Megger®

AVO300
Digial Multimeter

- **Designed for Electricians**
- **Fully auto ranging**
- **Large display characters**
- **Separate battery and fuse cover**
- **Data hold**
- **Min/Max store**
- **IEC 61010 compliant**
- **Suitable for applications to CATIII 600 V**

DESCRIPTION

The AVO300 range of Megger digital multi-meters are tough compact instruments designed for the contracting electrician, but are also suitable for a wide range of applications and users.

Both instruments offer a range of measurement modes for AC and DC applications, resistance and current measurement.

The AVO300 series multi-meters have tough rubber armoured cases offering the maximum amount of protection from the extreme use found in modern industrial environments. They draw on extensive experience of Megger engineers in designing safe reliable instruments for the electrical industry.

Neither of the instruments are burdened with functions that never get used. This keeps the instruments simple to operate without the continued need to refer to the user manual.

Auto-ranging
Every measurement range is fully auto-ranging. Simply switch on the instrument and start testing, leaving hands free for holding probes, or hanging onto ladders.

Separate Battery/Fuse compartment
The battery and fuse compartment are accessed by a separate cover on the back. This allows both battery and fuses to be replaced without opening the main instrument body, and if the meter is sealed with a calibration seal, will not break the seal and invalidate the calibration. A problem found on most commonly available multi-meters.

Large clear display
The LCD display has large high contrast 31/2 digit display which are easily read from a distance. Additionally the AVO310 has a backlit LCD for use in poor lighting and a bar graph range showing the percentage of range used.

Data HOLD
This allows a displayed result to be held on the display until needed, rather than trying to remember a measurement. The result will be held until the HOLD button is pressed again, or until the unit switches off.

MODE
When making current measurements the mode function allow the selection of AC or DC measurement.

MAX/MIN (AVO310 only)
The Max/Min function on the AVO310 freezes the maximum or minimum measured result on the screen. The display does not have to be continually watched to capture a momentary increase or fall in circuit voltage, resistance or current.

Voltage measurement
Both AC and DC voltage measurement is possible with the instrument auto ranging to match the voltage at the test probes.

Voltage measurements up to 1000V are permitted without damage to the instrument.

Current measurement
Three ranges are provided for current measurement of either AC or DC current from 0.1uA to 10A. Fused inputs protect both the user and the instrument in the case of excess current.

Resistance, continuity and Diode testing

Resistance can be measured directly on the ohms range from 0ohms up to 1.999Mohms. A continuity buzzer range is also available for checking low resistance between two points. The buzzer sounding if the resistance is less than 50ohms (35ohms on the AVO310).

Additionally a diode range exists for testing forward and reverse bias operation of transistors and diodes.

Additional features

A low battery indicator warns when batteries are low, and an auto-off function ensures no unnecessary battery wastage occurs if accidentally left on.

A built-in rear stand provides both a bench stand for comfortable use on the bench, as well as extending round 180° to act as a hanging bracket.

Product selection table	AVO300	AVO310
Technical Features		
AC Voltage	1000 V	1000 V
DC Voltage	1000 V	1000 V
AC Current	10 A	10 A
DC Current	10 A	10 A
Resistance 0.1 Ω to 40 MΩ	Y	Y
Diode test	Y	Y
Fast continuity buzzer	Y	Y
Auto-ranging	Y	Y
Data-hold	Y	Y
Max/Min	-	Y
Backlight	-	Y
Tough Rubber Armoured case	Y	Y
Separate fuse and battery cover	Y	Y
Integral Stand/Hanger	Y	Y
Probe holder	Y	Y
Auto power down	Y	Y
Battery Low Warning	Y	Y
Base Accuracy	1%	1%
Battery type	9V PP3 (LR61)	
Temperature	-10˚C to +50˚C	
Installation category	600V CATIII	
IEC 61010	Y	Y

SPECIFICATIONS

Technical:

Insulation:

Class2, Double insulation.

Overvoltage category: (AVO300/310)

CATIII 600V / CATII1000V

Display

AVO300:

4000 counts LCD display, 25.4mm high

AVO310:

4000 counts LCD display, 20mm high

Backlight

AVO310 only

Polarity

Automatic, (-) negative polarity indication.

Over-range

"OL" mark indication.

Low battery indication: A Battery symbol is displayed when the battery voltage drops below the operating level.

Measurement rate

2 times per second nominal.

Auto power off
AVO300:

Meter automatically shuts down after approx. 15 minutes of inactivity.

AVO310:

Meter automatically shuts down after approx. 30 minutes of inactivity.

Operating environment

-10 ºC to 50 ºC (14 ºF to 122 ºF) at < 70 % relative humidity.

Storage temperature

-30 ºC to 60 ºC (-4 ºF to 140 ºF) at <80 % relative humidity.

Relative humidity

90% (0ºC to 30ºC); 75%(30ºC to 40ºC); 45%(40ºC to 50ºC)

**For inside use,
max height**

Operating:3000m

Storage 10,000m

Pollution degree 2

Safety

The instrument complies with EN61010-2-32

Powe:

One 9 V battery , NEDA 1604, IEC 6F22

Dimensions

182 (H) x 82 (W) x55 (D) mm

Weight: Approx

375g

Accuracy

Accuracy is given at 18 °C to 28 °C (65 °F to 83 °F), less than 70 % RH

DC Voltage (Auto-ranging)

Range	Resolution	Accuracy
400.0 mV	0.1 mV	+0.5% of rdg ±2 digits
4.000 V	1 mV	+0.8% of rdg ±2 digits
40.00 V	10 mV	
400.0 V	100 mV	
600 V	1 V	+1% of rdg ±2 digits

Input Impedance: 7.8MΩ.

Maximum Input: 1000 V d.c.

AC Voltage (Auto-ranging)

Range	Resolution	Accuracy
400.0 mV (AVO310 only)	0.1 mV	+1% of rdg ±5 digits
4.000 V	1 mV	
40.00 V	10 mV	
400.0 V	100 mV	
1000 V	1 V	+1.5% of rdg ±5 digits

Input Impedance: 7.8 MΩ.

AC Response: 50Hz 60Hz

Maximum Input: 1000 V rms

DC Current (Auto-ranging)

Range	Resolution	Accuracy
400.0 μA	0.1 μA	+1.0% of rdg ±3 digits
4000 μA	1 μA	
40.00 mA	10 μA	
400.0 mA	100 μA	
10 A	10 mA	+2.5% of rdg ± 3 digits

Overload Protection: 0.5 A / 1000 V and 10 A / 1000 V Fuse.

Maximum Input: 4000 μA dc on μA range

400 mA dc on mA range

10 A dc on 10 A range.

AC Current (Auto-ranging)

Range	Resolution	Accuracy
400.0 μA	0.1 μA	+1.5% of rdg ±5 digits
4000 μA	1 μA	
40.00 mA	10 μA	
400.0 mA	100 μA	
10 A	10 mA	+3.0% of rdg ±5 digits

Overload Protection: 0.5 A / 1000 V and 10 A / 1000 V Fuse.

AC Response: 50Hz to 400Hz

Maximum Input: 4000 μA ac rms on μA

400 mA ac rms on mA

10 A ac rms on 10 A range.

Resistance [Ω] (Auto-ranging)

Range	Resolution	Accuracy
400.0 Ω	0.1 Ω	+0.8% of rdg ±5 digits
4.000 kΩ	1 Ω	+0.8% of rdg ±2 digits
40.00 kΩ	10 Ω	
400.0 kΩ	100 Ω	
4.000 MΩ	1 kΩ	+3% of rdg ±8 digits
40.00 MΩ	10 kΩ	

Input Protection: 1000 V d.c. or 1000 V a.c. rms.

AVO300: Diode Test

Test current	Resolution	Accuracy
0.3mA typical/Open <1.5 V	1 mV	+10% of rdg ±5 digits

Open circuit voltage: 1.5 V dc typical
Overload protection: 1000 V d.c. or 1000 a.c. V rms

AVO310: Diode Test

Test current	Resolution	Accuracy
1mA typical/ Open MAX.3 V	1 mV	+10% of rdg ±5 digits

Open circuit voltage:
MAX. 3 V dc

Overload protection: 1000 V d.c. or 100 V a.c. rms

Audible continuity

Audible threshold:

AVO300:

Less than10 ohm to 30 ohm Ω

Test current: MAX. 0.3 mA

AVO310:

Less than 35 ohm Ω

Test current MAX. 1.5 mA

Overload protection: 1000 V d.c. or 1000 V a.c. rms

ORDERING INFORMATION

Item (Qty)	Order Code
Digital multimeter CATIII 600V	AVO300
Digital multimeter CATIII 600V with Min/Max and backlight	AVO310
Included Accessories	
Test leads and Probes	
Optional Accessories	
Replacement Red/Black Test lead set	6220-779
Fused Red/Black test lead set	6220-789