

AVO®840

TRMS 1000 V AC/DC Digital Multimeter with Low-Z

Megger



- Safety rated CAT III 1000 V, CAT IV 600 V
- True RMS AC voltage and current for accurate measurements on complex signals or non linear loads. AC bandwidth up to 1 kHz
- Low input impedance: helps prevent false readings due to ghost voltage
- Min/Max/Average to record signal fluctuations
- Backlight for work in dimly lit areas
- IP44 (dustproof and waterproof) rating
- Designed and tested to withstand a 2 m (6.6 ft) drop
- Bluetooth connectivity
- Easy control with the free Megger AVO Link App

DESCRIPTION

AVO840 multimeter is for professional electricians, technicians, service personnel and engineers that require high reliability, build quality and performance in a compact, tough, case. Suitable for applications where more than the basic functions are needed.

FEATURES

The AVO840 include the features you need to troubleshoot and repair electrical and electronic systems. An excellent choice multimeter for everyday use that requires a true-rms, accurate, rugged meter.

The AVO840 is a true-rms multimeter with analogue bar graph aid in trouble shooting signals that change over time, the bar graph can help interpret these readings.

A built-in torch and ergonomic design will make any electrical challenge becomes easier. The LED working light eliminates the need for holding a second torch in dim lighting allowing you easily see in dark spaces.

The AVO840 is also feature rich with its Bluetooth and mobile app on your Android™ or iOS smart device. The free Megger AVO Link App allows you to share live measurements, monitor readings from safe distances, and conduct advanced diagnostics so you can get the job done easier than ever before. Low impedance (Low-Z) mode, this feature presents a low impedance input to the circuit under test. This reduces the possibility of false

readings due to ghost voltages and improves accuracy when testing to determine absence or presence of voltage. The AVO840 provides Min/Max/Average readings and measures frequency, diodes, capacitance, and come with Type K thermocouple input for temperature measurement. The multimeter combines a range of features, precise measurements, and quality construction into a tool of exceptional value. Easy to use and built to last, the AVO840 offers long-term stability for everyday use.

- Safety rated CAT III 1000 V, CAT IV 600 V
- Accurate true RMS AC current and voltage
- Measure frequency up to 10 kHz
- Resistance, continuity and diode measurements
- 6000 µF capacitance range
- Bright backlight display
- High resolution 6000 counts LCD
- Current measurement to 10 A
- Analogue Bar Graph

APPLICATION

The AVO840 is an excellent choice for test and measurement, industrial maintenance, industrial, electrical and safety. The AVO840 has all the features you need plus more for maintenance and fixing problems quickly thanks to its precision, reliability, and ease of use. The AVO840 is the preferred solution for professional technicians, electricians, or facilities managers. Diagnose fault with ease from HVAC systems, presses, furnaces, CNC, robots to PCBAs.

Specifications

The AVO840 TRMS multimeter is a full-featured, precision digital multimeter for troubleshooting and repair of electrical and electronic systems.

Accuracy is stated at 18 °C to 28 °C, with relative humidity at 0 % to 90 %. Accuracy specifications take the form of: ($\pm$ (% of Reading) + (Counts))

AC Voltage

Function	Range	Resolution	Accuracy $\pm$ (% of reading + digits)
AC Voltage	6 V	1 mV	$\pm(0.8\% + 8)$
	60 V	10 mV	
	600 V	0.1 V	
	1000 V	1 V	$\pm(1.0\% + 3)$

Input Protection: 1000 V AC RMS or 1000 V DC

Accuracy: 5% to 100% of the measuring rang.

AC voltage accuracy bandwidth:

45 Hz to 1000 Hz

Distorted, pulsed, triangle or trapezia waveform.

Accuracy: $\pm(10\% \text{ rdg} + 10 \text{ dgt})$

DC Voltage

Function	Range	Resolution	Accuracy $\pm$ (% of reading + digits)
DC Voltage	600 mV	0.1 mV	$\pm(0.5\% + 8)$
	6 V	1 mV	$\pm(0.5\% + 5)$
	60 V	10 mV	
	600 V	0.1 V	
	1000 V	1 V	$\pm(0.8\% + 3)$

Input Protection: 1000 V AC RMS or 1000 V DC

AC/DC voltage (Low-Z)

Function	Range	Resolution	Accuracy $\pm$ (% of reading + digits)
Low-Z AC Voltage	6 V	1 mV	$\pm(3.0\% + 40)$
	60 V	10 mV	
	600 V	0.1 V	

Input Protection: 600 V AC RMS or 600 V DC

Accuracy: 5% to 100% of the measuring rang.

Input Impedance: Approx. 3 k Ω

Function	Range	Resolution	Accuracy $\pm$ (% of reading + digits)
Low-Z DC Voltage	600 mV	0.1 mV	$\pm(3.0\% + 40)$
	6 V	1 mV	
	60 V	10 mV	
	600 V	0.1 V	

Input Protection: 600 V AC RMS or 600 V DC

Input Impedance: Approx. 3 k Ω

Frequency

Function	Range	Resolution	Accuracy $\pm$ (% of reading + digits)
Frequency (electrical)	9.999 Hz	0.001 Hz	$\pm(1.0\% + 5)$
	99.99 Hz	0.01 Hz	
	999.9 Hz	0.1 Hz	
	9.999 kHz	1 Hz	

Input Protection: 600 V AC RMS or 600 V DC

Sensitivity: <8 V RMS_c

Function	Range	Resolution	Accuracy
Duty Cycle	20.0% to 80.0%	0.1%	$\pm(1.2\% + 2)$

Input Protection: 600 V AC RMS or 600 V DC

Pulse Width: 0.1 to 100 ms

Frequency Range: 5 Hz to 10 kHz

Sensitivity: >8 V RMS

AVO®840**TRMS 1000 V AC/DC Digital Multimeter
with Low-Z****Megger**[®]**AC Current**

Function	Range	Resolution	Accuracy ±(% of reading + digits)
AC Current	600 µA	0.1 µA	±(1.5% + 3)
	6000 µA	1 µA	
	60 mA	10 µA	
	600 mA	0.1 mA	
	10 A	10 mA	±(2.0% + 5)

Overload Protection: µA, mA ranges:
800 mA / 1000 V Fuse

10 A range: 10 A / 1000 V Fuse

Accuracy: 5% to 100% of the
measuring rang.

AC current bandwidth: 45 to 500 Hz
Distorted, pulsed, triangle
or trapezia waveform.

Accuracy: ±(10% rdg + 10 dgt)

Amps input burden voltage (typical): mA input ~3.8 mV/A, A
input ~30 mV/A.

DC Current

Function	Range	Resolution	Accuracy ±(% of reading + digits)
DC Current	600 µA	0.1 µA	± (1.0% + 3 digits)
	6000 µA	1 µA	
	60 mA	10 µA	
	600 mA	0.1 mA	
	10 A	10 mA	±(1.5% + 3)

Overload Protection: µA, mA ranges:
800 mA / 1000 V Fuse

10 A range: 10 A / 1000 V Fuse

Resistance

Function	Range	Resolution	Accuracy ±(% of reading + digits)
Resistance	600 Ω	0.1 Ω	±(1.0% + 5)
	6 kΩ	1 Ω	
	60 kΩ	10 Ω	
	600 kΩ	100 Ω	
	6 MΩ	1 kΩ	±(2.0% + 10)
	60 MΩ	10 kΩ	

Input Protection: 600 V AC RMS or 600 V DC

Capacitance

Function	Range	Resolution	Accuracy ±(% of reading + digits)
Capacitance	60 nF	10 pF	±(5.0% + 35)
	600 nF	100 pF	±(3.0% + 5)
	6 µF	0.001 µF	
	60 µF	0.01 µF	
	600 µF	0.1 µF	
	6000 µF	1 µF	±(5.0% + 5)

Input Protection: 600 V AC RMS or 600 V DC

Temperature

Function	Range	Resolution	Accuracy ±(% of reading + digits)
Temperature	-20 °C to 760 °C	0.1 °C	±(1.0% + 5 °C)
	-4 °F to 1400 °F	0.1 °F	±(1.0% + 9 °F)

Input Protection: 600 V AC RMS or 600 V DC

ENVIRONMENTAL SPECIFICATIONS

Insulation	Class 2, double insulation
Enclosure	Double moulded, IP44
Diode	Test current 1 mA typical, open circuit voltage 3 V typical
Continuity Test	Audible signal if the resistance is <50 Ω
Battery Indication	Low battery. Replace batteries.
Display	6000 count LCD
Over Range Indication	"OL" is displayed
Polarity	Automatic (no indication for positive); Minus (-) sign for negative
Measurement Rate	3 readings per second
Auto Power Off	After approx. 15 minutes of inactivity
Input Impedance	> 10 MΩ V DC and >9 MΩ V AC
Low-Z	Approx. 3 kΩ input impedance
Temperature sensor	Requires K-type thermocouple
AC Response	True RMS
ACV Bandwidth	50 to 1 kHz
Transducer Current	MAX 3000 A
Batteries	Four AAA 1.5 V batteries
Battery Cell Type	Alkaline
Size (H x W x D)	170 x 74 x 45 mm (6.7 x 2.9 x 1.8 in)
Weight	370 g with battery 417 g
F1 Fuse protection for A Inputs	10 A, 1000 V, 30 kA
F2 Fuse protection for mA input	800 mA, 1000 V, 30 kA

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Operating Environment	0 to 40 °C (32 to 104 °F) at 70% relative humidity
Storage Environment	-10 to 60 °C (-4 to 140 °F) at 80% relative humidity
Operating Altitude	2000 meters maximum
Safety	IEC 61010-1: Pollution Degree 2 IEC 61010-2-033: CAT IV 600 V, CAT III 1000 V
EMC	IEC 61326-1: Portable Electromagnetic Environment, CISPR 11: Group 1, Class A, IEC 61326-2-2

Safety

This instrument is intended for origin of installation use and are protected by double insulation per 61010-1:2010 +A1:2019 Safety requirements for electrical equipment for measurement, control, and laboratory use to Measurement connection: CAT III 1000 V and CAT IV 600 V; Pollution Degree 2. The instrument also meets EN (IEC) 61010-2-033:2021 +A11:2021, particular requirements for hand-held multimeters and other meters, 61010- 031:2015, Safety requirements for hand-held probe assemblies for electrical measurement and test, EN 62479: 2010 Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz); and EN 50663: 2017 Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10 MHz - 300 GHz).

ORDERING INFORMATION

Description	Part number	Description	Part number
AVO840 Multimeter	1015-514		
Included Accessories		Optional Accessories	
1 m 4 mm non-fused, right angle connector test leads* (x2)		Unfused red and black test leads with probes and croc clips	1002-001
4 mm exposed metal Probes* (x2)		Fused red and black test leads (500 mA) with probes and croc clips	1002-015
Exposed tip probes for CAT II probing (x2)		Magnetic strap	1010-013
Red and black crocodile clips*			
K-type multimeter adapter			
K-type thermocouple lead			
Soft case			
4 mm cap plugs (x2)			
Batteries AAA Alkaline			
Item content			
*Ratings: Double insulated, CAT III 1000 V, CAT IV 600 V, 10 A max			

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