**SEAWARD SOLAR PV150 INSTALLATION TESTER**

**INTRODUCTION**

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.

**KEY FEATURES:**

1. Ground (earth) continuity measurement with test lead null for long test-leads.
2. PV string open circuit voltage measurement up to 1000V DC with polarity indication.
3. PV string short circuit current measurement up to 15A DC.
4. PV array insulation test at 250/500/1000V.
5. Tests individual PV modules or strings.
6. Memory for up to 200 records and USB download to PC (CSV file).
7. High contrast display, visible in bright light.

 **COMPLETE KIT INCLUDES:**

1. Seaward Solar Installation PV150 instrument.
2. 2 x MC4 test lead adaptors.
3. 2 x Combiner box test probes and detachable alligator clips (MC4).
4. 2 x Test leads, with test probes and detachable alligator clips (4mm).
5. AC/DC current clamp.
6. Solar Survey 200R irradiance meter and temperature probe.
7. Solar Survey 200R mounting bracket
8. Rugged carry bag.
9. Quick Start Guide.
10. UKAS Calibration Certificate (PV150).
11. SolarCert PC Software
12. Solar Power Clamp.
13. MC4 fused / unfused test leads.

**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 UN x (1000Ω/V)

Test Current Short Circuit

Measuring Range (EN 61557-2) 0.05MΩ - 199MΩ

Resolution 0.01MΩ maximum

Accuracy 0.05MΩ - 100MΩ ± (5% + 5 digits) 101MΩ - 199MΩ ± (10% + 5 digits)

 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. 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 ± (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 ± (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**:

1. Weight 0.95kg / 2.1lb
2. Dimensions 26.4 x 10.7 x 5.8cm / 10.4 x 4.2 x 2.3”
3. Display Custom LCD with backlight
4. Power Source 6 x 1.5V AA cells
5. Battery life >1000 test sequences
6. Auto power down User programmable
7. On-board memory Up to 200 complete test datasets
8. Connectivity USB download to PC (CSV format)
9. Wireless “Solar link TM” to Survey 200R (range ~30m/100ft)
10. Software compatibility
11. Compatible with SolarCert software (English language only)
12. Service 2 year warranty