

# PV150 Solar Installation Test Kit



The world's first all-inclusive solar PV specific installation electrical safety and performance testing kit, now with Solarlink™ and USB connectivity.

The PV150 Solar Installation Test Kit includes all of the tools needed to determine the electrical safety and performance of photovoltaic installations in line with international requirements (IEC 62446).

The kit is based around the Solar Installation PV150, which combines all test functions required to meet international standards into one safe, easy-to-use, hand-held device. The addition of USB and wireless Solarlink™ connectivity makes the PV150 the most versatile, safe and technically advanced solar PV tester on the market.

Transforming the way that PV systems are tested, the PV150 combines ground continuity, insulation resistance, open circuit voltage, short circuit current, operating current (using supplied AC/DC current) and DC operating power test functions into one handheld unit. The kit includes MC4 and Sunclix test adaptors which enable quick, safe and easy connection of the tester to the PV modules, strings or array.

As well as a comprehensive range of electrical test functions, 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. When coupled with Seaward's SolarCert Elements software program (supplied separately) professional test certificates and reports can be created.

The PV150 tester features new Solarlink™ connectivity which further improves the versatility of the instrument. Using Seaward Solarlink™, the PV150 can wirelessly capture and record real-time irradiance, ambient temperature and PV module temperature measurements from the Solar Survey 200R (supplied separately). This means that you can take all measurements, as required by IEC 62446 standards, simultaneously.

## KEY FEATURES:

Combines all commissioning tests required by the international IEC 62446 standard

Memory for up to 200 records

USB download to PC

Featuring new Seaward Solarlink™

Single key testing and measurement

Safe test connection with energized PV arrays

Ground continuity measurement

Ground test lead null (up to 10Ω) for long test-lead

PV string open circuit voltage measurement up to 1000V DC

Open circuit voltage polarity indication

PV string short circuit current measurement up to 15A DC

PV array insulation test at 250/500/1000V

Rugged and robust

## What is IEC 62446?

IEC 62446: 2009 Grid connected PV systems – minimum requirements for system documentation, commissioning tests, and inspection.

In short the standard sets out measures to ensure that:

- The PV panels and electrical supply connections have been wired up correctly
- That the electrical insulation is good
- The protective ground connection is as it should be
- There has been no damage to cables during installation
- That the PV installation performance is as expected

### **KIT INCLUDES:**

■ Seaward Solar Installation  
PV150 Tester

■ 2 x MC4 test lead adaptors

■ 2 x Sunclix test lead adaptors

■ Test lead, red, with test probe  
and detachable alligator clip

■ Test lead, black, with test probe  
and detachable alligator clip

■ AC/DC current clamp

■ Rugged carry bag

■ Quick Start Guide

■ Support CD Rom

■ UKAS Calibration Certificate

**TECHNICAL SPECIFICATION:**
**GROUND CONTINUITY**

Display Range	0.00Ω to 199Ω
Measuring Range	0.01Ω to 199Ω
Resolution	0.01Ω maximum
Open Circuit Test Voltage	4VDC, nominal
Short Circuit Test Current	>200mA (as per IEC 61557-4)
Test Lead Compensation	Zero out up to 10Ω
User Protection	Warning and test inhibited if ≥ 30V AC/DC detected at inputs

**INSULATION RESISTANCE**

Display Range	0.05MΩ to 199MΩ
Measuring Range	0.05MΩ to 199MΩ
Resolution	0.01MΩ maximum
Open Circuit Test Voltage	250V, 500V, 1000VDC (as per IEC 61557-2)
Short Circuit Test Current	>1mA, <2mA s/c as per IEC 61557-2
Visible Warning	≥ 30V AC or DC at inputs

**OPEN CIRCUIT VOLTAGE**

Display Range	0.0VDC to 1000VDC
Measuring Range	5.0VDC to 1000VDC
Resolution	0.1V maximum
Enunciators	DC voltage polarity correct or reversed

**SHORT CIRCUIT CURRENT**

Display Range	0.0ADC – 15.00ADC
Measurement Range	0.5ADC – 15.00ADC
Resolution	0.01A

**OPERATING CURRENT (USING AC/DC CURRENT CLAMP)**

Display Range	0.0A – 40A
Measurement Range	0.5A – 40A
Resolution	0.1A max

**DC OPERATING POWER**

Display range	0.0kW – 40.0kW
Measurement ranges	0.1kW – 40.0kW
Resolution	0.1kW

**DATALOGGING AND CONNECTIVITY**

Datalogging	Up to 200 complete test datasets Download utility software included Compatible with SolarCert Elements software (version 1.1)
Connectivity	USB download to PC Wireless 'Solarlink™' to Survey 200R (range c. 100m / 330ft)

**GENERAL SPECIFICATIONS**

Display	Custom LCD with backlight
Power Supply	6 x 1.5V Alkaline LR06
Battery Life	>1000 test sequences
Auto Power Down	User programmable

**ADDITIONAL INFORMATION**

Warranty Period	2 years
Calibration Interval	1 year
	<b>UKAS Calibration Certificate supplied as standard</b>

Part No: 388A913

Rev 1

**ACCESSORIES: (optional)**

MC3 test lead adaptors

Tyco (TE) Sunlok test lead adaptors

Fused test leads - 1 pair of fused red and black test probes with alligator clips

SolarTags

PV Inspection &amp; Test Report and PV System Verification Certificate Pads

Seaward, Bracken Hill, South West Industrial Estate, Peterlee, County Durham SR8 2SW United Kingdom

**Tel:** +44 (0) 191 586 3511

**Fax:** +44 (0) 191 586 0227

**Email:** sales@seaward.co.uk