

# Fluke SMFT-1000/LITE Solar Multifunction Tester Kit



## Key features

- Ensures compliance with IEC 62446-1 Category 1 standards
- Quick, automatic, and accurate safety checks during PV solar installations
- Measures solar panel output in <45 seconds
- User-friendly interface
- Streamlined reporting with TruTest™ Solar Data Management Software

## Product overview: Fluke SMFT-1000/LITE Solar Multifunction Tester Kit

### Elevate your safety standards

The Fluke SMFT-1000/LITE Solar Multifunction Tester Kit was designed to meet the requirements of solar installers seeking a professional instrument capable of ensuring safety and compliance with IEC 62446-1 Category 1 standards for PV solar installations. With a CAT III 1000V rating (IEC 61010-2) and a clear voltage exceeded alert, this solar kit will keep you and your coworkers safe on the jobsite.

### Quick, automatic and accurate mandatory safety verification

With the "Keep the Leads" system and the Auto Test feature, the SMFT-1000 provides quick and accurate testing, saving time and money during PV solar installations while ensuring safety and compliance with IEC 62446-1 Category 1 standards.

## PV system performance testing

Measure the output of a solar panel to create an I-V curve that shows the maximum power output, in less than 45 seconds. Analyze the curve to identify performance issues and perform functional tests. The SMFT-1000 allows you to compare on-location I-V curve results to manufacturer specifications, ensuring that the panel is working efficiently. Additionally, the Fluke TruTest™ Solar Database App is available for use with the SMFT-1000 and features specifications of over 120,000 different types of PV panels that can be loaded into the SMFT-1000 (available on the Google Play Store).

## Intuitive user interface

The high-definition color screen and color-coded inputs and test leads allows SMFT-1000 users to test with confidence and safety. The analyzer also includes a visual inspection feature, allowing for easy compliance with PV system IEC regulations.

## Comprehensive reporting

The TruTest™ Solar Data Management Software simplifies solar testing and reporting. Manage data, perform I-V curve analysis and create compliant reports quickly and easily.

# Specifications: Fluke SMFT-1000/LITE Solar Multifunction Tester Kit

Protective conductor resistance (Rlo)			
Display range	Measuring range	Resolution	Accuracy
0.00 Ω - 19.99 Ω	0.20 Ω - 19.99 Ω	0.01 Ω	± (2 % + 2 Digit)
20.0 Ω - 199.9 Ω	20.0 Ω - 199.9 Ω	0.1 Ω	± (2 % + 2 Digit)
200 Ω - 2000 Ω	200 Ω - 2000 Ω	1 Ω	± (5 % + 2 Digit)

Test current	≥ 200 mA (≤ 2Ω + Rcomp)
Test voltage	4 V DC ... 10 V DC
Polarity reversing	Yes
Test lead zero (Rcomp)	Up to 3 Ω

PV module/PV string, open-circuit voltage (Voc)			
Display range	Measuring range	Resolution	Accuracy
0.0 V - 99.9 V	5.0 V - 99.9 V	0.1 V	± (0.5 % + 2 Digit)
100 V - 1000 V	100 V - 1000 V	1 V	

Polarity test	Yes
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PV module/PV string, short-circuit current (Is/c)			
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Display range	Measuring range	Resolution	Accuracy
0.0 A - 20.0 A	0.2 A - 20.0 A	0.1 A	± (1 % + 2 Digit)

#### Insulation resistance (RINS)

Display range	Measuring range	Resolution	Accuracy
0.00 MΩ - 99.99 MΩ	0.20 MΩ - 99.99 MΩ	0.01 MΩ	± (5 % + 5 Digit)
100.0 MΩ - 199.99 MΩ	100.0 MΩ - 199.99 MΩ	0.1 MΩ	± (10 % + 5 Digit)
200 MΩ - 999 MΩ	200 MΩ - 999 MΩ	1 MΩ	± (20 % + 10 Digit)

	Measuring range	Resolution	Accuracy
Test voltage @ no load	50 V / 100 V / 250 V up to 199.9 MΩ	1 V	0 % to + 25 %
Testing current	Min. 1 mA (@ 250 kΩ / 500 kΩ / 1 MΩ)		

#### Blocking diode checking (Vbd)

Display range	Measuring range	Resolution	Accuracy
0.00 V DC - 6.00 V DC	0.50 V DC - 6.00 V DC	0.01 V DC	± (5 % + 10 Digit)

#### Overvoltage protective devices (BV)

Display range	Measuring range	Resolution	Accuracy
0 V DC - 1000 V DC	50 V DC - 1000 V DC	1 V DC	± (10 % + 5 Digit)

#### AC/DC voltage measurement via 4 mm test sockets

Display range	Measuring range	Resolution	Accuracy
0.0 V AC - 99.9 V AC	5.0 V AC - 99.9 V AC	0.1 V	± (2.5 % + 2 Digit)
100 V AC - 700 V AC	100 V AC - 700 V AC	1 V	
0.0 V DC - 99.9 V DC	5.0 V DC - 99.9 V DC	0.1 V	
100 V DC - 1000 V DC	100 V DC - 1000 V DC	1 V	

Detection AC/DC	Yes (Automatic)
'+ / - polarity check	Yes

#### General Specifications

SMFT-1000 size	10 cm x 25.0 cm x 12.5 cm
SMFT-1000 weight	1.4 kg

Battery	6 AA IEC LR6
Operating temperature	0 °C to 50 °C
Storage temperature	-30 °C to 60 °C batteries removed
Operating altitude	up to 2000 m
Storage altitude	up to 2000 m

### Safety

SMFT-1000 PV Analyzer	IEC 61010-1 Pollution Degree 2 IEC 61010-2-034 CAT III 1000 V dc, CAT III 700 V AC
Accessories	IEC 61010-031
TL-1000-MC4	CAT III 1500 V, 20 A
TP1000 Remote Probe (with cap)	CAT IV 600 V, CAT III 1000 V, 10 A
TP1000 Remote Probe (without cap)	CAT II 1000 V, 10 A
TL-1000 Test Leads	CAT III 1000 V, 10 A
TP74 Test Probes (with cap)	CAT III 1000 V, 10 A
Frequency Range	CAT II 1000 V, 10 A
AC285 Alligator Clip	CAT III 1000 V, 10 A
Performance	IEC 61557-1, IEC 61557-2, IEC 61557-4, IEC 61557-10

### Electromagnetic Compatibility (EMC)

International	<p>IEC 61326-1: Portable Electromagnetic Environment, CISPR 11: Group 1, Class A</p> <p>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.</p> <p>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.</p> <p>Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.</p>
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### Wireless Radio Module

Frequency Range	2.402 GHz to 2.480 GHz
Output Power	8 dBm

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