

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} 10.0 V_{AC} ... 440 V_{AC}
Measuring range	+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 × (1000 Ω/V) (as per IEC 61557-2)
Display range	0.05 MΩ ... 999 MΩ
Measuring range (IEC 61557-2)	250 V / 500 V string mode: 0.05 MΩ ... 200 MΩ 1 kV / 1.5 kV string mode: 0.05 MΩ ... 999 MΩ 250 V point to point: 0.05 MΩ ... 300 MΩ 500 V point to point: 0.05 MΩ ... 500 MΩ 1 kV / 1.5 kV point to point: 0.05 MΩ ... 999 MΩ
Resistance resolution	0.01 MΩ for 0.05 MΩ ... 1.99 MΩ 0.1 MΩ for 2.0 MΩ ... 19.9 MΩ 1 MΩ for 20 MΩ ... 999 MΩ
Resistance accuracy	±(5 % + 1 digit) for 0.05 MΩ ... 0.19 MΩ ±(5 % + 3 digit) for 0.20 MΩ ... 1.99 MΩ ±(5 % + 2 digit) for 2.0 MΩ ... 5.0 MΩ ±(5 % + 5 digit) for 5.1 MΩ ... 99 MΩ ±(10 % + 5 digit) for > 99 MΩ
Insulation voltage resolution	1 V
Insulation voltage accuracy	±(2 % + 2 counts)
Maximum system capacitance	2 µF
Visible warning	≥ 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	± (5 % + 2 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	± (6 % + 2 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 ... 434.625 MHz
Transmit power range	4.89 dBm ERP
Modulation type	CSS
Channel spacing	250 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	Part Number
PV:1525 Complete Kit (global version)*	601A910
SS:200LR Wireless Irradiance Meter (global version)*	396A942
PV:1500 Clamp	601A1200

*Not for USA.

Optional Accessories & Replacements	
Carry case	71G101
Set 4 mm test probes (red, black and yellow) with alligator clips	601A1203
Set instrument to MC4 test leads (yellow and black)	601A1202
Bypass measurement leads for power measurement	601A1201
Rechargeable battery pack	906A001
Battery charging cradle	906A021
Solar Survey – Quick release panel mounting bracket	396A979

601A528
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