

AVO®215 CAT III TRMS multimeter



- 4000 count display
- AC / DC Voltage to 600 V
- AC / DC Current to 10 A
- True RMS
- Resistance, capacitance, frequency ranges
- Duty cycle
- Auto ranging
- Auto power off
- Data hold
- Max/Min
- Built in flashlight
- Rear tilt stand
- CAT III 600 V Rating

DESCRIPTION

The AVO®215 is a pocket sized multimeter that offers a wide range of functions in a small, rugged package. The 4000 count high contrast negative display, combined with a back light, provides the user easy to read results in all lighting conditions.

The size of the case and position of the function switch and buttons means the instrument sits comfortably in the palm for single handed use.

RANGES AND FEATURES

The instrument is capable of measuring AC/DC voltages up to 600 V and AC/DC currents up to 10 A (20 A possible for 30 seconds maximum). All AC function measurements are True RMS.

Resistance ranges allow measurements from 0 to 40 MΩ with capacitance measurements from 0 to 4000 μF.

In addition, frequency measurements between 10 Hz and 10 kHz are also possible.

The duty cycle function allows the ratio of time that a circuit is energised compared to the time the circuit is de-energised to be displayed, expressed as a percentage of circuit on time.

Example: A 75% duty cycle is a signal that is on 75% of the time and off 25% of the time.

Ideal for pulse wave/trains or pulse width mode (PWM) evaluation.

Functions are auto-ranging when first selected. The range button on the meter allows manual range selection across all functions; a feature that is generally welcomed by many users.

The instrument has a MAX MIN function that let's the user switch between maximum and minimum measurements, meaning the user does not have to be continually monitoring the display to capture any momentary increase or fall in readings.

The hold feature ensures a displayed result can be frozen on the display.

The continuity range features a buzzer and provides the user an audio indication for identifying and confirming continuity between two points. The diode test provides forward and reverse bias testing of diode and semiconductor junctions.

For convenience the AVO®215 also features a built in flashlight for when working in dark areas and is supplied with a DMM lead set and a protective carry pouch.

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SPECIFICATIONS

DC Voltage

| Range | Resolution | Accuracy |
|--------|------------|--------------------------------|
| 400 mV | 0.1 mV | +/- (1.0 % reading + 5 digits) |
| 4 V | 0.001 V | |
| 40 V | 0.01 V | |
| 400 V | 0.1 V | |
| 600 V | 1 V | |

AC Voltage

| Range | Resolution | Accuracy |
|-------|------------|--|
| 4 V | 0.001 V | 50 Hz to 60 Hz +/- (1.2 % reading + 3 digits) |
| 40 V | 0.01 V | |
| 400 V | 0.1 V | |
| 600 V | 1 V | |
| 600 V | 1 V | |

All AC voltage ranges are specified from 5 % of range to 100 % of range

DC Current

| Range | Resolution | Accuracy |
|---------|------------|--------------------------------|
| 400 µA | 0.1 µA | +/- (1.0 % reading + 3 digits) |
| 4000 µA | 1 µA | |
| 40 mA | 0.01 mA | |
| 400 mA | 0.1 mA | |
| 4 A | 0.001 A | |
| 10 A | 0.01 A | +/- (1.2 % reading + 3 digits) |

(20 A: 30 seconds maximum with reduced accuracy)

AC Current

| Range | Resolution | Accuracy |
|---------|------------|--------------------------------|
| 400 µA | 0.1 µA | +/- (1.2 % reading + 3 digits) |
| 4000 µA | 1 µA | |
| 40 mA | 0.01 mA | |
| 400 mA | 0.1 mA | |
| 4 A | 0.001 mA | +/- (1.8 % reading + 5 digits) |
| 10 A | 0.01 A | |

(20 A: 30 seconds maximum with reduced accuracy)

All AC current ranges are specified from 5 % of range to 100 % of range

Note: Accuracy is stated at 18 °C to 28 °C (65 °F to 83 °F) and less than 75 % RH.

Resistance

| Range | Resolution | Accuracy |
|--------|------------|---------------------------------|
| 400 Ω | 0.1 Ω | +/- (1.5 % reading + 5 digits) |
| 4 kΩ | 0.001 kΩ | |
| 40 kΩ | 0.01 kΩ | |
| 400 kΩ | 0.1 kΩ | |
| 4 MΩ | 0.001 MΩ | +/- (2.5 % reading + 20 digits) |
| 40 MΩ | 0.01 MΩ | |

Capacitance

| Range | Resolution | Accuracy |
|---------|------------|---------------------------------|
| 40 nF | 0.01 nF | +/- (4.5 % reading + 10 digits) |
| 400 nF | 0.1 nF | |
| 4 µF | 0.001 µF | +/- (3.0 % reading + 5 digits) |
| 40 µF | 0.01 µF | |
| 400 µF | 0.1 µF | |
| 4000 µF | 1 µF | +/- (5 % reading + 5 digits) |

Frequency

| Range | Resolution | Accuracy |
|----------------|------------|---------------------|
| 10 Hz – 10 kHz | 0.01 Hz | +/- (1.2 % reading) |

Sensitivity: 15 V rms

Duty Cycle

| Range | Resolution | Accuracy |
|---------------|------------|--------------------------------|
| 0.1 to 99.9 % | 0.1 % | +/- (1.2 % reading + 2 digits) |

Pulse width: 100 µs – 100 ms, Frequency: 5 Hz to 150 kHz

Note: Accuracy specifications consist of two elements.
(% reading) = accuracy of the measurement circuit
(+ digits) = accuracy of analog to digital converter

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CAT III TRMS multimeter

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|------------------------------|---|
| Drop test: | 2 metres (6.5 feet) |
| Diode Test: | Test current of 1.5 mA maximum, open circuit voltage 3 V DC typical |
| Continuity Check: | Audible signal will sound if the resistance is less than 50 Ω (approx.), test current <0.35 mA |
| Input Impedance: | >10 M Ω VDC / VAC |
| AC Response: | TRMS |
| ACV Bandwidth: | 50/60 Hz (All waveforms) 45 Hz to 1000 Hz (Sine wave) |
| Crest Factor: | Less than or equal to 3 at full scale up to 300 V, decreasing linearly to less than or equal to 1.5 at 600 V. |
| Display: | 4000 counts / positive display |
| Overrange Indication: | 'OL' is displayed |
| Polarity: | Automatic (No indication for positive) Minus symbol for negative |
| Measurement Rate: | 3 times per second |
| Battery: | 1.5 V AAA x 2 batteries |
| Fuses: | mA / μ A ranges: 0.5 A 600 V ceramic quick blow fuse / A range: 10 A 600 V ceramic quick blow fuse |

| | |
|-------------------------------|--|
| Operating Temperature: | 5 °C to 40 °C (41 °F to 104 °F) |
| Storage Temperature: | -20 °C to 60 °C (-4 °F to 140 °F) |
| Operating Humidity: | Max 80 % up to 31 °C (87 °F) decreasing linearly to 50 % at 40 °C (104 °F) |
| Storage Humidity: | <80 % |
| Operating Altitude: | ≤ 2000 metres (7000 feet) maximum |
| Weight: | 342 g (0.753 lb) |
| Size: | 182 x 82 x 59 mm |
| IEC: | IEC61010 |
| Safety rating: | CAT III 600 V |

ORDERING INFORMATION

| Description | Part number | Description | Part number |
|---------------------------|-------------|---|-------------|
| AVO215 CAT III multimeter | 1015-233 | Optional Accessories | |
| Included Accessories | | Unfused red and black test leads with probes and croc clips | 1002-001 |
| Test leads | | Fused red and black test leads (500 mA) with probes and croc clips | 1002-015 |
| Protective carry pouch | | | |

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