

PV210

The most compact I-V curve tracer around.



The **PV210** is a compact & cost effective I-V curve tracer that utilizes NFC technology, eliminating the need for a laptop on site. I-V curve tracing is made fast with simple push button operation; making the **PV210** an efficient and versatile tester for PV systems.

The tester measures ground continuity, open circuit voltage, short circuit current, maximum power point voltage, current and power. The instrument will also give you the fill factor of the PV module or system under test.

The **PV210** has a separate 1kV meggering function, eliminating the need for a separate, expensive device. Meanwhile the high contrast display on the device is clearly visible in direct sunlight, so you can test in any conditions without slowing down.

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 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 **PV210**.

Why buy the PV210?

- > **Free online product training and support.**
- > **Small and Compact** – Robust, affordable, handheld PV diagnostic tool.
- > **Fully Compliant** – Complies with IEC 62446 and IEC 61829.
- > **Fast and accurate testing** – 1 button operation makes testing quicker and more controlled.
- > **Instantly view detailed I-V curves anywhere** – using the PVMobile Android app.
- > **User definable pass + fail to +10 %** – using the PVMobile Android app.

To see the **PV210** for yourself, request your live online demonstration today at seaward-groupusa.com/PV210

T: +1 813 886 2775 E: sales@seaward-groupusa.com

TESTED, TRUSTED... WORLDWIDE.



SEAWARD
ELECTRICAL SAFETY TESTING & MEASURING.

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Key Features:

- > Instant NFC data transfer using the PVMobile app.
- > All-in-one commissioning tests and I-V curve tracing.
- > Automatic fill factor calculation.
- > Ground 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 15A DC.
- > PV array insulation test at 250/500/1000V.
- > Tests individual PV modules or strings.
- > Memory for up to 999 records and USB download to PC.
- > High contrast display, visible in bright light.

Complete Kit includes:

- > Seaward Installation PV210 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 (PV210).
- > 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	0.01 M Ω maximum
Accuracy	\pm (5% + 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

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	0.01kW
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)

Service

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

Part Numbers:

PV210 Complete Kit (including instrument, Solar Survey 200R and SolarCert software):

PV210 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 (PV210), 2 year warranty, SolarCert PC software.

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