30V - 440VAC 50-60Hz
Resolution	1V
Accuracy	\pm (5% + 2 digits)

Operating Current (via AC/DC Current Clamp)

Display Range	0.1A - 40.0A
Current Measuring Range	0.1A - 40.0A DC 0.1A - 40.0A AC 50-60Hz
Resolution	0.1A
Accuracy	\pm (5% + 2 digits)

DC Operating Power (via AC/DC Current Clamp and PV Terminals)

Display Range	0.00kW - 40kW
Measuring Range	0.50kW - 40kW
Resolution	0.01kW
Accuracy	\pm (5% + 5 digits)



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General Specification:

Instrument Dimensions and Weight

Weight	0.95kg / 2.11lb
Dimensions	26.4 x 10.7 x 5.8cm / 10.4 x 4.2 x 2.3"
Display	Custom LCD with backlight
Power Source	6 x 1.5V AA cells
Battery life	>1000 test sequences
Auto power down	User programmable
Onboard memory	Up to 200 complete test datasets

Connectivity

- USB download to PC (CSV format)
- Wireless "Solarlink TM" to Survey 200R (range ~30m/100ft)

Software compatibility

Compatible with SolarCert software (English language only)

Service

2 year warranty (subject to terms and conditions, available at www.seawardsolar.com/warranty)

Part Numbers:

PV150 Complete Kit (including instrument, Solar Survey 200R and SolarCert software*):

PV150 instrument, 2 x MC4 test lead adaptors, 2 x combiner box test probes and detachable alligator clips (MC4), 2 x test leads with test probes and detachable alligator clips (4mm), AD/DC current clamp, Solar Survey 200R irradiance meter and temperature probe, Solar Survey 200R mounting bracket, rugged carry bag, quick start guides, UKAS Calibration Certificate (PV150), 2 year warranty, SolarCert PC software*.

*note, String Data Report in SolarCert is not applicable (PV200/PV210 only).

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Rev 2

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