

AVO[®] 830 Series

Digital TRMS Multimeter



- **CAT III 1000 V and CAT IV 600 V***
- **IP54 environmental protection**
- **Phase rotation**
- **High / Low sensitivity live circuit detection**
- **10 MΩ / 10 kΩ input impedance**
- **MIN / MAX / AVG / Smoothing**

DESCRIPTION

Megger AVO8 digital multimeters are the next generation of AVO meters designed for professional electricians, technicians, service personnel and engineers that require high reliability, build quality and performance in a compact, tough, weatherproof case.

The AVO830 and AVO835 are True RMS multimeters with up to 1000 V AC, DC and AC+DC voltage measurement range* and current measurement from 0.1 mA to 10 A.

FEATURES

- TRMS Voltage and current measurement
- Dual digital readout
- Classic Megger analogue arc
- 0.1 % Basic accuracy
- 10 000 count resolution 4 ½ digits
- Phase sequence measurement for 3 phase circuit and motor testing
- 10 MΩ and 10 kΩ input impedance switching
- Non-contact live circuit detection with Hi/Low sensitivity
- Resistance from 0.01 Ω to 50 MΩ, conductance and Diode measurement
- Auto and manual range control
- Minimum, maximum and average measurement capture
- Measurement smoothing for fast changing quantity capture
- Hold and Auto Hold modes
- 800 Hz Low pass filter
- Capacitance and Frequency measurement
- Temperature measurement*
- IP54 environmental protection

* Model Dependant

KEY FUNCTIONALITY

CAT III and CAT IV compliance to IEC 61010*

CAT IV surge protection provides the highest protection in the industry when used on high energy electrical installations, as well as normal mains supplies and electrical equipment.

Measurement range

A choice of 600 V or 1000 V measurement range across AC and DC voltage supplies gives the best match to your application at the right price.

Voltage is shown as digital and analogue quantity.

Phase sequence detection (rotation)

Detection of phase sequence identifies incorrectly wired three phase circuits, motors and generators, to make sure operation is correct and prevent damage or possible electric shock.

Input impedance switching

Unique 10 M Ω and 10 k Ω switching, without changing test range, allows fast and safe detection of unintentionally coupled ghost voltages. High input impedance does not load the circuit under test, which prevents any significant influence on the voltage.

However, isolated circuits can exhibit a voltage that is capacitance coupled, but with no low impedance source. A low input impedance of 10 k Ω will collapse an unintentionally capacitance coupled voltage, which correctly identifies an isolated circuit.

Non-contact live circuit detection

Non-contact detection of live circuits, cables and conductors. Dual High / Low sensitivity enables the detection of live circuits from a distance, or pinpoint an individual conductor or circuit.

Detection is provided by visual (flashing display and symbols) and an audible beep.

High frequency interference filtering

Voltage measurements up to 5 kHz are possible. However, the selectable 800 Hz (3 db) filter prevents the interference of high frequency noise, such as those found on variable speed drive circuits.

LIVE CIRCUIT DETECTION

Safety compliance to CAT IV 600 V (AVO830) and combined CAT III 1000 V / CAT IV 600 V (AVO835) for use on high energy, low voltage electrical applications.

Measurement tools

A range of tools are available to help in the capture of difficult measurement quantities, including:

- Minimum and Maximum
- Average
- Hold
- Auto hold
- Smoothing of the measured quantity

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

Voltage DC	
Maximum range	AVO830: 600 V AVO835: 1000 V
Maximum resolution	0.1 mV
Accuracy**	$\pm 0.1\% + 2 \text{ dig}$
Voltage AC	
Maximum range	AVO830: 600 V AVO835: 1000 V
Maximum resolution	0.1 mV
Accuracy**	$\pm 1.0\% + 3 \text{ dig}$
Current DC	
Maximum range	10 A
Maximum resolution	0.01 mA
Accuracy**	$\pm 1.0\% + 3 \text{ dig}$
Current AC	
Maximum range	10 A
Maximum resolution	0.01 mA
Accuracy**	$\pm 1.5\% + 10 \text{ dig}$
Resistance	
Maximum range	50 M Ω
Maximum resolution	0.01 Ω
Accuracy**	$\pm 1.0\% + 2 \text{ dig}$
Conductance	
Maximum range	60 nS
Maximum resolution	0.01 nS
Accuracy**	$\pm 1.5\% + 10 \text{ dig}$
Capacitance	
Maximum range	20 mF
Maximum resolution	1 nF
Accuracy**	$\pm 2\% + 2 \text{ dig}$
Diode	
Maximum range	2.8 V
Maximum resolution	0.001 V
Accuracy**	$\pm 1.0\% + 2 \text{ dig}$
Temperature	
Range	-20 °C / 300 °C (-4 °F / 572 °F)
Maximum resolution	0.1 °C/°F
Accuracy**	$\pm 1.0^\circ\text{C} + 20 \text{ dig}$
Phase rotation	
Operating voltage	90 Vac to 440 Vac
Operating frequency	50 Hz / 60 Hz nominal

* Model Dependant

** Accuracies are best accuracies for each function

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-10 °C / 50 °C (14 °F / 122 °F)
Storage temperature	-30 °C / 70 °C (-22 °F / 158 °F)
Humidity (without condensation)	90% at 40 °C (104 °F)
Altitude	≤ 2000 m (6562 ft)
IP Rating	IP54

SAFETY SPECIFICATIONS

Over-voltage category	AVO830: EN 61010-1 600 V CAT IV AVO835: EN 61010-1 1000 V CAT III / 600 V CAT IV
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MECHANICAL AND GENERAL SPECIFICATIONS

Size	45 x 95 x 195 mm (1.8 x 3.7 x 7.7 in)
Weight	420 g (0.915 lb)
Warranty	1 year (extendable to 3 years free when registered on the Megger web site)
Battery life	2 x AA Alkaline: 150 hours typical, without back-light

ORDERING INFORMATION

Description	Order Code	Description	Order Code
AVO830	1007-494	Optional Accessories	
AVO835	1008-221	UKAS calibration certificate AVO830	1011-654
Included Items		UKAS calibration certificate AVO835	1011-655
Red/Black Silicone test leads with Probes		Test lead set and crocodile clips	1002-001
Owners information CD		2 wire 500 mA fused test lead set	1002-015
Batteries 2 x AA Alkaline		Magnetic strap	1010-013
Thermocouple Type K (AVO835)			