

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 μ F 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: (±(% of Reading) + (Counts))

AC Voltage

| Function | Range | Resolution | Accuracy ±(% of reading + digits) |
|------------|--------|------------|-----------------------------------|
| AC Voltage | 6 V | 1 mV | ±(0.8% + 8) |
| | 60 V | 10 mV | |
| | 600 V | 0.1 V | |
| | 1000 V | 1 V | ±(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: ±(10% rdg + 10 dgt)

DC Voltage

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

Input Protection: 1000 V AC RMS or 1000 V DC

AC/DC voltage (Low-Z)

| Function | Range | Resolution | Accuracy ±(% of reading + digits) |
|------------------|-------|------------|-----------------------------------|
| Low-Z AC Voltage | 6 V | 1 mV | ±(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 kΩ

| Function | Range | Resolution | Accuracy ±(% of reading + digits) |
|------------------|--------|------------|-----------------------------------|
| Low-Z DC Voltage | 600 mV | 0.1 mV | ±(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 kΩ

Frequency

| Function | Range | Resolution | Accuracy ±(% of reading + digits) |
|------------------------|-----------|------------|-----------------------------------|
| Frequency (electrical) | 9.999 Hz | 0.001 Hz | ±(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 RMSc

| Function | Range | Resolution | Accuracy |
|------------|----------------|------------|-------------|
| Duty Cycle | 20.0% to 80.0% | 0.1% | ±(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

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 | |
| | 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 | |
| | 6 µF | 0.001 µF | ±(3.0% + 5) |
| | 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

AVO®840

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

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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