



PV:1525

Handheld 1500 V 25 A
PV Test Instrument



The PV:1525 is designed for installers and O&M engineers to allow electrical safety testing and performance measures in PV systems up to 1500 V_{DC} and 25 A_{DC}, which is ideal for residential and commercial level installations.

The PV:1525 performs ground continuity, insulation resistance, open circuit voltage, and short circuit current tests.

With a new innovative user interface, the PV:1525 retains the ease of use from the previous generation while adding

additional features fit for a modern test instrument. Results can be tagged with information relating to the installation for ease of data management.

With Bluetooth® capabilities, test results can easily be transferred to a mobile app, PV:Sync Mobile (available for iOS and Android™), for review and exported for further sync with SolarCert software. Over-the-Air updates via the app ensure your instrument is always up to date with the latest features.

Key Measurement Features:

- > PV string open circuit voltage measurement up to 1500 V_{DC}
- > PV string short circuit current up to 25 A_{DC}
- > Insulation resistance voltage up to 1500 V_{DC}

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Key Features:

- > Bluetooth® data transfer to new PV:Sync Mobile app
- > Wireless updates – firmware changes can be applied to the device via the PV:Sync Mobile app
- > Intuitive color display
- > Illuminated function buttons allow for guided navigation and testing
- > Internal memory for results storage
- > Manual mode for diagnostic testing

Technical Specification:

Open Circuit Voltage and Voltage Measurement (PV Terminals)

Display range	+10.0 V _{DC} ... +1500 V _{DC} -10.0 V _{DC} ... -440 V _{DC}
Measuring range	10.0 V _{AC} ... 440 V _{AC} +10.0 V _{DC} ... +1500 V _{DC} -10.0 V _{DC} ... -440 V _{DC} 10.0 V _{AC} ... 440 V _{AC}
Resolution	0.1 V _{DC} maximum
Accuracy	for +DC: ± (0.5 % + 2 digits) for -DC and AC: ± (5 % + 2 digits)

Short Circuit Current Measurement (PV Terminals)

Display range	0.00 A _{DC} ... 25.00 A _{DC}
Measuring range	0.50 A _{DC} ... 25.00 A _{DC}
Maximum power	37.5 kW
Resolution	0.01 A _{DC} maximum
Accuracy	± (1 % + 2 digits)

Maximum Power

Maximum power rating	37.5 kW
Voltage	1500 V _{DC}
Current	25 A _{DC}

Earth Continuity / Resistance Measurement

Test voltage open circuit	> 4 V _{DC} , nominal
Test current into 2 Ω	> 200 mA
Display range	0.00 Ω ... 199 Ω
Measuring range (IEC 61557-4)	0.05 Ω ... 199 Ω
Resolution	0.01 Ω maximum
Accuracy	0.05 Ω ... 0.09 Ω ± (2 % + 1 digit) 0.10 Ω ... 0.19 Ω ± (2 % + 2 digits) 0.20 Ω ... 1.99 Ω ± (2 % + 3 digits) 2.0 Ω ... 4.9 Ω ± (2 % + 2 digits) 5.0 Ω ... 199 Ω ± (2 % + 5 digits)
Test leads zero	Zero up to 10 Ω
Visible warning	≥ 30 V _{AC} or V _{DC} at inputs
Circuitry protection	Test inhibited if ≥ 30 V _{AC} or V _{DC} at inputs
Repeat tests as per IEC 61557-4	Approx. 4000 1-second tests

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Technical Specification (Continued):

Insulation Resistance Measurement

Test voltage open circuit	250 V, 500 V, 1000 V, 1500 V (as per IEC 61557-2)
Test voltage specification	-0 % +20 % (open circuit)
Test current short circuit	< 2 mA
Test voltage at 1 mA	> 1 mA into $U_n \times (1000 \Omega/V)$ (as per IEC 61557-2)
Display range	0.05 M Ω ... 999 M Ω
Measuring range (IEC 61557-2)	250 V / 500 V string mode: 0.05 M Ω ... 200 M Ω 1 kV / 1.5 kV string mode: 0.05 M Ω ... 999 M Ω 250 V point to point: 0.05 M Ω ... 300 M Ω 500 V point to point: 0.05 M Ω ... 500 M Ω 1 kV / 1.5 kV point to point: 0.05 M Ω ... 999 M Ω
Resistance resolution	0.01 M Ω for 0.05 M Ω ... 1.99 M Ω 0.1 M Ω for 2.0 M Ω ... 19.9 M Ω 1 M Ω for 20 M Ω ... 999 M Ω
Resistance accuracy	$\pm(5\% + 1 \text{ digit})$ for 0.05 M Ω ... 0.19 M Ω $\pm(5\% + 3 \text{ digit})$ for 0.20 M Ω ... 1.99 M Ω $\pm(5\% + 2 \text{ digit})$ for 2.0 M Ω ... 5.0 M Ω $\pm(5\% + 5 \text{ digit})$ for 5.1 M Ω ... 99 M Ω $\pm(10\% + 5 \text{ digit})$ for > 99 M Ω
Insulation voltage resolution	1 V
Insulation voltage accuracy	$\pm(2\% + 2 \text{ counts})$
Maximum system capacitance	2 μ F
Visible warning	$\geq 30 V_{AC}$ or V_{DC} at inputs
Repeat tests as per IEC 61557-2	Approx. 4000 1-second tests

Operating Current (Wireless via PV:1500 Clamp)

Display range	0.1 A _{DC} ... 400.0 A _{DC}
Current measuring range	0.1 A _{DC} ... 400.0 A _{DC}
Resolution	0.1 A
Accuracy	$\pm(5\% + 2 \text{ digits})$

Operating Power (PV Terminals & Wireless via PV:1500 Clamp)

Display range	0.00 kW ... 600 kW
Measuring range	0.50 kW ... 600 kW
Resolution	0.01 kW
Accuracy	$\pm(6\% + 2 \text{ digits})$

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General Specification:

Mechanical Design

Weight	Approx. 1 kg / 2.2 lb
Dimensions	265 mm × 115 mm × 78 mm 10.4" × 4.6" × 3.1"
Display type	3.5" color display with backlight
Display resolution	480 × 320 pixels
Display FOV	70° left to right 60° top to bottom
Power source	11.55 V 2930 mAH lithium ion battery (rechargeable)
Auto power down	User-configurable
Onboard memory	1000 slots

Environmental Conditions

Environment	Dry, without moisture condensation Indoor or outdoor use
Operating temperature	+5 °C ... +40 °C / +41 °F ... +104 °F
Barometric elevation	Max. 2000 m / 6562 ft.
Storage	-25 °C ... +65 °C / -13 °F ... +149 °F; dry, without moisture condensation; without battery pack

Electrical Safety

Overvoltage category	IEC 61010-01 CAT III / 1500 V
Pollution degree	2 (as per IEC 61010-1)
Protective system	Housing: IP40 as per IEC 60529 (Protection against ingress of solid foreign objects: = 1.0 mm / 0.039" Ø; protection against ingress of water: not protected)
Protection category	II

Electromagnetic Compatibility (EMC)

Interference emission	IEC 61326-1, class A
Interference immunity	IEC 61326-1

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Data Interfaces:

Bluetooth® LE

Frequency band	2402 MHz ... 2480 MHz
Transmit power range	20 dBm
Modulation type	GFSK
Channel spacing	2 MHz
Radio spectrum efficiency (Art. 3.2)	STSI EN 300 328 V2.2.2
Antenna type and gain	PCB antenna, 3.26 dBi
Usage	Transfer of test data; connection to peripherals, software updates

Long-Range RF

Frequency band	433.375 MHz
Transmit power range	4.89 dBm ERP
Modulation type	CSS
Channel spacing	125 kHz
Radio spectrum efficiency (Art. 3.2)	ETSI EN 300 220-2 V3.2.1
Antenna type and gain	FPC antenna, 2.8 dBi peak gain
Usage	Connect to SS:200LR Wireless Irradiance Meter

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Scope of Delivery

PV:1525 Complete Kit

- > 1 × PV:1525 instrument
- > 1 × Set 4 mm test probes (red, black and yellow) with alligator clips
- > 1 × Set instrument to MC4 test leads (yellow and black)
- > 1 × Rechargeable battery pack
- > 1 × Battery charging cradle
- > 1 × Quick Start Guide PV:1525
- > 1 × Calibration certificate PV:1525
- > 2 × Declaration (CE, UKCA)
- > 1 × PV:1500 Clamp**
- > 1 × SS:200LR Irradiance Meter**
- > 1 × Solar Survey – Quick release panel mounting bracket
- > 1 × Carry case
- > 1 × SolarCert software license

**Complete product. Full scope of delivery see below.

SS:200LR Wireless Irradiance Meter

- > 1 × SS:200LR Wireless Irradiance Meter
- > 2 × AA batteries
- > 1 × USB download cable
- > 1 × Solar Survey temperature probe
- > 1 × Quick Start Guide SS:200LR
- > 1 × Calibration certificate SS:200LR
- > 2 × Declaration (CE, UKCA)

PV:1500 Clamp

- > 1 × PV:1500 Clamp (wireless current clamp meter)
- > 1 × Test lead set (red and black probes)
- > 2 × AAA batteries
- > 1 × Manual PV:1500 Clamp
- > 2 × Declaration (CE, UKCA)

Order Information:

Instruments

- PV:1525 Complete Kit (global version)*
- SS:200LR Wireless Irradiance Meter (global version)*
- PV:1500 Clamp

*Not for USA.

Optional Accessories & Replacements

- Carry case
- Set 4 mm test probes (red, black and yellow) with alligator clips
- Set instrument to MC4 test leads (yellow and black)
- Bypass measurement leads for power measurement
- Rechargeable battery pack
- Battery charging cradle
- Solar Survey – Quick release panel mounting bracket

Part Number

- 601A910
- 396A942
- 601A1200
- 71G101
- 601A1203
- 601A1202
- 601A1201
- 906A001
- 906A021
- 396A979

601A528
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