

AVO210

Digital multimeter



- 2000 count digital display
- 1000 V DC / 750 V AC ranges
- 10 A AC / DC ranges
- Resistance, frequency and capacitance ranges
- Non-contact voltage sense feature
- CAT III 600 V

DESCRIPTION

The AVO210 is a general purpose multimeter suitable for electricians, heating engineers and alarm technicians. The additional features make the instrument useful for a wide range of applications.

The instrument offers AC and DC voltage and current measurements as well as resistance, frequency and capacitance ranges.

The AVO210 has simplified functions that avoid continuous reference to the user guide.

The testleads included with the AVO210 have GS38 compliant shrouded tips.

Auto-ranging

When first selected, all functions are auto-ranging. A range button on the AVO210 allows multiple manual range selection on each function.

Minimum / Maximum measurements

The instrument has a MIN MAX function that allows the user to switch between minimum and maximum measurements. The display does not have to be continually monitored to capture a momentary increase or fall in readings.

Data Hold

This function allows a displayed result to be frozen which avoids having to remember a measurement value. The hold function can be nested within the MIN MAX feature which stops the AVO210 continuously updating the minimum and maximum values.

Voltage measurements

Both AC and DC voltage measurements up to 750 V and 1000 V respectively are possible with the AVO210.

Current measurements

A separate fused terminal is provided for current measurements up to 10 A for both AC and DC.

Continuity / diode testing

The continuity function features a buzzer and provides the user both optical and audible indication of identifying and confirming continuity between two points. This function also allows forward and reverse bias testing of diode and semiconductor junctions.

Voltsense function

The AVO210 has a built in non-contact voltage sensor fitted in the top of the instrument that is activated by the Volsense button.

Resistance, capacitance and frequency

Resistance can be measured directly on the ohms range from 0 to 20 MΩ with capacitance measurements from 0 to 2.000 mF. In addition, frequency measurements from 0 to 20 MHz are possible.

SPECIFICATIONS

Display	2000 counts
Polarity	Automatic, positive implied, negative indicated
Over-range indication	"OL" or "-OL"
Battery indicator	"<" is displayed when the batteries voltage drops below operating voltage
Auto power down	Approx 10 minutes
Operating ambient	Non-condensing $\leq 10^{\circ}\text{C}$, $11^{\circ}\text{C} \sim 30^{\circ}\text{C}$ ($\leq 80\%$ R.H) $31^{\circ}\text{C} \sim 40^{\circ}\text{C}$ ($\leq 75\%$ R.H), $41^{\circ}\text{C} \sim 50^{\circ}\text{C}$ ($\leq 45\%$ R.H)
Storage temperature range and humidity	-20°C to 60°C , 0 to 80% R.H. when battery removed from meter
Temperature co-efficient	$0.15 \times (\text{Spec. Accy.}) / ^{\circ}\text{C}$, $< 18^{\circ}\text{C}$ or $> 28^{\circ}\text{C}$
Sample rate	Samples 2 times per second nominal
Maximum altitude	6561.7 ft (2000 m)
Safety	Complies with EN61010-1, UL61010-1, IEC 61010-1, V/ Ω CAT III 600 V, CATII 1000 V A CAT III 500 V
Pollution degree	2
Power supply	1.5 V x 2 LR03 or AAA size
Battery life	Alkaline 250 hours
Dimensions	74 mm x 156 mm x 44 mm
Weight	320 g

ELECTRICAL

Accuracy is \pm (% reading + number of digits) at $23^{\circ}\text{C} \pm 5^{\circ}\text{C} < 80\%\text{RH}$.

AC/DC volts

Range	AC Accuracy
200.0 mV	Unspecified
2.000 V *	$\pm(1.5\%+5 \text{ dgts})$ 50 Hz ~ 300 Hz
20.00 V ~ 200.0 V *	$\pm(1.5\%+5 \text{ dgts})$ 50 Hz ~ 500 Hz *
750 V AC / 1000 V DC	$\pm(1.5\%+5 \text{ dgts})$ 50 Hz ~ 500 Hz *

DC Accuracy : $\pm(0.5\% + 2 \text{ dgts})$

Over voltage protection : 1000 V DC or 750 V AC rms.

Input Impedance : 10 M Ω // less than 100 pF.

*** CMRR / NMRR : (Common Mode Rejection Ratio)**

(Normal Mode Rejection Ratio)

VAC : CMRR > 60 dB at DC, 50 Hz / 60 Hz

VDC : CMRR > 100 dB at DC, 50 Hz / 60 Hz

NMRR > 50 dB at DC, 50 Hz / 60 Hz

AC conversion type

Average sensing rms indication.

AC conversions are ac-coupled, true rms responding, calibrated to the sine wave input.

* The minimum LCD reading is 1400 count in Auto Ranging Mode.

Crest Factor : C.F. = Peak / Rms

+ 1.5% addition error for C.F. from 1.4 to 3

+ 3% addition error for C.F. from 3 to 4

DC/AC current

Range	DC Accuracy	AC Accuracy	Voltage Burden
2.000 A	$\pm(1.0\% + 3 \text{ dgts})$	$\pm(1.5\% + 5 \text{ dgts})$	2 V max
10.00 A **	$\pm(1.0\% + 3 \text{ dgts})$	50 Hz ~ 500 Hz*	2 V max

Overload protection

A input: 10 A (500 V) fast blow fuse

*** AC Conversion Type :** Conversion type and additional specification are same as DC/AC voltage.

**** Ampere Testing Duty Ratio Table**

Ampere	Testing Time	Rest Time
10 A	1 min	10 min
9 A	2 min	10 min
8 A	3 min	10 min
7 A	4 min	10 min
6 A	5 min	10 min
5 A	Continually	N/A

Resistance measurements

Range	Accuracy	Voltage Burden
200.0 ~ 200.0 K Ω **	$\pm(0.7\% + 3 \text{ dgts})$	2 V max
2.000 M Ω **	$\pm(1.0\% + 3 \text{ dgts})$	2 V max
20.00 M Ω *	$\pm(1.5\% + 3 \text{ dgts})$	2 V max

* <100 dgt rolling.

* * The minimum LCD reading is 1400 count in Auto Ranging Mode.

Open circuit voltage -1.3 V approx.

Diode check

Range	Resolution	Accuracy
(Diode symbol)	10 mV	$\pm(1.5\% + 5 \text{ dgts})^*$

Frequency

Range	Sensitivity	Accuracy
2000 Hz ~ 200.0 KHz	>1.5 Vac rms, <5 Vac rms	Frequency: 0.01% \pm 1 digit
2.000 MHz ~ 20.00 MHz	>2 Vac rms, <5 Vac rms	Frequency: 0.01% \pm 1 digit

Capacitance

Range	Accuracy	Overload Protection
2.000 nF ~ 200.0 μ F	$\pm(1.9\% + 8 \text{ dgts})$	600 V rms
2.000 mF *	$\pm(1.9\% + 8 \text{ dgts})$	600 V rms

Input impedance 10 M Ω // less than 100 pF.

ORDERING INFORMATION

Description	Order Code
AVO210 digital multimeter CAT III 600 V	1000-969
Included accessories	
Test leads	
Optional accessories	
Pouch	2007-366

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CERTIFICATION ISO
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