

APPA 100 Series

The Toughest Multimeters



CONFORMED
IEC
1010-1

UL
3111



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東方科技公司 ORIENTAL TECHNOLOGY COMPANY
O/B ORIENTAL TECH DEVELOPMENT LTD.

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Here are the key features that make us the toughest

High energy fuses, PTCs, and fusible resistors protect APPA 100 Series multimeter, and its user, from overloads.

At the heart of the APPA 100 Series is state-of-the-art engineering, including a large-scale integration (LSI) low-noise A/D converter, a large high-contrast LCD, a precision resistor network, and low-power CMOS ICs.

The thick walled, fire retardant, high-impact plastic case guarantees that an APPA 100 Series meter will keep on working even after a six foot drop to a concrete floor.

Every APPA 100 Series meter is supplied with a protective holster that includes a built-in tilt stand, a nail hook, and convenient test lead storage. This holster provides an extra degree of protection and convenience for your meter.

Our test probes are fitted with finger shields, and the exposed tips are just 5mm long. Also, the "banana" plugs have full sleeves, to protect against accidental contacts.

All APPA 100 Series meters have color-coded, insulated input jacks.

A specially designed shock mounting protects the LCD display from drops and jarrings.

The unique rotary switch, constructed with durable engineering plastic, beryllium copper contacts, and gold-plated circuit boards, will provide years of use.

APPA 100 Series multimeters are as tough as they come
... and the best value for your money.

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APPA 100 SERIES MULTIMETERS

FEATURES:

- 3½ digit, 4000 count display updates 2 times per second
- 42 segment analog bar graph display updates 20 times per second
- Autoranging and manual selection
- 10 Functions: ACV, DCV, ACA, DCA, OHM, FREQUENCY COUNT, CAPACITANCE, DIODE TEST, CONTINUITY BUZZER and ADAPT RANGE
- Min Max Hold function
- Data Hold and Relative Modes
- Memory Store and Recall functions
- Automatic power shut off
- Water resistant and fire retardant case (APPA103, 105, 105R)
- Shock proof from 6 feet drops
- Protective holster attached
- Designed to IEC 1010 safety specifications
- Protected from 6KV transients on 660V AC feeders
- UL 1244 listed, GS TUV certificated (APPA 103, 105, 105R)

SPECIFICATIONS: (All at 23 ± 5 °C, <80% R.H.)

VOLTAGE:

DCV	101	103	105, 105R
400mV	± (0.7% + 2d)	± (0.6% + 2d)	± (0.3% + 2d)
4V, 40V, 400V, 1000V	± (0.5% + 2d)	± (0.4% + 2d)	± (0.1% + 2d)

ACV	101	103	105,105R
4V, 40V, 400V, 750V			
50Hz ~ 60Hz	± (1.0% + 5d)	± (0.8% + 5d)	± (0.5% + 5d)
40Hz ~ 1KHz	± (1.5% + 5d)*	± (1.3% + 5d)	± (1.0% + 5d)

* For 40Hz ~ 500Hz

Resolution: 0.1mV in the 400mV range.
 Input Impedance: 10M Ω, <100pF.
 Overload Protection: 1100V DC or AC peak.
 AC Conversion Type: APPA 101, 103, 105-Average sensing RMS indicating.
 APPA 105R-AC Coupled True RMS responding.

ADAPT RANGE:

- Display: 10 counts per 1mV DC.
- Accuracy: ± (0.1% + 2d) for APPA 105 & 105R, ± (0.3% + 2d) for APPA 101 & 103.
- Input Protection: 600V DC or RMS AC.

CURRENT:

DCA	101	103	105,105R
4mA ~ 400mA	± (0.8% + 2d)	± (0.7% + 2d)	± (0.4% + 2d)
10A	± (1.5% + 4d)	± (1.3% + 4d)	± (0.8% + 4d)

ACA	101	103	105,105R
40Hz ~ 1KHz			
4mA ~ 400mA	± (1.5% + 5d)	± (1.3% + 5d)	± (1.0% + 5d)
10A	± (2.5% + 5d)	± (2.0% + 5d)	

Range: 4mA, 40mA, 400mA
 10A (20A for 60 seconds).
 Resolution: 1µA in the 4mA range.
 Burden Voltage: 800mV max. for mA input, 1V max. for A input.
 AC Conversion Type: APPA 101, 103, 105-Average sensing RMS indicating.
 APPA 105R-AC Coupled True RMS responding.

Input protection:

APPA 103, 105, 105R: Equipped with High Energy Fuses.
 1A, 600V, IR 10KA fuse (Bussmann BBS-1 or equivalent) for mA input.
 15A, 600V, IR 100KA fuse (Bussmann KTK 15 or equivalent) for A input.
 APPA 101:
 1A, 240V, φ6.3 x 25.4mm HBC 6000A for mA input
 13A, 240V, φ6.3 x 25.4mm HBC 6000A for A input.
 APPA 101 is designed to safety meet measuring requirements of the field service industry. It is not recommended for use in high energy applications.

RESISTANCE:

OHM	101	103	105, 105R
400Ω	± (0.7% + 3d)	± (0.6% + 3d)	± (0.4% + 3d)
4KΩ, 40KΩ, 400KΩ	± (0.7% + 2d)	± (0.6% + 2d)	± (0.4% + 2d)
4MΩ	± (1.0% + 3d)	± (0.8% + 3d)	± (0.6% + 3d)
40MΩ	± (2.0% + 5d)	± (1.8% + 5d)	± (1.5% + 5d)

Resolution: 0.1Ω in the 400Ω range.
 Open Circuit: Voltage: 0.4V.
 Input Protection: 600V DC or RMS AC.

CONTINUITY TEST:

Continuity Threshold: Approx. 40Ω
 Continuity Indicator: 2KHz Tone Buzzer.
 Input Protection: 600V DC or RMS AC.

DIODE TEST:

Test Current: 0.6mA.
 Open Circuit Voltage: 3.0V DC
 Input Protection: 600V DC or RMS AC.

CAPACITANCE:

Ranges: 4nF, 40nF, 400nF, 4µF, 40µF.
 Resolution: 1pF in the 4nF range.
 Accuracy: ± (1% + 4d) for 40nF to 20µF, ± (5% + 8d) for 20µF, in relative mode.
 Input Protection: 600V DC or RMS AC.

FREQUENCY COUNTER:

Ranges: 100Hz, 1KHz, 10KHz, 100KHz, 1MHz.
 Resolution: 0.01Hz in the 100Hz range.
 Accuracy: ± (0.1% + 4d).
 Sensitivity: 40mV rms for 1Hz ~ 20KHz, 400mV rms for 20KHz ~ 1MHz.
 Input Protection: 600V DC or RMS AC.

GENERAL:

Display: 3½ digit (4000 count), 42 segment analog bar graph and full annunciators, automatic polarity indication.
 Measuring Rate: Digit 2 times per second, Analog bar graph 20 times per second, Capacitance 1 time per second.
 Overrange Indication: MSD (Most Significant Digit) Blinks.
 Auto power Off: Approx. 30 minutes after switch or mode changes.
 Operating Temperature: -10°C ~ 50°C.
 Storage Temperature: -30°C ~ 60°C.
 Temperature Coefficient: 0.1 x (Spec. Accuracy) per °C, <18°C or >28°C
 Relative Humidity: 0% to 80% (0°C to 50°C)
 Shock & Vibration: per MIL-T-28800 for a Class 2
 Dust/Water Protection IP Rating: IP 64 (APPA 103, 105, 105R)
 Safety: Designed to IEC 1010 and UL 1244 specifications.
 Maximum Voltage to Earth: 1000V DC or AC peak from any terminal.
 Power Requirements: APPA 101, 103, 105-IEC LR03, AM4 or AAA (1.5V) x APPA 105R-IEC 6LF22, 6AM6 or NEDA 1604A 9V x 1
 Battery Life: APPA 101, 103, 105-1000 hours typical (alkaline).
 APPA 105R-500 hours typical (alkaline).
 Size: 86mm (W) x 185mm (L) x 32mm (D) (3.39in x 7.28in x 1.26in).
 With holster 98mm x 200mm x 52mm (3.86in x 7.91in x 2in).
 Weight: Approx. 12.9 oz (0.37Kg). With holster 21.2 oz (0.6Kg).
 Included with instrument: Safety-designed test leads, alkaline batteries (installed), instruction manual and a protective holster.

Specifications subject to change without notice

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