

PV200

The most compact I-V curve tracer around.



THORNE &
DERRICK
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com



The **PV200** is a compact & cost effective I-V curve tracer that uses simple push button operation making it an efficient and versatile tester for PV systems. 999 datasets can be stored on the instrument and once downloaded to the SolarCert software comparison to the standard test conditions can be made.

The tester measures ground (earth) continuity, open circuit voltage, short circuit current, maximum power point voltage, current and power (with AC/DC clamp). The instrument will also give you the fill factor of the PV module or system under test.

The PV200 has a separate 1kV insulation resistance test function, eliminating the need for a separate, expensive device. Meanwhile the high contrast display on the device is clearly visible in direct sunlight.

The unit can also wirelessly capture and record real-time irradiance, ambient temperature and PV module temperature from the Solar Survey 200R. Using the Solar Survey 200R your data can be converted to standard test conditions, in SolarCerts, for you to compare to the manufacturer's published data.

These are just a few of the reasons we believe you'll want to invest in our **PV200**.

Why buy the PV200?

- > **Small and Compact** - Robust, affordable, handheld PV diagnostic tool.
- > **Compliant** - with IEC 62446 and IEC 61829.
- > **Fast and accurate testing** - 1 button operation makes testing quicker and more controlled.
- > **Compare to standard test conditions** - Using the SolarCert software.
- > **Instantly view detailed I-V curves anywhere** - Using the PVMobile Android app.
- > **Free online product training and support.**

To see the **PV200** for yourself, request your live online demonstration today at sewardsolar.com/PV200

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

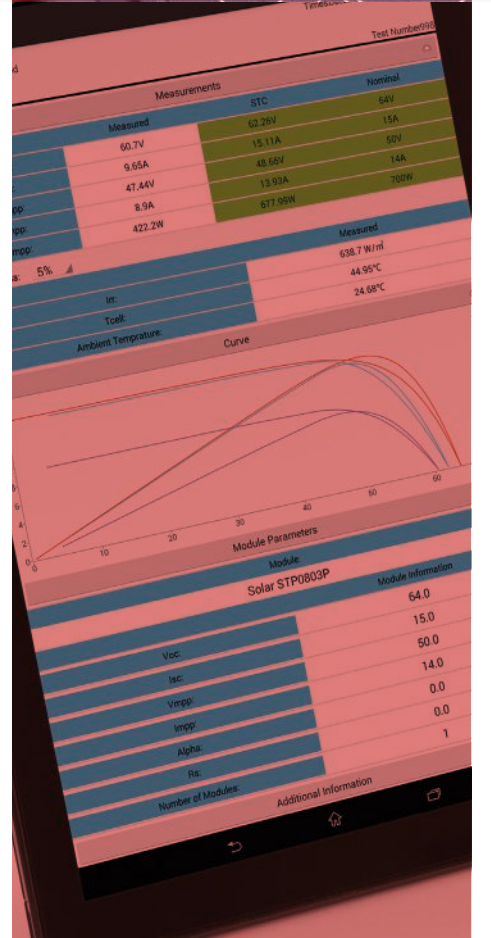
TESTED, TRUSTED... WORLDWIDE.



SEAWARD
ELECTRICAL SAFETY TESTING & MEASURING.

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Key Features:

- > All-in-one commissioning tests and I-V curve tracing.
- > Automatic fill factor calculation.
- > Ground (earth) continuity measurement with test lead null.
- > PV string open circuit and maximum power point voltage measurements up to 1000V DC.
- > PV string short current up to 15ADC.
- > PV array insulation test at 250/500/1000V.
- > Tests individual PV modules or strings.
- > Memory for up to 999 records with USB download to PC.
- > Instant NFC data transfer using the PVMobile app.
- > High contrast display, visible in bright light.

Complete Kit includes:

- > Seaward Installation PV200 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).
- > 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 (PV200).
- > 2 year warranty.
- > SolarCert PC software.

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	± (0.5 % + 2 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	± (1% + 2 digits)

Earth Continuity Resistance Measurement (4mm Terminals)

Test Voltage Open Circuit	>4VDC, nominal
Test Current into 2 Ω	>200mA
Display Range	0.00Ω - 199Ω
Measuring Range (EN 61557-4)	0.05Ω - 199Ω
Resolution	0.01Ω maximum
Accuracy	± (2% + 5 digits)
Test Leads Zero	Zero up to 10Ω, by zero button
Visible Warning	≥30V AC or DC at inputs
Circuitry Protection	Test inhibited if ≥30V 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	>1mA into $U_n \times (1000\Omega/V)$
Test Current Short Circuit	<2mA
Display Range	0.05MΩ - 200MΩ

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

Measuring Range (EN 61557-2)	0.05M Ω - 200M Ω
Resolution	0.01 M Ω maximum
Accuracy	0.05M Ω - 100M Ω \pm (5% + 5 digits) 101M Ω - 200M 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 4000 1 second tests

Insulation Resistance (Point to Point, 4mm Terminals)

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	0.05M Ω - 300M Ω
Measuring Range (EN 61557-2)	0.05M Ω - 300M Ω
Resolution	0.01M Ω maximum
Accuracy	\pm (5% + 5 digits)
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 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

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Operating Current (via AC/DC Current Clamp)

Continued...

Resolution	0.1A
Accuracy	± (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	0.01 kW
Accuracy	± (5% + 5 digits)

General Specification:

Instrument Dimensions and Weight

Weight	1.04kg / 2.31lb
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 999 complete test datasets

Connectivity

USB download to PC (CSV format)
Wireless "Solarlink TM" to Survey 200R (range ~30m/100ft)
NFC transfer of data to PVMobile Android App
iOS device not supported

App compatibility

Compatible with Android version 4.2 Jelly Bean
iOS devices not supported

Software compatibility

Compatible with SolarCert software (English language only)
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Service

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

Part Numbers:

PV200 Complete Kit (including instrument, Solar Survey 200R and SolarCert software):

PV200 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), AC/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 (PV200), 2 year warranty, SolarCert PC software.

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