

INTRODUCTION

As electrical systems continue to evolve with high-voltage DC solar arrays, variable frequency drives (VFDs), and energy-efficient motor applications, conventional clamp meters often struggle to provide accurate and reliable measurements.

The Metravi Solar-3A TRMS AC/DC Clamp Meter is specifically engineered to overcome these challenges, delivering precise measurements for today's demanding electrical, industrial, and renewable energy environments.

Designed with True RMS technology, the Solar-3A offers a unique combination of **2000V DC** measurement capability, dedicated **VFD voltage/current** measurement, and **Inrush Current** measurement, making it an indispensable tool for solar PV technicians, electrical maintenance engineers, motor control specialists, and commissioning professionals.

The meter supports high-voltage measurements up to 2000V AC/DC, enabling safe testing of modern utility-scale and commercial solar installations where standard 1000V meters fall short.

For motor-drives, the dedicated VFD mode ensures accurate voltage and current measurements on variable frequency drives by compensating for the distorted waveforms generated by PWM inverters—an area where ordinary multimeters frequently produce misleading readings.

The Solar-3A also features Inrush Current measurement, capturing the high starting currents of motors, compressors, transformers, and other inductive loads, helping engineers diagnose startup issues, nuisance tripping, and equipment sizing concerns.

Beyond these specialised capabilities, the meter integrates AC/DC current measurement up to 1000A, AC/DC voltage, LoZ voltage testing, frequency, duty cycle, resistance, capacitance, temperature, continuity, diode testing, NCV detection, and Live wire identification into a single rugged instrument. Its **CAT III 1000V / CAT IV 600V** safety rating provides the confidence required for use in industrial plants, electrical distribution systems, solar power plants, and HVAC applications.

Metravi Solar-3A – One Meter. Three Critical Solutions: High Voltage DC Testing, Accurate VFD Measurements, and Reliable Inrush Current Analysis.



APPLICATIONS

- Solar PV Technicians
- Electrical Maintenance Engineers
- Industrial Electricians
- Commissioning Engineers
- HVAC Service Engineers
- Renewable Energy EPC Contractors
- Utility Maintenance Teams
- EV Charging
- Infrastructure Technicians

GENERAL SPECIFICATIONS

- Sampling rate : approximately 3 times per second
- Display : 6000 Counts, Large Colour LCD with Bargraph
- Clamp Open Dia : 40mm
- Data Hold
- REL/ZERO function
- Live Line detection : with single test lead
- NCV : Non-contact Voltage Detection
- Max/Min
- Flashlight : built-in
- Over Range indication
- Overload Protection : in all ranges
- Temperature Coefficient : $0.1 \times \text{accuracy} / ^\circ\text{C}$ ($<18^\circ\text{C}$ or $>28^\circ\text{C}$)
- Power Supply : 3 x 1.5V AAA alkaline batteries
- Auto Power-off : Approx after 15 mins of non-operation
- Low Battery indication
- Safety : IEC 61010-1, Pollution level 2, CAT III 1000V / CAT IV 600V
- Working Altitude : $< 2000\text{m}$
- Operating Environment : $0 \sim 40^\circ\text{C}$ ($<80\% \text{ RH}$, $<10^\circ\text{C}$ non condensing)
- Storage Environment : $-10 \sim 60^\circ\text{C}$ ($<70\% \text{ RH}$, remove the battery)
- Accessories : Test Leads, K-type Thermocouple, Batteries, Screwdriver, User Manual, Carrying Case
- Dimensions : 255 x 95 x 40 mm
- Weight : 391 gms



Technical Specifications & Appearance are subject to change without prior notice

TECHNICAL SPECIFICATIONS

The accuracy applies within one year after the calibration.

Reference condition: the environment temperature 18°C to 28°C, the relative humidity is no more than 80%. Accuracy: (reading + word).

DC CURRENT

Range	Resolution	Accuracy
60A	0.01A	±(2. 5% reading +8)
600A	0.1A	
1000A	1A	

NOTE: Press ZERO key to clear before measurement.
Max Current: 1000A

AC CURRENT

Range	Resolution	Accuracy
60A	0.01A	±(2. 5% reading +8) VFD:
600A	0.1A	±(5.0% reading +10)
1000A	1A	INRUSH:±(5.0% reading +10)

MAX current : 1000A
Frequency range:1~600A:40Hz~800Hz ;
600~1000A:40Hz~400Hz

LoZ AC VOLTAGE

Range	Resolution	Accuracy
6V	0.1V	±(0.5% reading +5)
60V	0.1V	
600V	1V	
750V	1V	±(0.8% reading +5)

LoZ DC VOLTAGE

Range	Resolution	Accuracy
6V	0.1V	±(0.5% reading +5)
60V	0.1V	
600V	1V	
1000V	1V	±(0.8% reading +5)

DC VOLTAGE

Range	Resolution	Accuracy
600mV	0.1mV	±(0.1% reading +5)
6V	0.01V	
60V	0.1V	
600V	1V	
2000V	1V	±(0.5% reading +5)

Note: In the small voltage range, when the probe is not connected to the measuring circuit, the meter display reading may not be zero, which is normal and will not affect the normal measurement.

Input Impedance: 10MΩ (LoZ 300kΩ)
Overload Protection: AC 750V / DC 1000V
Max Input Voltage: AC 2000V / DC 2000V

AC VOLTAGE

Range	Resolution	Accuracy
6V	0.01mV	±(0.5% reading +5)
60V	0.1V	
600V	1V	
2000V	1V	±(0.5% reading +5)
VFD (6V-750V)	0.01V-1V	±(2.0% reading +5)

Note: In the small voltage range, when the probe is not connected to the measuring circuit, the meter display reading may not be zero, which is normal and will not affect the normal measurement.

Input Impedance: 10MΩ (LoZ 300kΩ)
Overload Protection: AC 750V / DC 1000V
Max Input Voltage: AC 2000V / DC 2000V
Frequency range: 40Hz - 1kHz; Response True-RMS



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TECHNICAL SPECIFICATIONS

RESISTANCE

Range	Resolution	Accuracy
60Ω	0.1Ω	±(1.0% reading +5)
600Ω	0.001KΩ	
6kΩ	0.01kΩ	
60kΩ	0.1kΩ	
600kΩ	0.001MΩ	
6MΩ	0.01MΩ	±(2.0% reading +5)
60MΩ	0.1MΩ	

Overload protection: 250V; Open circuit voltage: approx.0.5V

CONTINUITY

	<approx. 35Ω, the buzzer sounds and the LED light on	Test Voltage Approx. 1V Overload protection:250V
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DIODE

	It displays the approximate forward voltage value of the diode.	Forward DC current is about 1.5mA Reverse DC voltage is about 3V Overload protection:250V
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FREQUENCY/DUTY

Range	Resolution	Accuracy
10Hz	0.01Hz	±(1.0% reading +3)
100Hz	0.0001kHz	
1000Hz	1kHz	
10kHz	0.01kHz	
100kHz	0.1kHz	
1000kHz	1kHz	±(3.0% reading +3)
10MHz	0.01MHz	
1~99%	0.1%	

Overload protection: 250V;
Hz/Duty:

- Range:0 ~ 10MHz
- Frequency signal range:>1/4 Range of measurement (As the frequency increases, the current should increase accordingly).

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TEMPERATURE

Range	Resolution	Accuracy	
°C	1°C	-20°C~ 0°C	-20°C~ 0°C
		0°C ~ 400°C	0°C ~ 400°C
		400°C ~ 1000°C	400°C ~ 1000°C
°F	1°F	-4°F~ 32°F	± 6°F
		32°F~ 752°F	± 1.0% or ± 4°F
		752°F~ 1832°F	± 2.0%

Note: The above precision does not include the error of thermocouple probe.

