The DT-1500PV Multifunction Tester with I-V curve tracing is used for testing if the PV systems are performing to their optimal power output as well as operating safely.

Designed for PV professionals that provide installation, commissioning and maintenance services to systems that operate at 1500V DC or under, the DT-1500PV provides a complete PV testing solution that conforms to IEC 62446-1 standards.

Through Software, measurement data from solar site installation and commissioning testing can be easily imported, organised and analysed for effortless reporting without having to bring a laptop on site.

DT-1500PV

I-V CURVE TRACER & PV ANALYSER

- All-in-one PV system test solution meeting IEC 62446-1 standards for Category 1 and Category 2 tests
- Open-circuit voltage (VOC) measurement at the PV module / string up to 1500V DC
- Short-circuit (ISC) current measurement at the PV module / string up to 20 A DC
- On-location I-V curve results compares manufacturer I-V curve data to measured data on the analyser screen

SAFETY

Multifunction PV	IEC 61010-1 Pollution Degree 2, IEC 61010-2-034 CAT III 1500V DC, CAT III 1000V AC
Current Clamp	IEC 61010-2-032, Type D (For insulated conductors), 1000V
Accessories	IEC 61010-031
1000-MC4	CAT III 1500V, 30A
1000 Remote Probe with Cap	CAT IV 600V, CAT III 1000V, 10A
1000 Remote Probe without Cap	CAT II 1000V, 10A
1000 Test Leads	CAT III 1000V, 10A
1000/30M Test Lead	CAT III 1000V, CAT IV 600V, 5A (On reel), 10A (Fully extended)
Test Probes with Cap	CAT IV 600V, CAT III 1000V, 10A
Test Probes without Cap	CAT II 1000V, 10A
Alligator Clips	CAT III 1000V, 10A
Performance	IEC 61557-1, IEC 61557-2, IEC 61557-4, IEC 61557-10

Electromagnetic Compatibility (EMC)		
International	IEC 61326-1: Portable Electromagnetic Environment, CISPR 11: Group 1, Class A	
	Group 1	Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.
	Class A	Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.
	Caution	This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

GENERAL SPECIFICATIONS

Maximum Voltage Between any Terminal and Earth Ground	1500V DC
Maximum Differential Voltage Between Red and Blue Terminals	1000V AC
Size (LxWxH)	10.0x25.0x12.5cm (3.8x9.8x4.9in)
Weight with Battery	1.4kg (3.09lb)
Battery	7.4V Lithum Battery/7500mAh
Battery Life	Up to 1000 measurements
Fuse	F2: FF 500mA, 1000V, IR 10kA, 6.3x32mm
	F3: FF 1A, 1000V, IR 10kA, 6.3x32mm
	F4: gPV DC 1500V, 30A, IR 30kA (L/R=2ms), 14x65mm
Operating Temperature	0 to 50°C (32 to 122°F)
Storage Temperature	-30 to 60°C (-22 to 140°F), battery removed
Relative Humidity	Up to 80%
Operating Altitude	2000m
Storage Altitude	12000m
Vibration	MIL-PRF-28800F: Class 2
Ingress Protection	IEC 60529: IP40
Computer Interface	Bluetooth
Wireless Connection Compatibility	BT 5.0

TECHNICAL SPECIFICATIONS

Function	Display Range	Measurement Range	Resolution	Accuracy
Protective Conductor Resistance R_{LO}	0.00 to 19.99Ω	0.20 to 19.99Ω	0.01Ω	±(2% + 2 digits)
	20.0 to 199.9Ω	20.0 to 199.9Ω	0.1Ω	
	200 to 2000Ω	200 to 2000Ω	1Ω	±(5% + 2 digits)
Test current: ≥200mA (≤2Ω $_{COMP}$) **[1]**; Test voltage: $4V_{DC}$ to $10V_{DC}$; Polarity reversing: Yes				
Test lead zero (Rcomp): Up to Ω				
Live circuit detection: Inhibits test if terminal voltage >50V AC/DC (Typical) detected prior to				
[1]: The number of 200mA @0.1 Ωcontinuity tests with a set of new				
PV Model/PV String, Open-Circuit Voltage (V_{OC})	0.0 to 99.9V	5.0 to 99.9V	0.1V	±(0.5% + 2 digits)
	100 to 1500V	100 to 1500V	1V	
Polarity test: Yes				
Live circuit detection: Inhibits test if terminal voltage >5V AC detected prior to				
PV Model/PV String, Short-Circuit Current (I_{SC})	0.0 to 30.0A	0.2 to 30.0A	0.1A	±(1% + 2 digits)
Live circuit detection: Inhibits test if terminal voltage >5V AC (Typical) detected prior to initiation of test.				
Insulation Resistance R_{INS}	0.00 to 99.99MΩ	0.20 to 99.99MΩ	0.01MΩ	±(5% + 5 digits)
	100.0 to 199.9MΩ	100.0 to 199.9MΩ	0.1MΩ	±(10% + 5 digits)
	200 to 999MΩ	200 to 999MΩ	1MΩ	±(20% + 5 digits)
	Test voltage @ no load	50V/100V/250V up to 199.9MΩ	1V	±(0% + 25 digits)
		500V/1000V up to 999MΩ		
Testing current: Min 1mA (@250kΩ/500kΩ/1MΩ); Max 1.5mA (Short circuit)				
Live circuit detection: Inhibits test if terminal voltage >15V AC (Typical) detected prior to initiation of test.				
Maximum capacitive load: Operable with up to Ω.				
Note: The number of insulation tests with a new set of batteries is >900 at 1000V/1MΩ.				
Blocking Diode Check (V_{BD})	0.00 to 6.00V DC	0.50 to 6.00V DC	0.01V DC	±(5% + 10 digits)
Live circuit detection: Inhibits test if terminal voltage >50V AC/DC (Typical) detected prior to				
Surge Protection Devices (SPD)	0 to 1000V DC	50 to 1000V DC	1V DC	±(10% + 5 digits)
Live circuit detection: Inhibits test if terminal voltage >50V AC/DC (Typical) detected prior to initiation of test.				

Function	Display Range	Measurement Range	Resolution	Accuracy
True-RMS ACV, DCV, ACA, DCA	The PV Analyzer measures both AC and DC signal components (Voltage or Current) and displays AC+DC (RMS) value combined. The display of AC or DC unit is dependent on if there is zero crossing of the signal.			
DC/AC Voltage Measurement with 4mm Test Sockets	0.0 to 99.9V AC	5.0 to 99.9V AC	0.1V	±(2.5% + 2 digits) (DC, AC 50/60Hz)
	100 to 1000V AC	100 to 1000V AC	1V	
	0.0 to 99.9V DC	5.0 to 99.9V DC	0.1V	
	100 to 1500V DC	100 to 1500V DC	1V	
Detection AC/DC: Yes (Automatic); Positive/Negative polarity check: Yes				

TECHNICAL SPECIFICATIONS

Function	Display Range	Measurement Range	Resolution	Accuracy
DC/AC Current with Clamp	0.0 to 40A DC/AC	1.0 to 40A DC/AC	0.1A	±(2.5% + 0.1A) **[2]**
	0.0 to 400A DC/AC TRMS	1.0 to 400A DC/AC TRMS		±(2.8% + 0.5A)
[2]: Clamp tolerance not inclusive, AC 50/60Hz, see "Clamp Tolerances".				
DC/AC Power Measurement (with Clamp)	0.0 to 1000V AC	5.0 to 1000V AC	0.1V	±(2% + 5 digits)
	0.0 to 1500V DC	5.0 to 1500V DC		
	0.0 to 400A DC/AC	1.0 to 400A DC/AC	0.1A	±(3% + 8 digits)
	0W/VA to 600kW/kVA	5W/VA to 600kW/kVA	1W/VA; 1kW/kVA	±(7.5%VI+0.6V+0.2I)

Function	Measurement Range	Output Signal	Accuracy	Maximum Hysteresis
Clamp Tolerances	40A DC/AC	10mV/A DC/AC	±(2.5% + 0.1A)	±0.4A
	400A DC/AC	1mV/A DC/AC	±(2.8% + 0.5A)	

- The accuracy specification is defined as ±(% reading + digit counts) at 23°C ± 5°C, ≤80%RH.
- The accuracy specification for 0 to 18°C and 28 to 50°C: 0.1x (Accuracy specification) for each °C.

Wireless Radio Module	
Frequency Range	2.402GHz to 2.480GHz
Output Power	8dBm

Zero Adapter Configuration

DT-1500PV | I-V CURVE TRACER & PV ANALYSER

ACCESSORIES

Kit Contents	
Description	**Quantity**
Multifunction PV Analyzer	1
AC/DC Current Clamp 40A/400A	1
Wireless Solar Irradiance Meter	1
Zero Adapter	1
Test Probe with Remote Test Button	1
Test Lead Kit	4
MC4 Test Wire Kit (Male and Female)	2
Photovoltaic dedicated multi-function wrench	1
External temperature probe for wireless solar irradiance meter	1
Installation bracket for wireless solar irradiance meter	1
Power adapter 12~15V/2.4A DC plug US/EU/UK/AU replaceable plug	1
Trolley case	1
30m Test Lead on Reel Test Lead Kit	Optional accessories

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