

# OEM CATALOGUE 2021

An MGL<sup>1</sup>/<sub>2</sub> Brand



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## **COMMERCIAL TERMS**

## Product Info

Measurements, weights, characteristics or sizes shown in this catalogue are indicative, and may be modified without prior notice.

## Prices and deliveries

Sale prices will be those offered in writing quotations or those included in our current rate at the time of delivery. Supply will be based on the MOQ (minimum order quantity) detailed in this catalogue.

## Shipping costs

Shipments will be based on the Incoterm conditions shown in each quotation.

Any other logistics service requested will be negotiated and quoted separately, and must be previously accepted

by the client.

## Shipping incidences

All shipments will be checked and verified within 48 hours after receipt. If any incident is detected, it must be communicated immediately to the carrier and to MGL customer service.

## Merchandise unloading

Merchandise sent by special transports will be unloaded by the receiver.

## **Deliveries to third parties**

In the event of deliveries requested for a different destination to the usual, MGL express consent will be required, and the customer should be responsible for the correct reception as if it was his usual address.

## Good return

Good returns will only be admitted if they have been previously justified and expressly accepted by MGL, will be negotiated and quoted separately, and must be previously accepted by the client.

## **Civil liability**

MGL declines all responsibility due to the improper use of its products. The civil liability on our products expires one year after delivery. In case of litigation as a result of a sale, the parties will submit to the jurisdiction of the courts where the principal place of business of the manufacturer is located, waiving both parties to any other jurisdiction that may correspond. The civil liability will be governed by the Law of the State of principal

place of business of the manufacturer.

## Warranty

All MGL products are guaranteed by the legal period of time governing on each operation.

This warranty does not cover failures caused by improper use or handling.

To execute the guarantee you must contact our Customer Service Center by email: info@mgl-intl.com

Technical specifications included in this price list may be subject to modifications without prior notice.

## CONTACT US

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## WHO IS MGL

We are a global group of companies operating locally. We develop, manufacture and sell products and solutions for the test and measurement industry under our own brands, such as Mastech, KPS, Power Probe, APPA, C-Logic and PS-Tech. We also offering engineering / manufacturing (ODM) and adaptation / customization (OEM) services. Additionally, we provide other added value solutions such as outsourced and engineered products.



Our companies work globally, serving our customers worldwide. This global network delivers a deeper understanding of each individual market, with solutions tailored to the unique requirements of each customer.

Our goal is to be a recognised, honest and fair company. We aim to be the most valued partner for our customers in the research, development, manufacture and supply of innovative, modern and customer-focused technologies.

We have a highly experienced team which is open-minded, receptive to new ideas and adaptive to evolving market trends. This solid foundation guarantees that we are well informed and fully equipped to deliver excellent solutions to meet our customers' real needs.





## **MGL AT A GLANCE**



More than 800 employees



Three factories in Taiwan, China and Europe



Annual production of +10 million units per year



We manufacture more than 95% of our products, even the accessories

## **OUR BRANDS**

We manufacture electrical test and measurement instruments under our own brands: Mastech, KPS, Power Probe and APPA, recognized brands and market leaders in the fields of electrical measurement and automotive. All of our products have a professional positioning based on advanced balanced technology and they are marketed through local distributors throughout the world.

We maintain direct and close contact with our distributors, through our offices around the world, and we support them in their business by offering technical advice and an after-sales service for our products.







In this fast and competitive global market, choosing a trusted partner to supply quality products to compete in the market is a very important decision for every company.

With OEM and ODM services we offer flexible and scalable production that helps the launching of new products and minimizes the risks of in-house manufacturing. At MGL we have three business models, adapted to the different needs of our customers.

## **OEM SERVICE**

The OEM service refers to products that we have already developed in MGL and for which we offer a customization service, so that other companies can market them with their own brands.

With this service we offer a range of fully finished products that comply with international regulations, since the entire engineering and product design process has already been carried out by MGL.



## Advantages of OEM Service

## We personalize the product following your corporate identity

From the color plastic injection parts and the marking of the product with its own logo, to the complete packaging and manuals customization.



## We make the process easier

As serveral production stages like engineering, prototyping or testing and certification have been already developed by MGL.

## We manufacture at the competitive cost and with minimal risk

Since no investment is necessary for the customer, and with reasonable minimum order quantities.

## We minimize the time to launch a product on the market

From the color plastic injection parts and the marking of the product with its own logo, to the complete packaging and manuals customization.





## **ODM SERVICE**

Our ODM service will help your business design and develop new and exclusive products under your own brand. This service allows your business to streamline custom projects without having to deal with the day-to-day operations of a factory.

Choosing a trusted partner is key when developing ODM products. We at MGL strive to take the burden of manufacturing off of you, so you can focus on the processes that your business knows best.



## Advantages of ODM Service

We turn your ideas into real products, using our extensive experience to turn your product specifications into engineering specifications in order to execute the project quickly and efficiently.

We offer customised designs.

We provide swift production times.



For more information, please ask for our ODM catalogue.



## Why choose MGL as an ODM partner

- For our 30 years experience
- For our R&D and quality control, resulting in reliable, safe and accurate products.
- Because we are close to you, with our local teams speaking your language and located in your time zone.
- For our proven professionalism and confidentiality, certified with our comprehensive intellectual property protection and confidentiality agreements.
- For our certifications: we are members of IPC (Association Connecting Electronic Industries) and have an ISO 9001: 2015 certification.

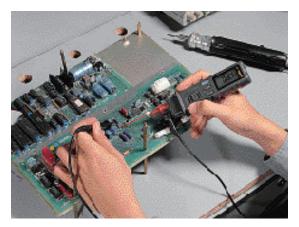
We use external and recognized laboratories for every product we manufacture, in order to provide reliable test reports according to regional and local standards.

- For our technology and production capacity: in our two factories we produce more than 95% of all our components, so we control the entire product production process from product concept to final manufacturing.
- For our financing service: for mould investments or any other capital projects that may be of interest.









ACV, DCV, OHM, DIODE,.....Measurement



**Temperature Measurement** 



**AC Current Measurement** 



**DC/AC Current Measurement** 



Tough, double wall woven fabric, two way zipper carrying case for APPA 10 series meters. Three seperate holders to carry an APPA 17 and two transducers, inside pocket is designed to carry test leads, bead probe and manual.

This deluxe carrying case is also versatile to carry APPA 60 series multimeter, APPA 50 series thermometer .....etc.









## APPA 17

3200 count digital resolution 65 segment analog bar graph Autorranging and manual selection 0.7% basic dc Volts accuracy 1.7% basic ac Volts accuracy 1.0% baic ohms accuracy 600V protection in every range Fast continuity beeper Data hold function Auto power off Conforms to IEC1010 & UL 3111 specifications Standard "AAA" size batteries ,long battery life Featured with standard 3/4" pitch input jacks Rugged construction with fire retardant, high-impact plastic case Soft carrying case included

#### APPA 11

Converts any DMM into a thermometer -50°C to 1000°C (-58°F to 1830°F) range °C/°F switchable Flashing light operating indication Battery voltage check K type Bead thermocouple sensor included (-40°C to 204°C) Standard 9V battery



#### NEW APPA 17A

4200 count digital resolution Autorranging and manual selection 0.5% basic dc Volts accuracy 1.5% basic ac Volts accuracy 0.8% baic ohms accuracy 600V protection in every range Fast continuity beeper(0.2msec) Data hold function REL  $\Delta$  function Auto power off Adapt function with serial options Conforms to IEC1010 & UL 3111 specifications Standard "AAA" size batteries ,long battery life Featured with standard 3/4" pitch input jacks Rugged construction with fire retardant, high-impact plastic case Soft carrying case included





#### **APPA** 15

AC 300A Capability 1.9% basic accuracy Non-intrusive transducing Up to 29mm dia. conductor Erogonormicly designed jaw and trigger Hand guard designed



## **SPECIFICATIONS:** (All at $23^{\circ}C \pm 5^{\circ}C$ , $\leq 80\%$ RH)

## **APPA 17 Pen-type Multimeter**

DC Voltage:

Range:  $320mV \sim 600V$ Accuracy:  $\pm (0.7\%+2d)$ Input Resistance:  $10M\Omega$ Overload Protection: 600V

AC Voltage:

Range: 3.2V~ 600V Accuracy: ±(1.7%+5d) at 40Hz~500Hz Input Impedance: 10MΩ//<100pF Overload Protection: 600V rms

#### Resistance:

Range: 320Ω~30MΩ Accuracy: 1.2%+4d at  $320\Omega$ 1.0%+2d at 3.2kΩ~320kΩ 1.5%+3d at 3.2MΩ 3.0%+5d at 30MΩ Overload Protection: 600V rms Continuity Beeper: <20Ω, 2kHz tone buzzer Diode Test: Open circuit voltage 3.3V max. Measuring rate: 2 T/S digital, 12 T/S analog Temperature Coefficient: 0.15x(Spec. Accuracy)/°C <18°C or > 28°C Operating Temperature: 0°C ~ 50°C, ≤ 80% RH. Storage Temperature: -20°C ~ 60°C Ralative Humidity: 0 ~ 80% (0°C ~ 35°C) 0 ~ 60% (35°C ~ 50°C) Safety: Conforms to IEC 1010 and UL 3111 specifications Power Requirements: IEC LR03, UM4 or AAA size 1.5Vx2 Battery Life: 800 Hours (Alkaline) Size: 145mm(L) x 42mm(W) x 24mm(D), without probes Weight: 120 grams, without probes Included With Instrument: Test leads set, ZnC battery (installed),

Carrying case and manual

## **APPA 11 Thermocouple Module**

SPECIFICATIONS: Temperature Scale: Celsius or Fahrenheit user-selecatable Input: Single K-type thermocouple Output to Meter: 1mVdc per°C or °F Measurement Range: -50°C ~ 1000°F -58°F ~ 1830°F

Accuracy:

±(0.5%+2°C), -19°C ~ 350°C ±(0.5%+4°F), -3°F ~ 662°F ±(2.0%+2°C), 351°C ~ 500°C ±(2.0%+4°F), 663°F ~ 932°F ±(2.9%+2°C). 501°C ~ 1000°C ±(2.9%+4°F), 933°F ~ 1832°F ±(2.0%+2°C), -50°C ~ -20°C ±(2.0%+4°F), -58°F ~ -4°F Operating Temperature:  $0^{\circ}C \sim 50^{\circ}C, \le 80\%$  RH Storage Temperature: -20°C ~ 60°c Temperature Coefficient: 0.15 x (Spec. Accuracy) per °C, <18°C or >28°C Relative Humidity: 0% ~ 80% Power Requirement: Standard 9V battery, NEDA 1604 JIS 006P IEC 6F22 Battery Life: Alkaline 500 hours Size: 122mm(L) x 46mm (W) x 30mm(D)

#### **APPA 17A Pen-type Multimeter** DC Voltage: Range: 4.2V ~ 600V Accuracy: ±( 0.5%+2d) Input Resistance: ≥9MΩ Overload Protection: 600V AC Voltage: Range: 4.2V~ 600V Accuracy: ±(1.7%+5d) at 40Hz~500Hz Input Impedance: 9MΩ//< less than 100pF Overload Protection: 600V rms Resistance: Range: 420Ω~42MΩ Accuracy: 1.2%+8d at 420Ω 0.9%+4d at 4.2kΩ~42kΩ 1.2%+4d at 420KΩ~4.2MΩ 3 0%+7d at 42MO Overload Protection: 600V rms Continuity Beeper: <50Ω, 2kHz tone buzzer Diode Test: Open circuit voltage 3.3V max. Measuring rate: 2 T/S digital. Temperature Coefficient: 0.15x(Spec. Accuracy)/°C <18°C or > 28°C **Operating Temperature:** $0^{\circ}C \sim 50^{\circ}C$ , $\leq 80\%$ RH. Storage Temperature: -20°C ~ 60°C $0 \sim 80\% (0^{\circ}C \sim 35^{\circ}C)$ Ralative Humidity: 0 ~ 60% (35°C ~ 50°C) Safety: Conforms to IEC 1010 and UL 3111 specifications Power Requirements: IEC LR03, UM4 or AAA size 1.5Vx2 Battery Life: 800 Hours (Alkaline) Size: 145mm(L) x 42mm(W) x 24mm(D), without probes Weight: 120 grams, without probes **Included With Instrument:** Test leads set, ZnC battery (installed), Carrying case and manual

## **APPA 11H RELATIVE HUMIDITY TRANSDUCER**

SPECIFICATIONS: Output to Meter: 1mVdc per 1%RH Measurement Range: 10%RH ~ 95%RH Accuracy: ±7%, 10%RH ~ 20%RH ±5%, 20%RH ~ 35%RH ±3%, 35%RH ~ 75%RH ±5%, 75%RH ~ 90%RH ±7%, 90%RH~ 95%RH Operating Temperature: 5°C ~ 45°C, (10%RH ~ 95%RH) Storage Temperature: -20°C ~ 60°C, (0%RH ~ 50%RH) Temperature coefficient: 0.2x(Spec. Accuracy) per°C, <18°C or >28°C Relative Humidity: 10% ~ 95% Power Requirement: Standard 9V battery, NEDA 1604 JIS 006P IEC 6F22 Battery Life: Alkaline 300 hours Size: 131mm(L)x52mm(W)x30mm(D)





### **APPA 15 AC Current transducer**

Current Range: 0.1A to 300A a.c. RMS Output Voltage: 1mV a.c. per 0.1 Amp a.c. Working Voltage: 600V Cat. II per IEC 1010 Accuracy:  $\pm(1.9\%+0.5A)$ , 50Hz to 60Hz  $\pm(3.9\%+1A)$ , 40Hz to 400Hz Operating Temperature: 0°C ~ 50°C,  $\leq$  80% RH. Storage Temperature: -20°C ~ 60°C Safety : Designed to IEC 1010 AND UL3111 specifications Jaw Opening: Ø30mm max. Conductor Size: Up to 29mm diameter Size: 72mm(W) x 102mm(L) x 36mm(D) Weight: 150 gms

### APPA 32 DC/AC Current transducer

#### AC CURRENT: Ranges: 100A,600A Resolution: 10mV/A, 1mV/A Accuracy: 45Hz-400Hz ±(2%+2A) In 100A range ±(2%+2A), 100-400A

±(3%+2A), 400~600A DC CURRENT: 100A, 600A Ranges: Resolution: 10mV/A, 1mV/A Accuracy: ±(2%+2A) In 100A range ±(2%+2A), 100 ~ 400A ±(3%+2A), 400 ~ 600A Load Impedance:  $100K\Omega$  min Position Error: ±1%rdg Output Voltage: AC/DC, 10mV/A in 100A, 1mV/A in 600A Type of Sensing: Hall effect sensing for AC and DC Low Battery Indicator: Red LED **Operating Temperature:**  $0^{\circ}C \sim 50^{\circ}C, \le 80\%$  R.H. Storage Temperature: -20°C ~ 60°C Temperature Coefficient: 0.2x(spec. Acc'y)/°C, < 18°C or > 28°C Shock Proof: 4 feet drops Safety: Designed to IEC 1010 and UL 3111 specifications. Maximum Conductor Size: Ø 34mm Maximum Jaw Opening: 38mm Maximum Busbar Size: 20x40mm Power Requirement: Sinle 9V battery (NEDA 1604, IEC 6F22) Battery Life: In hours (Alkaline battery) 45 Size: 60x203x27, w/o cable Weight: 320 grams Included with Instrument: Coiled cable output plugs (Installed) Carrying case and user's manual



# **APPA 25**

# **The Best Value Automotive Multimeter**





# **APPA 25 Digital Engine Analyzer**

#### SPECIFICATIONS:

(All specifications at 23°C ±5°C, less that 80% R.H.)

#### **DC VOLTAGE:**

Range: 200mV, 2V, 20V, 20V Accuracy: ±(0.5% + 1d) Input Impedance: 10M ohm Overload Protection: 600 Vr.m.s. Resolution: 0.1mV

#### AC VOLTAGE:

Range: 200V, 600V Accuracy:  $\pm(1.5\% + 5d)$  at 40Hz ~ 500 Hz Input Impedance:  $10M\Omega II < 100pF$ Overload Protection: 600 Vr.m.s. Resolution: 0.1V

#### **HIGH TACH:**

Range: 0 ~ 10000 RPM, reading x 10 (4 cyl, 5 cyl, 6 cyl, 8 cyl) Accuracy: ± (1.5% + 50 RPM) Overload Protection: 250VDC/AC peak, within 20 sec. Resolution: 10 RPM

#### LO TACH:

Range: 0 ~ 2000 RPM (4 cyl, 5cyl, 6cyl, 8cyl) Accuracy: ±(1.5% + 5 RPM) Overload Protection: 250VDC/AC peak, within 20 sec. Resolution: 1 RPM

#### DUTY CYCLE:

Range: 0 ~ 100.0% Accuracy: ±(1.5% + 2d) Overload Protection: 250VDC/AC peak, within 20 sec. Resolution: 0.1%

#### **DWELL DEGREES:**

 $\begin{array}{l} \mbox{Range: } 0 \sim 90.0^{\circ}\mbox{C} \ (4 \ cyl) \\ 0 \sim 50.0^{\circ}\mbox{C} \ (6 \ cyl) \\ 0 \sim 45.0^{\circ}\mbox{C} \ (8 \ cyl) \\ \mbox{Accuracy: } \pm (1.5\% + 2d) \\ \mbox{Overload Protection: } 250\mbox{VDC/AC peak, within } 20 \ sec. \\ \mbox{Resolution: } 0.1^{\circ} \end{array}$ 

#### **RESISTANCE:**

 Range:
 200 ohm, 2K ohm, 20K ohm, 200K ohm, 2M ohm.

 Accuracy:
 200 ohm ±(0.8% + 4d)

 2K ohm ~ 2M ohm ± (0.8% + 1d)

 Overload Protection:
 600 Vr.m.s.

#### **DIODE & BUZZER:**

Open Circuit Voltage: 3.2V max. Accuracy: ± (1.5% + 5d) for test diode forward voltage Buzzer Description: Built-in buzzer sounds when resistance is less than 50 ohms Overload Protection: 500VDC/AC r.m.s.

#### DC CURRENT:

Range: 15A Accuracy: ± (2.0% + 3d) Overload Protection: 15A/250V fast blow fuse Resolution: 0.01A

#### FREQUENCY COUNTER:

Range: 2KHz, 20KHz Accuracy: ± (1.0% + 3d) Input Protection: 600 Vr.m.s.

#### **TEMPERATURE:**

Range: -20°C ~ 800°C, -4°F ~ 1472°F Accuracy: -20°C ~ 350°C, -4°F ~ 662°F. ±(2% + 4°C/8°F) 351°C ~ 500°C, 663°F ~ 932°F. ±(2% + 2°C/4°F) 501°C ~ 800°C, 933°F ~ 1472°F. ±(3% +2°C/4°F) Resolution: 1°C or 1°F

#### **GENERAL:**

Display: 3-1/2 digit LCD with Max. reading of 1999 Polarity: Auto polarity, (-) sign turn on at minus Overrange Indication: "1" or "-1" Low Battery Indication: "1" is displayed when the battery voltage drops below the operating voltage Measurement Rate: 2.5 times per second, normal Operating Temperature: 0°C to +50°C (below 80% R.H.) Storage Temperature: -20°C to +60°C (below 80% R.H.) Temperature Coefficient: 0.15 x (Spec. accuracy)/ °C, (<18°C or > 28°C) Power Reugirements: Single 9V battery (NEDA 1604, IEC 6F22) Battery Life: 350 hours typical (alkaline) Size: 84mm(W) x 175mm(L) x 31mm(H) Weight: 330 gms Accessories: Test leads, battery (installed) and manual



AH-90/100 Protective Holster Easy-to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position.

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## Inside pockets are designed to carry a manual and test lead.

AC-90/100 Soft Carrying Case

Convenient 4.5"(110mm) belt loop accommodates tool belts.

Two way zipper double wall vinyl-leather

carrying case for APPA 90/100 series meters.

#### 50BK K-type Bead Probe

General purpose applications, low cost. Teflon tape insulation. Not suitable for liquid immersion. Measurement range: -40°C to 204°C (-40°F to 399°F)

#### 50IK K-type Immersion Probe

For engine coolant, brake and transmission fluid, other liquids and gels. Protected from tip to handle by an Inconel sheath. Suitable for general temperature measurement applications. Measurement range: -196°C to 800°C (-320°F to 1472°F)



# **APPA 30 Series**

## The State-of-the-Art Clamp-On Measuring Instruments



## **MPP**A

## **AC CURRENT TRANSDUCER**

## **AC/DC CURRENT TRANSDUCER**



#### APPA 31

AC 400A capability 1.9% basic accuracy Non-intrusive transducing Up to 29mm diameter conductor 5 feet drop proof Coiled cable output plugs Ergonormicly designed jaw and trigger Hand guard designed Carrying case included CAT II 600V Safety Standard



#### APPA 39T

AC/DC 1000A capability Auto zero key for DCA Red LED-Low battery indication GreenLED-Power on indication Coiled cable output leads Insulated input jacks Standard 9V battery Up to 51mm dia. (2") conductor Up to 24x60mm busbar 4 feet drop proof Deluxe carrying case Hand guard designed CAT III 600V Safety Standard



#### APPA 30T

AC/DC 300A capability Auto zero key for DCA Red LED-Low battery indication GreenLED-Power on indication Coiled cable output leads Insulated input jacks Standard 9V battery Up to 22mm dia. conductor 4 feet drop proof Deluxe carrying case Hand guard designed CAT III 600V Safety Standard



## AC/DC CURRENT/VOLTAGE/RESISTANCE CLAMP METER



#### APPA 30R (True-RMS reading)

4000 count digital display Autoranging Dual Hall sensor Nickel-Steel alloy jaw mechanism AC/DC 300 Amps capability AC/DC 600 Volts capability 0.5% basic DCV accuracy 1.5% basic ACV accuracy 0.9% basic OHM accuracy Continuity Beeper 10mA resolution Auto-Zeroing key for DCA Data hold function MAX hold function Auto power off selectable 600V protection in every range Up to 22mm dia (350 MCM) conductor 4 feet drop proof Insulated input jacks Hand guard designed Deluxe carring case CAT II 600V Safety Standard



### NEW

#### APPA 36RIII(True-RMS reading)

6000 Count digital display Large white LED backlight display Autoranging AC/DC 600A Capability AC/DC 600V Capability 10mA resolution True RMS reading on ACA/ACV Frequency Counter on ACA/ACV 40M Ohms Resistance capability Diode Test Smart Data Hold Zeroing Key Max Hold Auto Power Off ( can be disabled ) Up to 36mm dia. Conductor 4 feet Drop Proof Hand Guard & Stream Line Designed Convenient Battery Door Deluxe carrying case CAT III 600V Safety Standard



## APPA 39MR (True-RMS reading)

4000 count digital display AC/DC 1000A in specification, and 2000A overload protection AC 600V, DC 1000V capability Autoranging Dual Hall sensor Nickel-Steel alloy jaw mechanism 0.7% basic DCV accuracy 1.2% basic ACV accuracy 1.0% basic OHM accuracy 0.5% basic Hz accuracy CONTINUITY beeper True RMS reading in ACV/ACA Frequency measurement through input jack or clamp-on PEAK HOLD function Auto-Zero key for DCA Auto Power Off Up to 51mm dia. (2") conductor Up to 24 x 60mm busbar 4 feet drop proof Insulated input jacks Hand guard designed Deluxe carrying case CAT II 1000V Safety Standard



#### APPA 33II APPA 33RII (True-RMS reading)

2000 count large scale LCD display AC 600 Amps capability AC 600 Volts capability 2000 Ohms Resistance range True RMS ACV/ACA (APPA33RII) Continuity Beeper Display Hold Auto power off 600 Volts circuit protection Insulated input jacks Up to 34mm dia. (750MCM) conductor 4 feet drop proof Protective carrying case Hand guard designed CAT III 600V/CAT II 1000V Safety Standard





## APPA 30 SERIES CLAMP MULTIMETERS

	All at 23°C±5°C, ≦ 80% R.H.)	APPA 31	APPA 30T	APPA 39T	APPA 30R	APPA 33II/33RII	APPA 36RIII	APPA 39MR
ACV:	Ranges				400mV~600V	600V	600V	400V, 600V
	Resolution				0.1mV	0.1V	1mV	0.1V
	Accuracy				±(1.5%+5d)	±(1.2%+3d)	±(1.5%+5d)	±(1.2%+5d)
					at 50Hz~500Hz	at 40Hz~500Hz	at 40Hz~400Hz	at 50Hz~500Hz
	Input Impedance				10MΩ // <100pF	10MΩ // <100pF	10MΩ	1MΩ // <100pF
	Overload Protection				600V rms	600V rms	600V rms	850V rms
	Conversion Type				True-RMS	RMS/True-RMS	True-RMS	True-RMS
DCV:	Ranges				400mV~600V		600V	400V, 1000V
	Resolution				0.1mV		1mV	0.1V
	Accuracy				±(0.5%+2d)		±(0.7%+2d)	±(0.7%+2d)
	Input Impedance				10MΩ		10MΩ	1MΩ
	Overload Protection				600V rms	600V rms	600V rms	850V rms
ACA:	Ranges	4000A	40A, 300A	100A, 1000A	40A, 300A	200A, 600A	60A, 600A	400A, 600A, 1000A
	Resolution	1mV/A	10mV/A, 1mV/A	10mV/A, 1mV/A	0.01A	0.1A	0.01A	0.1A
	Accuracy	50Hz~60Hz	40Hz~400Hz	40Hz~400Hz	40Hz~1KHz	50Hz~60Hz	40Hz~400Hz	40Hz~400Hz
		±(1.9%+0.5A),	±(1%+0.1A),	±(1.9%+2A),	±(2%+7d),	±(1.9%+5d),	±(1.9%+5d)	±(1.5%+5d),
		0A~350A	0A~40A	0A~100A	0A~4A	0A~200A	±(1.0 /0+00)	0A~600A
		±(3.2%+1A),	±(1%+1A),	±(1.9%+7A),	±(2.5%+5d),	±(1.5%+5d),		40Hz~200Hz
		350A~400A	40A~200A	100A~400A	4A~200A	200A~400A		
			±(1.9%+2A),	±(2.9%+5A),	±(5%+5d),	±(2.5%+5d),		±(2.5%+5d),
			200A~300A	400A~1000A	200A~300A	400A~600A		600A~1000A
	Conversion Type				True-RMS	RMS/True-RMS	True-RMS	True-RMS
Frequency:	Ranges						50KHz	10KHz
	Accuracy		1				±(1%+2d)	±(0.5%+3d)
DCA:	Ranges		40A, 300A	100A, 1000A	40A, 300A		60A, 600A	400A, 600A, 1000A
	Resolution		10mV/A, 1mV/A	10mV/A, 1mV/A	0.01A		0.01A	0.1A
	Accuracy		±(1%+0.1A), 0A~40A	±(2.9%+2A), 0A~100A	±(1.5%+2d), 0A~200A		±(1.9%+5d)	±(1.0%+3d), 0A~600A
			±(1%+1A), 40A~200A	±(1.9%+7A), 100A~400A	±(2%+2d), 200A~300A			±(1.9%+5d), 600A~1000A
			±(1.9%+2A), 200A~300A	±(2.9%+5A), 400A~600A				
OHM:	Ranges				400Ω~40ΜΩ	2ΚΩ	600Ω~40MΩ	4ΚΩ, 40ΚΩ
	Resolution				0.1Ω	1Ω	0.1Ω	1Ω
	Accuracy				±(1.2%+6d), 0Ω~400Ω	±(1.5%+2d)	±(0.9%+5d), 0Ω~600Ω	±(1%+2d)
					±(0.9%+3d),		±(0.9%+2d),	
					400Ω~4ΚΩ		600Ω~6ΜΩ	
					±(1.2%+3d),		±(1.5%+5d),	
					4KΩ~4MΩ		6MΩ~40MΩ	
					±(2.5%+5d), 4MΩ~40MΩ			
	Overload Protection				600V rms	600V rms	600V rms	600V rms
Continuity Test:	Threshold				< 50Ω approx.	< 50Ω approx.	< 20Ω approx.	< 100Ω approx.
	Indicator				2KHz tone buzzer	2KHz tone buzzer	2.7KHz tone buzzer	2KHz tone buzzer
Diode Test:	Open circuit voltage: ±1.8V max		2					
Load Impedance:	AC and DC			100KΩ min		<i>a</i>		
Position Error			±1%rdg	±1%rdg	±1%rdg		±1%rdg	±1%rdg
Output Voltage		AC 1mV per 1A	10mV/A in 40A 1mV/A in 300A	10mV/A in 100A 1mV/A in 1000A				
Type of Sensing:	Current transformer sensing	·						
	Hall effect sensing							

#### GENERAL:

Display: LCD digital readout				4000 count	2000 count	6000 count	4000 count
Sampling Rate				2times/sec	4times/sec	3times/sec	2times/sec
Overange Indication				"OL"	"OL"	"OL"	"OL"
Low Battery Indication		Red LED	Red LED	÷-	<b>+-</b>	Û	÷-
Auto Power Off: Approx. 30 minutes				•	•	•	10 minutes
Operating Temperature: 0°C~50°C, ≦80% RH	· · ·						
Storage Temperature: - 20°C ~ 60°C	•	•	•	•	•	•	A
Temperature         0.2x(Spec. Acc)/°C, <18°C		•				•	×
Shock Proof: 4 feet drops						•	
Safety: IEC 61010 and designed to meet UL3111	CAT II 600V	CAT III 600V	CAT III 600V	CAT II 600V	CAT III 600V	CAT III 600V	CAT III 600V CAT II 1000V
Maximum Conductor Size	Ø29mm	Ø22mm	Ø51mm	Ø22mm	Ø34mm	Ø36mm	Ø51mm
Maximum Jaw Opening	30mm	25mm	53mm	25mm	37mm	43mm	53mm
Maximum Busbar Size			24x60mm				24x60mm
Power Single 9V battery (NEDA Requirement: 1604/IEC 6F22)		•		AAA Size 1.5Vx2		÷	
Battery Life: In hours (Alkaline battery)		66	66	100	200	150	40
Size: WxLxD in mm	72x148x36, w/o cable	65.5x185x40, w/o cable	90x232x32, w/o cable	66x192x27	76x200x41	88x208x41	100x265x42
Weight: In grams	250	320	420	205	360	330	420
Included with meter: Safety test leads				•			
Battery(ZnC)		Installed	Installed	Installed	Installed	Installed	Installed
Coiled cable output plugs	Installed	Installed	Installed				
User manual		·			•	•	
Carrying case	·	·	•	· .		•	1. I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I.I



# APPA 36RIII All New Designed AC/DC Clamp Multimeter







## NEW

## APPA 36RIII 6000 Count digital display Large white LED backlight display Autoranging AC/DC 600A Capability AC/DC 600V Capability 10mA High resolution True RMS reading onACA/ACV Frequency Counter on ACA/ACV

40MOhms Resistance capability Diode Test Smart Data Hold Zeroing Key Max Hold Auto Power Off( can be disabled ) Up to 36mm dia. Conductor 4 feet Drop Proof Hand Guard & Stream Line Designed Convenient Battery Door CAT III 600V/ CAT IV 300V Safety Standard

## **APPA 36RIII CLAMP MULTIMETERS**

FEATURES:	APPA 36RIII
Digital display	6000 count
Large white LED backlight display	•
Autoranging	•
True RMS reading on ACA/ACV	•
Frequency Counter on ACA/ACV	•
40M Ohms Resistance capability	•
Diode Test	•
Data Hold	Smart Data Hold
Zeroing Key	•
Max Hold	•
Auto Power Off (can be disabled)	•
Hand Guard & Stream Line Designed	•
4 feet Drop Proof	•
Convenient Battery Door	•

### SPECIFICATIONS: (All at 23℃ ±5℃, ≦80% R.H.)

ACV:	Ranges	600V
	Resolution	1mV
	Basic Accuracy	±(1.5%+5d) at 40Hz~400Hz
	Input Impedance	10MΩ
	Overload Protection	600V rms
	Conversion Type	True-RMS
DCV:	Ranges	600V
	Resolution	1mV
	Basic Accuracy	±(0.7%+2d)
	Input Impedance	10ΜΩ
	Overload Protection	600V rms
ACA:	Ranges	60A, 600A
	Resolution	0.01A
	Basic Accuracy	±(1.9%+5d) at 40Hz~400Hz
	Conversion Type	True-RMS
Frequency:	Ranges	50KHz
	Basic Accuracy	±(1%+2d)
DCA:	Ranges	60A, 600A
	Resolution	0.01A
	Basic Accuracy	±(1.9%+5d)
OHM:	Ranges	600Ω~40ΜΩ
	Resolution	0.1Ω
	Basic Accuracy	±(0.9%+5d), 0Ω~600Ω
		±(0.9%+2d), 600Ω~6MΩ
		±(1.5%+5d), 6MΩ~40MΩ
	Overload Protection	600V rms
Continuity Test:	Threshold	< 20Ω approx.
	Indicator	2.7KHz tone buzzer
Diode Test:	Ranges	1.500V
	Basic Accuracy	±(1.5%+3d)
Position Error		±1%rdg
Type of Sensing		Hall effect sensing

#### GENERAL:

GENERAL:	
Display: LCD digital readout	6000 count
Sampling Rate	3times/sec
Overange Indication	"OL"
Low Battery Indication	
Auto Power Off: Approx. 30 minutes	•
Operating Temperature: 0°C~50°C, ≦80% RH	•
Storage Temperature: - 20°C ~ 60°C	•
Temperature Coefficient: 0.15(Spec.Acc)/°C,<18°Cor >28°C	•
Shock Proof: 4 feet drops	•
Safety: IEC 61010-1 and designed to meet UL 61010-1	CAT III 600V
Maximum Conductor Size	Ø36mm
Maximum Jaw Opening	43mm
Power Requirement: 9V battery*1 (NEDA 1604/IEC 6F22)	•
Battery Life: In hours (Alkaline battery)	150
Size: WxLxD in mm	88x208x41
Weight: In grams	330
Accessories: Safety Test Leads, ZnC batteries (installed), Carrying case and Manual	•



# APPA 50 Series The Toughest Meters For Temperature Test & Measurements







#### APPA 51 Thermometer

- K-type Thermocouple
- Large LCD display (18.5 mm)
- 1°C or 0.1°C (1°F or 0.1°F) resolution
- 0.3% + 1°C basic accuracy
- °C or °F display
- Maximum Record
- Reading hold function
- Standard 9V battery
- · Protective holster with tilt stand
- · Bead probe included



#### APPA 52 Thermometer

- K-type Thermocouple
- Large LCD display (18.5 mm)
- Dual thermocouple input
- Differential temperature
   (T1-T2)
- 1°C or 0.1°C (1°F or 0.1°F) resolution
- 0.3% + 1°C basic accuracy
- °C or °F display
- Maximum Record
- · Reading hold function
- Standard 9V battery
- · Protective holster with tilt stand
- Two bead probes included



## NEW

- APPA 53II
- Triple 4 digit large LCD display shows main reading plus MIN, MAX or AVG.
  MIN, MAX, and AVG display with Real Time Stamp
- •Auto calibration with excellent accuracy
- •Measure K, J-Types of thermocouples •Selectable °C, °F, or K reading
- Easy to use panel design
- •Data logging up to 16,000 records •Optical RS-232 interface
- •Auto Power Off with selectable time setting
- ·Protective Holster with tilt stand
- Bead probe included
- •Optional optical RS-232 cable and Win DTM 50 software



## NEW APPA 55II

## .....

- •Triple 4 digit large LCD display shows any combination of T1, T2, T1-T2 plus MIN, MAX and AVG.
- •MIN, MAX, and AVG display with Real Time Stamp
- •Auto calibration with excellent accuracy
- •Measure K, J-Types of
- thermocouples
- •Selectable °C, °F, or K reading
- Easy to use panel design
- •Data logging up to 16,000 records •Optical RS-232 interface
- •Auto Power Off with selectable time setting
- •Protective Holster with tilt stand
- Two bead probes included
- •Optional optical RS-232 cable and Win DTM 50 software



For liquids and gels.

for general temperature

measurement applications.

Measurement range:

-196°C to 800°C

(-320°F to 1472°F)

Protected from tip to handle

by an Inconel sheath. Suitable

## **Temperature Probes For APPA 50 Series Handheld Thermometers**

The following interchangeable Type K thermocouples include mini-connectors for use with APPA 50 series meters or other temperature measuring instruments that accept mini-connectors.

## **50BK Bead Probe**

Included with APPA 50 series. General purpose applications. Te flon tape insulation. Not suitable for liquid immersion. Measurement range: -40°C to 204°C (-40°F to 399°F)

## **50SK Surface Probe**



For air and gases. Measuring bead is protected by perforated Stainless Steel baffle. Not for immersion in liquid. Measurement range: -196°C to 500°C (-320°F to 932°F) For flat or slightly convex surfaces. Ideal for measurement of hot rollers and plates. Measurement range: -0°C to 400°C (-32°F to 752°F)

**50IK Immersion Probe** 

## **50PK Piercing Probe**

Suitabel for food service. Also suitable for liquids and gels. Measurement range: -196°C to 800°C (-320°F to 1472°F)



Virtual Instrumentation..... APPA 53II & 55II Digital Thermometer have an optional purchased optical RS-232 cable and powerful, comprehensive Win DTM 50 software which enables a safe and easy connection to PCs for further data acquisition and analysis.

Every APPA 50 Series meter is supplied with a protective holster that includes a built-in tilt stand and a nail hook. This holster provides an extra degree of protection and convenience for your meter.



## **APPA 50 & 50II SERIES MULTIMETER**

SPECIFICAT	[IONS:(All at 23°C±5°C, ≤ 80% R.H.)	APPA51	APPA52	APPA53II	APPA 55II
Measurement	K-type, -50°C~1300°C, -58°F~1999°F	•	•	N/A	N/A
Range:	K-type, -200°C~-1372°C, -328°F~2501°F	N/A	N/A	•	•
	J-type, -210°C~1200°C, -346°F~2192°F				
Resolution:	High: 0.1°C or 0.2°F, Low: 1°C or 1°F	•	•	N/A	N/A
	0.1°C / 0.1 K / 0.2°F ≤ 1000° , 1°C / 1 K / 2°F ≤ 1000°	N/A	N/A	•	•
K-type	±(0.3%+1°C) at -50°C~1000°C, ±(0.3%+2°F) at -58°F~1832°F	•	•	N/A	N/A
Accuracy:	±(0.5%+1°C) at 1000~1300°C, ±(0.5%+2°F) at 1832°F~1999°F				
	±(0.3%+1°C) at -200°C~-100°C, ±(0.3%+2°F) at -328°F~-148°F				
	±(0.1%+0.7°C) at -99.9°C~999.9°C, ±(0.1%+1.4°F) at-147.8°F~999.9°F	N/A	N/A	•	•
	±(0.3%+1°C) at 1000°C~1372°C, ±(0.3%+2°F) at 1000°F~2501°F				
J-type	±(0.3%+1.1°C) at -210°C~-100°C, ±(0.3%+2.2°F) at -346°F~-148°F				
Accuracy:	±(0.1%+0.8°C) at -99.9°C~999.9°C, ±(0.1%+1.6°F) at-147.8°F~999.9°F	N/A	N/A	•	•
	±(0.3%+1°C) at 1000°C~1200°C, ±(0.3%+2°F) at 1000°F~2192°F				
Accuracy:	Т1-Т2	N/A	•(K-type only)	N/A	•(Both K and J type)
	$\pm(0.3\%$ of T1-T2 reading + 2.0°C), $\pm(0.3\%$ of T1-T2 reading + 4.0°F)				
Temperature	0.15(Spec. Acc)/°C, <18°C or>28°C	•	•		
Coefficient:	0.1(Spec. Acc)/°C, <18°C or>28°C	N/A	N/A	•	•
Data logging	16,000 records				
Capacity:		N/A	N/A	•	•
Computer Interface	Optical RS-232 interface cable with Win DTM 50 software	N/A	N/A	•Optional	•Optional
Software:					

### **GENERAL:**

Input: K-type thermocouple	•	•	•(J-type optional)	•(J-type optional)
Sampling Rate: 2.5times/sec	•	•	2times/sec	1times/sec
Display: 31/2 digit (1999 count) LCD, full annunciators	•	•	N/A	N/A
Triple 4 digit (9999 count) LCD, full annunciators	N/A	N/A	•	•
Overload Indication:	"1" or -"-1"	"1"- or -"-1"	""	""
Low Battery Indication:	<b>+ -</b>	<b></b>	<b>+</b> -	<b>+ -</b>
Selectable Auto Power Off: You can select an APO of OFF, 10, 20, 30, 40, 50 and 60 minutes.	N/A	N/A	•	•
Operating Temperature: 0°C~50°C, ≤80% RH	•	•	•	•
Storage Temperature: - 20°C ~ 60°C	•	•	•	•
Input Protection: 60V dc or 24Vrms ac maximum	•	•	•	•
Power Requirement: Single 9V battery (NEDA 1604 or IEC 6F22)	•	•	•	•
Battery Life: In hours (Alkaline battery)	250	250	90	90
Size: 64mm(W) x 160mm (L) x 26 mm(H), without holster	•	•	•	•
74mm(W) x 170mm (L) x 39 mm (H), with holster	•	•	•	•
Weight: In grams (with holster)	430	430	430	430
Included with instrument: Type 50BK bead thermocouple, ZnC battery (installed) Protective holster, belt clip and manual	•	•( 50BK X 2PCS )	•	•( 50BK X 2PCS )



# APPA 60 & 90 Series Multimeter

- Analog Bar Graph True RMS Auto Power Off Beep Guard<sup>™</sup>
- Frequency Counter Capacitance Ranges Continuity/Diode Test
- Water Resistant 
   Drop Proof 
   Protective Holster





## **Pocket-Size Multimeter**

**One Hand Operation** 





Hanging Convenience





Test Lead Storage



OFF

10A µAmA COM

APPA67 MULTINETER

#### APPA 63N

3200 count digital display 65 segments analog bar graph Autoranging and manual selection 0.5% basic dc volts accuracy 1.5% basic ac volts accuracy 1.8% basic ohms accuracy 1.0% basic dc amps accuracy 600V protection in every range Fast continuity beeper Diode test Display hold function MagilHolster™

### **APPA 67**

3200 count digital display 65 segments analog bar graph Autoranging and manual selection 0.7% basic dc volts accuracy 1.7% basic ac volts accuracy 1.2% basic dc amperes accuracy 1.2% basic dc amperes accuracy 0.9% basic ohms accuracy 600V protection non-current ranges Beep Guard ™ warning system Fast continuity beeper (0.2 msec) Diode test Display hold function Auto power off MagiHolster™

APPA **67** is designed to safely meet measuring requirements of the field service industry. They are not recommended for use in high energy current measurements.

VQ-H



## **Rugged Industrial Multimeter**



## Water Resistant

Modles 91, 97 & 97R are designed for harsh environments with water tight gasket at the seams, rotary switch and input terminals to keep out dust, dirt and moisture.

#### Rating IP 64

#### Shockproof

Shock mounting and thick-wall design guarantee that these multimeters will keep on working even after a five foot fall to a concrete floor.



#### Beep Guard

Specially designed Beep Guard provides a constant beep warning if the test leads put in the current jacks and select an incorrect function.

Model 91, 97 & 97R



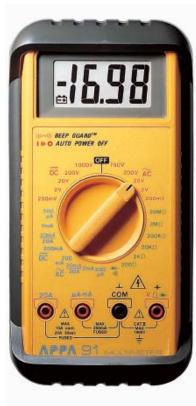
#### Multipurpose Holster

Every APPA 90 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.

#### Safety

All models are designed to meet Class II IEC 1010 and UL 3111 standards for the safest operation in all applications.





#### **APPA** 91

3 1/2 digit 0.8" large scale LCD 0.5 % basic DCV accuracy 1.3 % basic ACV accuracy 1.0 % basic DCA accuracy 1.5 % basic ACA accuracy 0.75% basic OHM accuracy CONTINUITY and DIODE Test 500V dual fuses protection Auto Power Shut Off Beep Guard™ warnning system Water Resistant rating IP 64 5 feet drop proof Protective Holster with tilt stand IEC 1010-1 standard CAT II 1000V

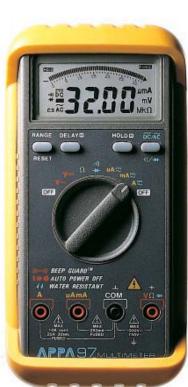
### APPA 97 APPA 97R (True RMS reading)

3200 count digital display 65 segment analog bar graph Autoranging and manual selection 0.3 % basic DCV accuracy (97R) 0.5 % basic DCA accuracy (97) 1.3 % basic ACV accuracy 1.0 % basic DCA accuracy 1.5 % basic ACA accuracy 0.5 % basic OHM accuracy (97R) 0.75% basic OHM accuracy (97) TRUE RMS reading in ACV/ACA (97R) CONTINUITY and DIODE Test 500V dual fuses protection Auto Power Shut Off Beep Guard <sup>™</sup> warnning system Water Resistant rating IP 64 Fast continuity beeper (0.2 msec) Data HOLD key Unique DELAY HOLD function 5 feet drop proof Protective Holster with tilt stand IEC 1010-1 standard CAT. II 1000V



#### **APPA 93N**

3 1/2 digit 0.8" large scale LCD 0.5 % basic DCV accuracy 1.3 % basic ACV accuracy 1.0 % basic DCA accuracy 1.5 % basic ACA accuracy 0.75% basic OHM accuracy 1.0 % FREQUENCY accuracy 2.0 % CAPACITANCE accuracy CONTINUITY and DIODE Test 600V protection in non-current ranges 500V dual fuses protection Auto Power Shut Off 5 feet drop proof Protective Holster with tilt stand IEC 1010-1 standard CAT. II 600V









# APPA 70 Series Multimeter Smaller but much Nicer and Rugged







## **DAY & NIGHT**

APPA 73 & 79 Digital Multimeter have a LED backlit display that turns ON/OFF at the touch of a button, also automatically goes off to save battery life.



**OPTICAL RS-232 INTERFACE** APPA 73 & 79 have RS-232 optical interface to connect to PC for data acquisition and analysis.



## **BATTERY EASY TO REPLACE**

Unscrew only two screws to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.

## **NEW SLIM DESIGN**

Ergonomically designed slim shape with one hand operated knob and buttons. Just fit the palm of your hand and your needs.

## **EXTRA PROTECTION**

Every 70 series meter is supplied with a protective holster that includes a builtin tilt stand, a nail hook, and convenient test lead storage. This holster provides an extra degree of protection and convenience for your meter.





## **APPA** 71

6000 count digital display Large scale display 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard



#### **APPA 72**

6000 count digital display Large scale display True RMS reading on AC mode 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard



## **APPA** 73

6000 count digital display Backlit, Large scale display True RMS reading on AC mode 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Optical RS-232 interface Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard





## **APPA** 75

4000 count digital display 82 segments analog bar graph Large scale display 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard



## **APPA** 77

4000 count digital display 82 segments analog bar graph Large scale display True RMS reading on AC mode 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard



## **APPA** 79

4000 count digital display 82 segments analog bar graph Backlit, Large scale display True RMS reading on AC mode 0.5% basic DCV accuracy Data Hold Min/ Max function Frequency Counter Capacitance Measurement Optical RS-232 interface Auto Power Off Shock proof from 4 feet drops Protective Holster with tilt stand CAT. IV 600V/CAT. III 1000V Safety standard



## **APPA 70 SERIES MULTIMETERS**

		[	1
FEATURES:		APPA 71	APPA 72
Digital display		6000 count	6000 count
Analog bar graph d	lisplay		
Range selection		Auto/Manual	Auto/Manual
True RMS measurin	 ומ		•
Data hold		•	•
Min Max function		•	•
		•	•
Frequency counter			•
Capacitance measu	Irement	•	
RS-232 interface			•
Audible continuity	and Diode test	•	•
Backlight			•
Open communicati	on protocol		•
Automatic power s	hut off	•	•
Shock proof from 4	feet drops	•	•
Standard full-sleev		•	•
Protective holster		•	•
SPECIFICATIONS	<b>S:</b> (All at 23°C±5°C, ≤80% R.H.)		+
DCV:	Ranges	600.0mV~1000V	600.0mV~1000V
	Resolution	0.1mV	0.1mV
	Basic Accuracy: ±(0.5%+2d)	•	•
	Input Impedance:10MΩ		
	Overload Protection: 1000V rms		
ACV:		600.0mV~750V	600.0mV~750V
AUV.	Ranges Receivition		
	Resolution	0.1mV	0.1mV
	Basic Accuracy: ±(0.9%+5d) at 50Hz~500Hz, 600.0mV(unspecified)	•	•
	Input Impedance:10MΩ//<100pF	•	•
	Overload Protection: 1000V rms	•	•
	Conversion Type: Average sensing RMS indicating	•	True-RMS
DCA:	Ranges	600.0μA, 6000μA	600.0µA 6000µA,
			6.000A, 10.00A
	Resolution	0.1µA	0.1µA
	Basic Accuracy: ±(1.0%+2d)	•	•
	Input Protection: 600V rms for µA input	•	•
	10A/500V fast blow fuse for A input		
ACA:	Ranges	600.0µA, 6000µA	6.000A, 10.00A
NUA.	Resolution	0.1µA	0.1µA
		0.1µA	•
	Basic Accuracy: ±(1.5%+5d) at 50Hz~500Hz		
	Input Protection: 600V rms for µA input	•	•
	16A/500V fast blow fuses for A input		•
OHM:	Ranges	600.0Ω~60.00ΜΩ	600.0Ω~60.00Ms
	Resolution	0.1Ω	0.1Ω
	Accuracy: 600.0/400.0Ω	±(0.7%+2d)	±(0.7%+2d)
	6.000/4.000ΚΩ, 60.00/40.00ΚΩ, 600.0/400.0ΚΩ	±(0.7%+2d)	±(0.7%+2d)
	6.000/4.000ΜΩ	±(1.0%+2d)	±(1.0%+2d)
	60.00/40.00ΜΩ	±(1.5%+2d)	±(1.5%+2d)
	Overload Protection: 600V rms		
Continuity Boonor:	<150Ω, 2KHz tone buzzer	•	•
	Open circuit voltage: 3V		-
			-
			•
	r: Ranges	6000Hz~60.00MHz	6000Hz~60.00MHz
	r: Ranges Resolution	6000Hz~60.00MHz 1Hz	6000Hz~60.00MHz 1Hz
	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms
	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms
	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz 60.00/40.00MHz	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms
Frequency Counter	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz 60.00/40.00MHz Overload Protection: 600V rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms
Frequency Counter	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz 60.00/40.00MHz	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms
Frequency Counter	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz 60.00/40.00MHz Overload Protection: 600V rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms
Frequency Counter	r: Ranges Resolution Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz 6.000/4.000MHz 60.00/40.00MHz Overload Protection: 600V rms Ranges	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms - 6.000nF~6.000mF
Frequency Counter	r: Ranges  Resolution  Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz  6.000/4.000MHz  60.00/40.00MHz  Overload Protection: 600V rms  Ranges  Resolution	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms • 6.000nF~6.000mF 1pF
Frequency Counter	r: Ranges  Resolution  Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz  6.000/4.000MHz  60.00/40.00MHz  Overload Protection: 600V rms  Ranges  Resolution  Basic Accuracy: ±(1.9%+8d)	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter	Ranges         Resolution         Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.00MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms • 6.000nF~6.000mF 1pF •	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •
Frequency Counter Capacitance: iENERAL: Sampling Rate: 1.5	r: Ranges  Resolution  Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz  6.000/4.000MHz  6.000/4.000MHz  Overload Protection: 600V rms  Ranges  Resolution Basic Accuracy: ±(1.9%+8d)  Overload Protection: 600V rms  times/sec	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indication	r: Ranges  Resolution  Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz  6.000/4.000MHz  60.00/40.00MHz  Overload Protection: 600V rms  Ranges  Resolution Basic Accuracy: ±(1.9%+8d)  Overload Protection: 600V rms  times/sec n: "0L" or "-OL"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indical	r: Ranges           Resolution           Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz           6.000/4.000MHz           60.00/40.00MHz           000/40.00MHz           000/40.00MHz           Ranges           Resolution           Basic Accuracy: ±(1.9%+8d)           Overload Protection: 600V rms           times/sec           n: "OL" or "-OL"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indical	r: Ranges           Resolution           Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz           6.000/4.000MHz           60.00/40.00MHz           000/40.00MHz           000/40.00MHz           Ranges           Resolution           Basic Accuracy: ±(1.9%+8d)           Overload Protection: 600V rms           times/sec           n: "OL" or "-OL"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indicat Auto Power Off: Ap	r: Ranges           Resolution           Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz           6.000/4.000MHz           60.00/40.00MHz           000/40.00MHz           000/40.00MHz           Ranges           Resolution           Basic Accuracy: ±(1.9%+8d)           Overload Protection: 600V rms           times/sec           n: "OL" or "-OL"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF •
Frequency Counter Capacitance: iENERAL: Sampling Rate: 1.5 Overload Indicatior Low Battery Indicat Auto Power Off: Ap Operating Tempera	r: Ranges         Resolution         Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.00MHz         0verload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         tion         prox. 10 minutes         tute: 0°C~50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms • 6.000nF~6.000mF 1pF • • •
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indicatior Low Battery Indicatior Auto Power Off: Ap Operating Tempera Storage Temperatu	r: Ranges  Resolution  Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz  6.000/4.000MHz  60.00/40.00MHz  Overload Protection: 600V rms  Ranges  Resolution Basic Accuracy: ±(1.9%+8d)  Overload Protection: 600V rms  times/sec  1: "0L" or "-0L"  tion  prox. 10 minutes turre: 0°C-50°C, <80% RH"  rre: - 20°C ~ 60°C	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms • 6.000nF~6.000mF 1pF • • • •
Frequency Counter Capacitance: SENERAL: Sampling Rate: 1.5 Overload Indicatior Low Battery Indicat Auto Power Off: Ap Operating Tempera Storage Temperatu Temperature Coeffi	r: Ranges         Resolution         Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.00/4.000MHz         60.00/40.00MHz         0verload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         tion         prox. 10 minutes         ture: 0°C~50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: EENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indicat Auto Power Off: Ap Operating Temperatu Storage Temperature Storage Temperature Safety: IEC 61010 a	r: Ranges         Resolution         Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.00MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         tion         prox. 10 minutes         thture: 0°C-50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: EENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indicat Auto Power Off: Ap Operating Temperatu Storage Temperature Storage Temperature Safety: IEC 61010 a	r: Ranges           Resolution           Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz           6.000/4.000MHz           60.00/40.00MHz           60.00/40.00MHz           0verload Protection: 600V rms           Ranges           Resolution           Basic Accuracy: ±(1.9%+8d)           Overload Protection: 600V rms           times/sec           n: "OL" or "-OL"           tion           prox. 10 minutes           ture: 0°C~50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indical Auto Power Off: Ap Operating Tempera Storage Temperature Storage Tem	Resolution         Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.00MHz         00erload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         tion         prox. 10 minutes         ture: 0°C-50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: Capacitance: Capacitance: Capacitance: Sampling Rate: 1.5 Dverload Indication Low Battery Indicat Auto Power Off: Ap Operating Temperatu Famperature Coeffi Safety: IEC 61010 a Power Requiremen Battery Life: In hour Battery Life: In hour	r: Ranges         Resolution         Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.000MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         1: "0L" or "-0L"         tion         ptox. 10 minutes         turre: 0°-C-50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indicatior Low Battery Indication Low Battery Indication Operating Temperatu Temperature Coeffi Safety: IEC 61010 a Power Requiremen Battery Life: In hour Size: 76mm(W) x 15	r: Ranges         Resolution         Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.000MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         tion         prox. 10 minutes         ture: 0°C-50°C, <80% RH"	6000Hz~60.00MHz Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: ENERAL: Sampling Rate: 1.5 Overload Indicatior Low Battery Indication Low Battery Indication Operating Temperatu Temperature Coeffi Safety: IEC 61010 a Power Requiremen Battery Life: In hour Size: 76mm(W) x 15	r: Ranges         Resolution         Accuracy: 6000/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.000MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         1: "0L" or "-0L"         tion         ptox. 10 minutes         turre: 0°-C-50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Storage Temperatu Temperature Coeffi Safety: IEC 61010 a Power Requiremen Battery Life: In hour Size: 76mm(W) x 15	r: Ranges         Resolution         Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.000MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         time: 0°C-50°C, <80% RH"	6000Hz~60.00MHz Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF
Frequency Counter Capacitance: Capacitance: SenERAL: Sampling Rate: 1.5 Overload Indication Low Battery Indical Auto Power Off: Ap Operating Temperatu Storage Temperature Coeffi Safety: IEC 61010 a Power Requiremen Battery Life: In hou Size: 76mm(W) x 16 82mm(W) x 16 Weight: In grams (w	r: Ranges         Resolution         Accuracy: 600/4000Hz, 60.00/40.00KHz, 600.0/400.0KHz         6.000/4.000MHz         60.00/40.000MHz         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy: ±(1.9%+8d)         Overload Protection: 600V rms         times/sec         n: "OL" or "-OL"         time: 0°C-50°C, <80% RH"	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF 6.000mF 6.	6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 250mV rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF



APPA 73	APPA 75	APPA 77	APPA 79
6000 count	4000 count	4000 count	4000 count
A	82 segments	82 segments	82 segments
Auto/Manual	Auto/Manual	Auto/Manual	Auto/Manual
•		•	· ·
•	•	•	
•	•	•	· ·
•	•	•	•
•	•	•	•
			•
•	•	•	•
			•
			•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
600.0mV~1000V	400.0mV~1000V	400.0mV~1000V	400.0mV~1000V
0.1mV	0.1mV	0.1mV	0.1mV
•	•	•	•
•		•	•
	•	•	•
600.0mV~750V	4.00mV~750V	4.00mV~750V	4.00mV~750V
0.1mV	0.1mV	0.1mV	0.1mV
•	±(1.2%+5d) at 50Hz~500Hz	±(1.2%+5d) at 50Hz~500Hz	±(1.2%+5d) at 50Hz~500Hz
•	•	•	•
	•	•	•
True-RMS	True-RMS True-RMS	True-RMS True-RMS	True-RMS True-RMS
600.0µA, 6000µA,	400.0µA, 4000µA,	400.0µA, 4000µA,	400.0µA, 4000µA,
	10.00A"	10.00A"	10.00A"
6.000A, 10.00A			
0.1µA	0.1µA	0.1µA	0.1µA
•	•	•	•
•	•	•	•
6.000A, 10.00A		10.00A	10.00A
0.1µA		10mA	10mA
•		•	•
•		•	•
•		•	•
•	400.0Ω ~ 40.00ΜΩ	- 400.0Ω ~ 40.00MΩ	• 400.0Ω ~ 40.00MΩ
• • 600.0Ω~60.00ΜΩ 0.1Ω	400.0Ω ~ 40.00ΜΩ 0.1Ω	•	•
• • 600.0Ω~60.00ΜΩ		- 400.0Ω ~ 40.00MΩ	• 400.0Ω ~ 40.00MΩ
• • 600.0Ω~60.00ΜΩ 0.1Ω	0.1Ω	- 400.0Ω ~ 40.00MΩ 0.1Ω	• 400.0Ω ~ 40.00MΩ 0.1Ω
・ 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d)	0.1Ω ±(1.0%+5d)	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d)	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d)
• • 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d)	0.1Ω ±(1.0%+5d) ±(0.7%+2d)	+ 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d)	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d)
• 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d)	$0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d)$	400.0Ω~40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d)	+ 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d)
$\begin{array}{c} \bullet\\ $	$0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \pm (1.5\%+2d)$	+ 400.0Ω~40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	+ 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d)
$\begin{array}{c} & & & \\ & & & \\ & & & \\ 0.1\Omega \\ & \pm (0.7\% + 2d) \\ & \pm (0.7\% + 2d) \\ & \pm (1.0\% + 2d) \\ & \pm (1.5\% + 2d) \\ & \pm (1.5\% + 2d) \end{array}$	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \end{array}$	$\begin{array}{c} 400.0\Omega \sim 40.00M\Omega \\ 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \pm (1.5\%+2d) \end{array}$	$\begin{array}{c} & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & &$
• • • $600.0\Omega \sim 60.00M\Omega$ 0.1 $\Omega$ $\pm (0.7\% + 2d)$ $\pm (0.7\% + 2d)$ $\pm (1.0\% + 2d)$ $\pm (1.5\% + 2d)$ • • •	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ \cdot \\ <350\Omega \end{array}$	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d)	$\begin{array}{c} & & & \\ & & 400.0\Omega \sim 40.00M\Omega \\ & & 0.1\Omega \\ & & \pm (1.0\%+5d) \\ & & \pm (0.7\%+2d) \\ & & \pm (0.7\%+2d) \\ & & \pm (1.5\%+2d) \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\$
600.0Ω~60.00MΩ     0.1Ω     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.0%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     •     •     6000Hz~60.00MHz	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • <350Ω • 4KHz~40.00MHz	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) 	• • • • • • • • • • • • • •
• • 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) • • • • 6000Hz~60.00MHz 1Hz	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ \cdot \\ <350\Omega \end{array}$	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 
• • 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) • • 6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • • • • • • • • • • • • • • • • • •	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 4KHz-40.00MHz 1Hz ±(0.01%+1d) at 150V rms	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 
• • • • • • • • • • • • • •	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \bullet \\ & \cdot \\ <350\Omega \\ & \cdot \\ \\ \\ \\$	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • • 4KHz-40.00MHz 1Hz ±(0.01%+1d) at 150V rms ±(0.01%+1d) at 350V rms	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • 4KHz~40.00MHz 1Hz ±(0.01%+1d) at 150V rms ±(0.01%+1d) at 350V rms
• • 600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) • • 6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • • • • • • • • • • • • • • • • • •	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 4KHz-40.00MHz 1Hz ±(0.01%+1d) at 150V rms	• 400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • 
600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) 6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 100mV rms ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 1V rms	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \hline \\ <350\Omega \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	$\begin{array}{c} 400.0\Omega \sim 40.00 M\Omega \\ 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \end{array}$	$\begin{array}{c} & & & & \\ & & & & \\ & & & & \\ & & & & $
	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ & & \\ $	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d)    4KHz~40.00MHz 1Hz ±(0.01%+1d) at 150V rms ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 350V rms  4.000nF ~ 4.000mF	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ &$
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & &$	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & &$
600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d)	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ $	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & &$	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & &$
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & &$	$\begin{array}{c} & & & & & \\ & & & & & & \\ & & & & &$
600.0Ω~60.00MΩ     0.1Ω     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.0%+2d)     ±(1.5%+2d)     •     •     6000Hz~60.00MHz     1Hz     ±(0.01%+1d) at 30V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at V rms     •     6.000nF~6.000mF     1pF     •     •	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \bullet \\ $	400.00 ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d)       	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d)
600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) 6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ $	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     4.000mF     1pF     ±(2.0%+8d)     *     2 times/sec	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)      4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms      4.000nF ~ 4.000mF     1pF     ±(2.0%+8d)      2 times/sec
600.0Ω~60.00MΩ 0.1Ω ±(0.7%+2d) ±(0.7%+2d) ±(1.0%+2d) ±(1.5%+2d) 6000Hz~60.00MHz 1Hz ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 350V rms ±(0.01%+1d) at 1V rms 6.000nF~6.000mF 1pF	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ $	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     4.000nF ~ 4.000mF     1pF     ±(2.0%+8d)     *     2 times/sec     *	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     ·     ·     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01\%+1d) at 350V r	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     4.000nF ~ 4.000mF     1pF     ±(2.0%+8d)     *     2 times/sec     *	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     ·     ·     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01\%+1d) at 350V r	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.00 ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ     0.1Ω     (1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ·     ·        4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01\%+1d) at 350V r
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	
600.0Ω~60.00MΩ     0.1Ω     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.0%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     ±(0.01%+1d) at 100mV rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     6.000nF~6.000mF     1pF     i     i     i     c	$\begin{array}{c} 0.1\Omega \\ \pm (1.0\%+5d) \\ \pm (0.7\%+2d) \\ \pm (0.7\%+2d) \\ \pm (1.5\%+2d) \\ \cdot \\ $	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	
600.0Ω~60.00MΩ     0.1Ω     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.0%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     •     •     6000Hz~60.00MHz     1Hz     ±(0.01%+1d) at 30V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     •     •     6.000nF~6.000mF     1pF     •	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.00 ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1000W     GAT. IV. 600V, CAT. III 1000V     300	
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • • • • • • • • • • • • • • • • • •	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     *     4.000nF ~ 4.000mF     1pF     ±(2.0%+8d)     *     2 times/sec     *     CAT. IV. 600V, CAT. III 1000V     *     300     *	
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) • • • • • • • • • • • • • • • • • • •	400.0Ω ~ 40.00MΩ     0.1Ω     ±(1.0%+5d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(0.7%+2d)     ±(1.5%+2d)     ±(1.5%+2d)     *     4KHz~40.00MHz     1Hz     ±(0.01%+1d) at 150V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 350V rms     ±(0.01%+1d) at 1V rms     *     4.000nF ~ 4.000mF     1pF     ±(2.0%+8d)     *     2 times/sec     *     CAT. IV. 600V, CAT. III 1000V     *     300     *	.     .
	0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(1.5%+2d) · · · · · · · · · · · · ·	400.0Ω ~ 40.00MΩ 0.1Ω ±(1.0%+5d) ±(0.7%+2d) ±(0.7%+2d) ±(0.7%+2d)	.     .



# **APPA 80 Series Multimeter**

## Leading Edge Features On a Tight Budget







#### **APPA 80**

3400 count digital display 70 segments analog bar graph Autoranging and manual selection 0.5% basic DCV accuracy Data Hold Auto Power Off Shock proof from 4 feet drops Protective Holster and tilt stand CAT. III 600V/CAT. II 1000V

Safety Standard

1			
		A Hz ++ ==	
	TRUE RMS 10A		Z.A.
	- FISED	JC myprin J	

#### APPA 82 APPA 82R (True -RMS reading) OHM:

4000 count digital display 82 segments analog bar graph Autoranging and manual selection True RMS reading or AC mode (82R) 0.5% basic DCV accuracy Data Hold Frequency Counter Capacitance Measurement Hz reading on AC mode Auto Power Off Shock proof from 4 feet drops Protective Holster and tilt stand CAT. III 600V/CAT. II 1000V Safety Standard

**APPA 80 SERIES MULTIMETER APPA 80** APPA 82/82R FEATURES Digital display 3400 count 4000 count Analog bar graph Range selection 70 segments Auto/Manual 82 segments Auto/Manual True RMS measuring •82R Frequency counter Capacitance measurement Audible continuity and Diode test Data hold Automatic power shut off Shock proof from 4 feet drops Standard full-sleeve safety test leads • • . Protective holster Option Option SPECIFICATIONS:(All at 23°C±5°C, ≤ 80% R.H.) DCV: 300.0mV~1000V 400mV~1000V Ranges Resolution 0.1mV 0.1mV Accuracy: ±(0.5%+2d) Input Impedance:10MΩ Overload Protection: 1000V rms 400.0mV~750V ACV: 3.000V~750V Ranges Resolution 1mV 0.1mV Accuracy: 400mV(Unspecified), 3V/ 4V 30V/ 40V, 300V/ 400V, 750V ±(1.5%+5d) ±(1.5%+5d) ±(1.5%+5d) ±(1.3%+5d) Frequency Response: 40Hz~500Hz Input Impedance:10MΩ//<100pF Overload Protection: 1000V rms Conversion Type: Average sensing RMS indicating . •82R True-RMS Ranges DCA. 300.0µA, 3000µA, 400.0uA. 4000uA 10.00A 10.00A 0.1µA ±(1.7%+2d 0.1µA ±(1.7%+2d) Resolution Accuracy: 300μΑ/ 400μΑ, 3000μΑ/ 4000μΑ ±(2.0%+2d) ±(2.0%+2d) 10A Input Protection: 600V rms for µA input 16A / 500V fast blow fuse for A input ٠ ACA: Ranges 300.0µA, 3000µA 10.00A 400.0μA, 4000μA, 10.00A Resolution 0.1µA 0.1µA Accuracy: 300µA / 400µA, 3000µA/ 4000µA ±(2.2%+5d) ±(2.5%+5d) ±(1.7%+2d) ±(2.0%+2d) 10A Frequency Response: 40Hz~500Hz Input Protection: Same as DCA Conversion Type: . •82R True-RMS Average sensing RMS indicating 300.0Ω~30.00MΩ 400.0Ω~40.00MΩ Ranges Res 0.1Ω ±(1.0%+4d) lution Accuracy: 300Ω / 400Ω ±(1.0%+3d) 3KΩ/ 4KΩ, 30KΩ/ 40KΩ, ±(0.75%+3d) ±(0.75%+2d) 300ΚΩ/ 400ΚΩ ±(1.0%+3d) ±(2.0%+5d) 3MΩ/ 4MΩ ±(1.0%+3d) ±(1.5%+5d) 30MO/ 40MO Overload Protection: 600V Continuity Beeper: <30±, 2KHz tone buzze Diode Test: Open cir Frequency Counter: Ranges Open circuit voltage: 3V 4.000KHz~40.00MHz 1Hz ±(0.01%+1d) ±(0.01%+1d) Resolution Accuracy: 4KHz, 40KHz, 400KHz at 100mV rms 4MHz at 250mV rms 40MHz at 1V ±(0.01%+1d) Overload Protection: 600V rms Ranges 4.000nF~40.00mF Capacitance: Resolution 1pF ±(3.0%+10d) Accuracy: 4nF, 40nF 4μF, 40μF, 400μF ±(2.0%+8d) ±(5.0%+20d) 4mF 40mF **Overload Protection:** 600V rms GENERAL Sampling Rate: 2times/sec for digital display . . 12times/sec for analog bar graph Overload Indication OL" or "-O "OL" or "-OL Low Battery Indication +-+-Auto Power Off: Approx. 10 minutes • Operating Temperature: 0°C~50°C, ≤80% RH" Storage Temperature: - 20°C ~ 60°C Temperature Coefficient: 0.15(Spec. Acc)/°C, <18°C or>28°C Safety: IEC 61010 and designed to meet UL3111 specifications CAT. III 600V CAT. III 600V CAT. II 1000V CAT. II 1000V Power Requirement: Single 9V battery (NEDA 1604 or IEC 6F22) IEC LR03, AM4 or AAA size 1.5V x 2 •82F Battery Life: In hours (Alkaline battery) Size: 85mm(W) x 177mm (L) x 38 mm(H), without holster 500 300 90mm(W) x 186mm (L) x 46mm (H), with holster Weight: In grams (with holster) Included with instrument: Test Leads, ZnC battery (installed) 400 400, (82R) 430 . . and manual

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# ALL NEW APPA 90 Series IV Multimeter





# AUTOMATICALLY VOLTAGE DETECT WITH LOW IMPEDANCE

Special designed low impedance features with Automatically Voltage detect, designed to make electrical measurement easier and safer with extra reliability.



# SMART AND SAFER DATA HOLD

Intelligent Designed Data Hold feature warns user with beeper sound, blinking backlit display once the LCD reading was hold at an uncertain operation to avoid accident activation of data hold.

# NEW SLIM DESIGN

Ergonomically designed slim shape with one hand operated knob and buttons. Just fit the palm of your hand and your needs.



# **BATTERY EASY TO REPLACE**

Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.



# AC+DC TRUE RMS

APPA 98IV and 99IV have AC+DC True RMS reading on both Ampere and Voltage function for better accuracy of measurement.



# NON CONTACT VOLTAGE DETECTING

APPA 98IV and 99IV have VoltSense<sup>™</sup> feature to detect live cable and outlet without contact also find the cable alignment behind the wall as cable finder.



# An MGL Brand



# NEW

#### APPA 97IV

6,000 count digital and 62 segments analog display Large white LED backlight display Rapid Zeroing on AC V/A mode High Accuracy/Stability of Resistance measuring Separate AC, DC Voltage mode for high accurate measuring True RMS measurements on ACV/ACA LoZ for prevent false reading from ghost voltage Auto Ranging 0.2% DCV accuracy Min/Max function Smart Hold Auto Power Off (20 minutes) Frequency Counter on ACV/ACA 11A/1000V & 400mA/1000V High **Energy Fuses** Battery Capacity indication in segments Shock proof from 4 feet drops CAT IV 600V/ CATIII 1000V standard



# ACCOMPANENT ACTION OF A COMPANENT ACTION OF

# NEW

APPA 98IV

6,000 count digital and 62 segments analog display Large white LED backlight display Rapid Zeroing on AC V/A mode High Accuracy/Stability of Resistance measuring Separate AC, DC Voltage mode for high accurate measuring True RMS measurements on ACV/ACA AC+DC function LoZ for prevent false reading from ghost voltage VoltSeek<sup>™</sup> for non-contact voltage detection Auto Ranging 0.09% DCV accuracy Min/Max function Smart Hold Auto Power Off (20 minutes) Frequency Counter on ACV/ACA 11A/1000V & 400mA/1000V High Energy Fuses Battery Capacity indication in segments Shock proof from 4 feet drops CAT IV 600V/ CATIII 1000V Safety standard

## NEW

**APPA 99IV** 

6,000 count digital and 62 segments analog display Large white LED backlight display Rapid Zeroing on AC V/A mode High Accuracy/Stability of Resistance measuring Separate AC, DC Voltage mode for high accurate measuring True RMS measurements on ACV/ACA AC+DC function LoZ for prevent false reading from ghost voltage VoltSeek<sup>™</sup> for non-contact voltage detection Auto Ranging 0.08% DCV accuracy Peak Hold (1ms) Min/Max function Smart Hold Auto Power Off (20 minutes) **Temperature Measurement** Frequency Counter on ACV/ACA 11A/1000V & 400mA/1000V **High Energy Fuses** Battery Capacity indication in segments Shock proof from 4 feet drops Temperature Probe included CAT IV 600V/ CATIII 1000V standard



#### **APPA 90IV SERIES MULTIMETERS**

APPA 901V SERIES MULTIMETERS	4004.070/	APPA 98IV	
FEATURES: Digital display	APPA 97IV 6000 count	6000 count	6000 count
Analog bargraph display	62 segments	62 segments	62 segments
Active Backlight	•	•	•
Automatic AC/DC voltage detector with low impedance(Auto-V LoZ) True RMS measuring	AC only	AC+DC	AC+DC
AC+DC mA measurement	N/A	•	•
AC+DC mV measurement	N/A	•	•
Smart data hold Peak hold	• N/A	N/A	•
Min/Max function	•	•	•
Beep guard	•	•	•
VoltSeek™ (None Contact Voltage)	N/A	•	•
Frequency counter Capacitance measurement	•	•	•
Audible continuity and Diode test	•	•	•
Temperature measurement	N/A	N/A	•
Automatic power shut off Low battery indicator with segments	•	•	•
Water/Dust Resistant	•	•	•
Shock proof from 4 feet drops	•	•	•
Standard full-sleeve safety test leads	•	•	•
SPECIFICATIONS:(All at 23°C±5°C, ≤ 80% R.H.)			
DCV: Ranges	600.0mV, 6.000V, 60.00V, 600.0V,	60.00mV, 600.0mV, 6.000V,	60.00mV, 600.0mV, 6.000V,
Resolution	1000V 0.1mV	60.00V, 600.0V, 1000V 0.01mV	60.00V, 600.0V, 1000V 0.01mV
Basic Accuracy	±(0.2%+2d)	±(0.09%+2d)	±(0.08%+2d)
Input Impedance:10MΩ	•	•	•
Overload Protection: 1000V rms	• 600.0mV, 6.000V, 60.00V, 600.0V,	÷	● 600.0mV, 60.00mV, 6.000V,
ACV: Ranges	1000V	1000V	60.00V, 600.0V, 1000V
Resolution Basic Accuracy	0.1mV ±(1.0%+3d) at 50Hz~500Hz	0.1mV ±(1.0%+5d) at 45Hz~1KHz	0.1mV ±(0.8%+5d) at 45Hz~1KHz
Input Impedance:10MΩ//<100pF	€(1.0 /8+30) at 30112~300112	•	•
Overload Protection: 1000V rms			
Conversion Type Auto-V LoZ: Ranges	True RMS 600.0V, 1000V	AC+DC True RMS 600.0V, 1000V	AC+DC True RMS 600.0V, 1000V
Resolution	0.1V	0.1V	0.1V
Basic Accuracy	±(1.0%+5d) at 50Hz~500Hz	±(1.0%+3d) at 45Hz~1KHz ●	±(0.8%+3d) at 45Hz~1KHz ●
Input Impedance:3KΩ Overload Protection: 1000V rms	•	•	•
AC+DC V: Ranges		6.000V, 60.00V, 600.0V, 1000V	6.000V, 60.00V, 600.0V, 1000V
Resolution Basic Accuracy	NA	0.001V ±(2.5%+5d)	0.001V ±(2%+5d)
Overload Protection: 1000V rms		±(2.5%+50)	±(2%+50)
AC+DC mV: Ranges		60.00mV, 600.0mV	60.00mV, 600.0mV
Resolution Basic Accuracy	NA	0.01mV ±(2.5%+5d)	0.01mV ±(2%+5d)
Overload Protection: 1000V rms		•	•
DCA: Ranges	60.00mA, 600.0mA, 6.000A,	60.00mA, 600.0mA, 6.000A,	60.00mA, 600.0mA, 6.000A,
	10.00A	10.00A	10.00A
Resolution	0.01mA	0.01mA	0.01mA
Resolution Basic Accuracy	0.01mA ±(1.0%+3d)	0.01mA ±(1.0%+3d)	0.01mA ±(0.8%+3d)
	±(1.0%+3d) ●	0.01mA ±(1.0%+3d) ●	±(0.8%+3d) ●
Basic Accuracy	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A,	0.01mA ±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A,	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A,
Basic Accuracy Overload Protection: 11A or 440mA ACA: Ranges Resolution	±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA	±(0.8%+3d) • 60.00MA, 600.0MA, 6.000A, 10.00A 0.01mA
Basic Accuracy Overload Protection: 11A or 440mA ACA: Ranges Resolution Basic Accuracy	±(1.0%+3d) • 60.00mA, 60.0mA, 6.000A, 10.00A	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A	±(0.8%+3d) • 60.00MA, 600.0MA, 6.000A, 10.00A
Basic Accuracy Overload Protection: 11A or 440mA ACA: Ranges Resolution Basic Accuracy Overload Protection: 11A or 440mA Conversion Type	±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True BMS	<u>±(0.8%+3d)</u> • • 60.00mA, 60.00mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:         Ranges	±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz~500Hz	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A • 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution	±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz~500Hz	0.01mA ±(1.0%+3d) € 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA .0.01mA ±(1.5%+3d) at 45Hz~1KHz € AC+DC True RMS 6.000A, 10.00A 1mA	±(0.8%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz ● AC+DC True RMS 6.000A, 10.00A 1mA
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution       Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Basic Accuracy         Basic Accuracy	±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz-500Hz True RMS	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A         AC+DC mA:         Ranges	±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz-500Hz True RMS	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz 60,00mA, 600,0mA	±(0.8%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz ● AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz ● 60.00mA, 600.0mA
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution       Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Basic Accuracy         Overload Protection: 11A         AC+DC mA:       Ranges         Resolution	±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz-500Hz True RMS	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 5Hz~1KHz 60.00mA, 600,0mA 0.01mA	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution       Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A         AC+DC mA:       Ranges         Resolution         Basic Accuracy	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz~500Hz True RMS NA	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz 60,00mA, 600,0mA	±(0.8%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz ● AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz ● 60.00mA, 600,0mA
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A         AC+DC mA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 440mA         Overload Protection: 440mA         OHM:       Ranges	±(1.0%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz~500Hz • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution       Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A         AC+DC mA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 440mA         OHM:       Ranges         Resolution	±(1.0%+3d) • • • 60.00mA, 60.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz • • • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz 4000 A AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz 60.00mA, 600.0mA ±(2.5%+3d) 600.0Ω~40.00MΩ 0.1Ω	<u>±(0.8%+3d)</u> • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1,2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA ±(2%+3d) • 600.00~40.00MΩ 0.1Ω
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Conversion Type           AC+DC mA:           Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:           Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Ranges           Resolution           Basic Accuracy: 600.00Ω           60.000Ω           60.00Ω	±(1.0%+3d) • • • 60.00mA, 60.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz • • • • • • • • • • • • • • •	$\begin{array}{c} 0.01\text{mA} \\ \pm (1.0\% + 3\text{d}) \\ \hline \pm (1.0\% + 3\text{d}) \\ \hline 0.00\text{mA}, 600.0\text{mA}, 6.000\text{A}, \\ 10.00\text{A}, \\ 0.01\text{mA} \\ \pm (1.5\% + 3\text{d}) \text{at } 45\text{Hz} - 1\text{KHz} \\ \hline \mathbf{AC} + \text{DC} \text{ True RMS} \\ 6.000\text{A}, 10.00\text{A} \\ 1\text{mA} \\ \pm (2.5\% + 5\text{d}) \text{ at } 50\text{Hz} - 1\text{KHz} \\ \hline \mathbf{a} \\ \pm (2.5\% + 5\text{d}) \text{ at } 50\text{Hz} - 1\text{KHz} \\ \hline \mathbf{a} \\ \pm (2.5\% + 3\text{d}) \\ \pm (2.5\% + 3\text{d}) \\ \pm (2.5\% + 3\text{d}) \\ \pm (2.6\% + 3\text{d}) \\ \hline \mathbf{a} \\ \pm (2.6\% + 3\text{d}) \\ \pm (0.8\% + 5\text{d}) \\ \pm (0.8\% + 2\text{d}) \end{array}$	<u>±(0.8%+3d)</u> • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA ±(2%+3d) • 600.00TA ±(2%+3d) • 600.00CA 0.01D ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d)
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A           AC+DC mA:         Ranges           Resolution           Basic Accuracy           Overload Protection: 410mA           OHM:         Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:         Ranges           Resolution           Basic Accuracy:           60.00KQ, 60.00KQ, 600.0KQ, 600.0K	<u>±(1.0%+3d)</u> <b>6</b> 0.00mA, 600.0mA, 6.000A, 10.00A <b>0.01mA</b> ±(1.5%+3d) at 50Hz-500Hz <b>True RMS</b> <b>NA</b> <b>NA</b> <b>6</b> 00.0Ω-40.00MΩ <b>0.1Ω</b> ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d)	$\begin{array}{c} 0.01 \text{mA} \\ \pm (1.0\% + 3 \text{d}) \\ \bullet \\ \bullet \\ 60.00 \text{mA}, 600.0 \text{mA}, 6.000 \text{A}, \\ 10.00 \text{A} \\ 0.01 \text{mA} \\ \pm (1.5\% + 3 \text{d}) \text{ at } 45 \text{Hz} - 1 \text{KHz} \\ \bullet \\ $	$\begin{array}{c} \pm (0.8\% + 3 d) \\ \bullet \\ $
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA         Conversion Type           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA         Conversion Type           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A         Ac+DC mA:           Ranges         Resolution           Basic Accuracy         Overload Protection: 440mA           OHM:         Ranges           Resolution         Basic Accuracy           Overload Protection: 440mA         OHM:           Resolution         Basic Accuracy: 600.00Ω           Basic Accuracy:         60.00Ω	±(1.0%+3d)           60.00mA, 60.0mA, 6.000A, 10.00A           ±(1.5%+3d) at 50Hz-500Hz           ±(1.5%+3d) at 50Hz-500Hz           NA           600,0Ω-40,00MΩ           0,1Ω           ±(0.8%+5d)           ±(0.8%+5d)           ±(1.0%+5d)           ±(1.0%+5d)	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40.00MΩ 0.40,00MΩ 0.40,00MΩ 0.40,00MΩ • • • • • • • • • • • • •	<u>±(0.8%+3d)</u> • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00x~40.00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d)
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Conversion Type           AC+DC MA:           Ranges           Overload Protection: 11A           AC+DC mA:           Ranges           Overload Protection: 440mA           OHM:           Ranges           6,000KQ, 60,00KQ, 600,0KQ, 6,00MQ           6,000KQ, 60,00KQ, 600,0KQ, 6,00MQ           0verload Protection: 1000V rms           Continuity Beeper:           Didde Test:           Open circuit voltage	±(1.0%+3d) 60.00mA, 60.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz True RMS NA NA 600,0Ω-40,00MΩ 0,1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d) ±	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00~40.00MΩ 0.10 • 600.00M2 • 1.5%+5d) = 1.5%+5d) = 1.5%+5d = 1.5%+5d = 1.5%+5d = 1.5%+5d = 1.5%+5d = 1.5%+5d = 1.5%+	<u>±(0.8%+3d)</u> • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz * AC+DC True RMS 6.000A, 10.00A 10.00A ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600,0mA ±(2%+3d) ±(2%+3d) ±(2%+3d) ±(2%+3d) ±(2%+3d) * 600.00C~40.00MΩ 0.102 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) * (0.2%+2d) ±(1.5%+5d) * (0.2%+2d) ±(1.5%+5d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+5d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+2d) * (0.2%+5d) * (0.2%+2d) * (0.2%) * (0.2
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Overload Protection: 11A           AC+DC mA:           Ranges           Overload Protection: 11A           AC+DC mA:           Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Ranges           Resolution           Basic Accuracy:           6000KΩ, 60,00KΩ, 600,0KΩ, 600,0KΩ, 6,00MΩ           6,000KΩ, 60,00KΩ, 600,0KΩ, 6,00MΩ           00verload Protection: 1000V rms           Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges	±(1.0%+3d) • • • 60.00mA, 600.0mA, 6.000A, 10.00A • 0.01mA ±(1.5%+3d) at 50Hz-500Hz • • • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) € 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A ±(2.5%+5d) at 50Hz~1KHz € 60.00mA, 600,0mA 0.01mA ±(2.5%+3d) ±(2.5%+3d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) ±(1.5%+5d) ±(1.5%+5d) € 200, 2KHz tone buzzer 1.8V max 100.00Hz~100.00KHz	<u>±(0.8%+3d)</u> • 60.00mA, 600.0mA, 6.000A, 10.00A <u>0.01mA</u> ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00~40.00MA 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:           Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Ranges           Resolution           Basic Accuracy:           6000KΩ, 60.00KΩ, 600.0KΩ, 600.0MΩ           6.000KΩ, 60.00KΩ, 600.0KΩ, 6,00MΩ           Overload Protection: 1000V rms           Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±(0.1%+2d)	±(1.0%+3d)           •           60.00mA, 600.0mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) € 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz € 60.00mA, 600,0mA 0.01mA ±(2.5%+3d) ±(2.5%+3d) ±(0.8%+2d) ±(0.000+2d)	±(0.8%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz ● AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00C×40.00MΩ 0.10 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) ±(1.5%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           AC+DC A:         Resolution           Basic Accuracy         Overload Protection: 11A or 440mA           Conversion Type         AC+DC A:           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC mA:           Ranges         Resolution           Basic Accuracy         Overload Protection: 440mA           OHM:         Ranges           Resolution         6,000KΩ, 60,00KΩ, 600,0KΩ, 6,00MΩ           Querload Protection: 1000V rms         6,000KΩ, 60,00KΩ, 600,0KΩ, 6,00MΩ           Other Test:         Open circuit voltage           Frequency Counter:         Resolution           Basic Accuracy:         2(0,1%+2d)           Sensitivity:         1Hz~10KHz, 10KHz~50KHz	±(1.0%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA NA 600,0Ω-40,00MΩ 0,1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.9%+5d) ±(1.9%+5d) • (1.8%+5d) ±(1.9%+5d	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:           Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Ranges           Resolution           Basic Accuracy: 600.00           0.00MΩ           00000           000000           Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±(0.1%+2d)           Sensitivity: 114z~10KHz, 10KHz~50KHz	±(1.0%+3d)           •           60.00mA, 600.0mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) € 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz € 60.00mA, 600,0mA 0.01mA ±(2.5%+3d) ±(2.5%+3d) ±(0.8%+2d) ±(0.000+2d)	±(0.8%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz ● AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00C×40.00MΩ 0.10 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) ±(1.5%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:           Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:           Ranges           Overload Protection: 440mA           OHM:           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Resolution           Basic Accuracy: 600.00           6.000KΩ, 60.00KΩ, 600.0KΩ, 600.0KΩ, 600.0KΩ, 600.0MΩ           40,000MΩ           Overload Protection: 1000V rms           Continuity Beeper:           Diede Test:           Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±0.1%+2d)           Basic Accuracy: ±0.1%+2d)           Sen	±(1.0%+3d)           60.00mA, 600.0mA, 6.000A, 10.00A           ±(1.5%+3d) at 50Hz-500Hz           ±(1.5%+3d) at 50Hz-500Hz           •           True RMS           NA           600.002-40,00MΩ           0.1Ω           ±(1.8%+5d)           ±(0.8%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           0.01Hz           0.01Hz           >50V, >20.0V           >8mA, >0.8A           •           1.000µF=10.00mF	0.01mA ±(1.0%+3d) • 60.00mA, 60.00A, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00-40.00MΩ 0.11D ±(0.8%+5d) ±(0.00Hz-100.00KHz 0.01Hz • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           Overload Protection: 11A         AC+DC MA:           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC mA:           Ranges         Resolution           Basic Accuracy         Overload Protection: 440mA           OHM:         Ranges           Resolution         6,000KΩ, 60,00KΩ, 600,0KΩ, 6,00MΩ           Querload Protection: 1000V rms         Continuity Beeper:           Dide Test:         Open circuit voltage           Frequency Counter: Ranges         Resolution           Basic Accuracy: ±(0.1%+2d)         Sensitivity: 1Hz~10KHz, 10KHz~50KHz           ACmA, ACA         Overload Protection: 1000V rms or 11A           Capacitance:         Ranges	±(1.0%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA 600.0Ω-40,00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d) ±(0.8%+5d) ±(0	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • • • • • • • • • • • • •	±(0.8%+3d)           •           •           60.00mA, 600.0mA, 6.000A, 10.00A           •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:         Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:         Ranges           Resolution           Basic Accuracy: 600.00           Basic Accuracy: 600.00           Overload Protection: 1000V rms           Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±0.1%+2d)           Sensitivity: 114z-10KHz, 10KHz-50KHz           ACmA, ACA           Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy	±(1.0%+3d)           60.00mA, 600.0mA, 6.000A, 10.00A           ±(1.5%+3d) at 50Hz-500Hz           ±(1.5%+3d) at 50Hz-500Hz           •           True RMS           NA           600.002-40,00MΩ           0.1Ω           ±(1.8%+5d)           ±(0.8%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           ±(1.0%+5d)           0.01Hz           0.01Hz           >50V, >20.0V           >8mA, >0.8A           •           1.000µF=10.00mF	0.01mA ±(1.0%+3d) • 60.00mA, 60.00A, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00-40.00MΩ 0.11D ±(0.8%+5d) ±(0.00Hz-100.00KHz 0.01Hz • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC mA:         Ranges           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Resolution         6,000KQ, 60,00KQ, 600,0KQ, 6,00MQ           00verload Protection: 1000V rms         000MQ           Continuity Beeper:         Open circuit voltage           Prequency Counter: Ranges         Resolution           ACmA, ACA         Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%+2d)         ACmA, ACA           Overload Protection: 1000V rms or 11A         Capacitance:           Ranges         Basic Accuracy	±(1.0%+3d)           •           60.00mA, 60.00mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(2.5%+3d) • 600.00~40.00MΩ 0.112 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Basic Accuracy           Overload Protection: 11A           AC+DC mA:         Ranges           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:         Ranges           Resolution           Basic Accuracy: 600.00           Basic Accuracy: 600.00           Overload Protection: 1000V rms           Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges           Resolution         Basic Accuracy: ±0.1%+2d)           Sensitivity: 114z~10KHz, 10KHz~50KHz           ACmA, ACA           Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy           Resolution         Basic Accuracy <td>±(1.0%+3d)           •           60.00mA, 60.00mA, 6.000A, 10.00A           •</td> <td>0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(2.5%+3d) • 600.00~40.00MΩ 0.112 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •</td> <td>±(0.8%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •</td>	±(1.0%+3d)           •           60.00mA, 60.00mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • 4(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(2.5%+3d) • 600.00~40.00MΩ 0.112 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC mA:         Ranges           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Resolution         6,000KQ, 60,00KQ, 600,0KQ, 6,00MQ           00verload Protection: 1000V rms         000MQ           Continuity Beeper:         Open circuit voltage           Prequency Counter: Ranges         Resolution           ACmA, ACA         Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%+2d)         ACmA, ACA           Overload Protection: 1000V rms or 11A         Capacitance:           Ranges         Basic Accuracy	±(1.0%+3d)           •••           60.00mA, 60.00mA, 6.000A, 10.00A           ••	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           Resolution         Basic Accuracy           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC MA:         Ranges           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           G.000KQ, 60.00KQ, 60.00KQ, 60.00KQ, 60.00KQ           Basic Accuracy:         60.00KQ, 60.00KQ, 60.00KQ, 60.00KQ           Continuity Beeper:         Open circuit voltage           Frequency Counter:         Ranges           Resolution         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%+2d)         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%+2d)         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%-20)         Basic Accuracy: ±(0.1%-20)           Basic Accuracy: ±(0.1%-20)         Basic Accuracy           Overload Pr	±(1.0%+3d)           •••           60.00mA, 60.00mA, 6.000A, 10.00A           ••	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) • • • • • • • • • • • • •	±(0.8%+3d)           •           •           60.00mA, 600.0mA, 6.000A, 10.00A           ±(1.2%+3d) at 45Hz~1KHz           •      <
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           Resolution         Basic Accuracy           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC A:           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC mA:           Resolution         Basic Accuracy           Overload Protection: 440mA         OHM:           Resolution         Basic Accuracy           Overload Protection: 1000V mA         6,000KQ, 60,00KQ, 60,00KQ, 6,00MQ           Querload Protection: 1000V rms         Continuity Beeper:           Diode Test:         Open circuit voltage           Frequency Counter: Ranges         ACmA, ACA           ACmA, ACA         Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy           Querload Protection: 1000V rms or 11A         Capacitance:           Resolution         Basic Accuracy           Querload Protection: 1000V rms         Resolution	±(1.0%+3d)           •           60.00mA, 60.0mA, 6.000A, 10.00A           ±(1.5%+3d) at 50Hz-500Hz           •           •           True RMS           NA           • <td>0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60,00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600,00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.5%+5d) ±(1.8%+5d) ±(1.5%+5d) ±(1.5%+5d) ±(1.2%+2d) • • • • • • • • • • • • •</td> <td>±(0.8%+3d) • • • • • • • • • • • • •</td>	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60,00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600,00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.5%+5d) ±(1.8%+5d) ±(1.5%+5d) ±(1.5%+5d) ±(1.2%+2d) • • • • • • • • • • • • •	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC MA:         Ranges           AC+DC mA:         Ranges           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           G000KQ, 60,00KQ, 600,0KQ, 600,0WQ, 600,0WQ, 600,0WQ, 600,0WQ, 600,0WQ, 600,0WQ, 600,0	±(1.0%+3d)           •           60.00mA, 60.00mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz 60.00mA, 600,0mA 0.01mA ±(2.5%+3d) 600,00C-40,00MΩ 0.11D ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(1.5%+3d) 0.01Hz 0.01Hz 0.01Hz 0.01Hz 0.001µF 1.000µF-10.00mF 0.0001µF 0.0001µF 1.000µF=10.00mF 0.001µF 0.0001µF	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC MA:         Ranges           AC+DC MA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC mA:           Resolution         Basic Accuracy           Overload Protection: 440mA         OHM:           Resolution         6.000KΩ, 60.0KΩ, 60.0KΩ, 6.00MΩ           Overload Protection: 1000V rms         6.000KΩ, 60.0KΩ, 60.0KΩ, 6.00MΩ           Overload Protection: 1000V rms         Continuity Beeper:           Didde Test:         Open circuit voltage           Frequency Counter: Ranges         ACmA, ACA           Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy           Overload Protection: 1000V rms         Capacitance:	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz ● True RMS NA NA 600.0Ω-40,00MΩ 0.1Ω ±(0.8%+5d) ±(1.0%+5d) ±(1.0%+5d) ±(1.0%+5d) = <30Ω, 2KHz tone buzzer 1.3BV max 100.00Hz-50.00KHz 0.01Hz 0.01Hz 0.01Hz 0.001µF ±(1.9%+8d) • NA NA	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,000MΩ 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) 0.00MA 0.01mA ±(2%+3d) • 600.00C+40.00MΩ 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) ±(1.5%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           6,000KQ, 60,00KQ, 60,00KQ, 60,00KQ           6,000KQ, 60,00KQ, 60,00KQ, 60,00KQ           A0,00MQ           0         Generation: 1000V rms           Diode Test:         Open circuit voltage           Frequency Counter: Ranges         Generation: 1000V rms or 11A           Capacitance:         Ranges           Mesolution         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%-2d)         Basic Accuracy           Overload Protection: 1000V rms or 11A         Capacitance:           Resolution         Basic Accuracy<	±(1.0%+3d)           •           60.00mA, 60.0mA, 6.000A, 10.00A           ±(1.5%+3d) at 50Hz-500Hz           •           •           True RMS           NA           • <td>0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(1.5%+3d) at 45Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.2%+5d) • • • • • • • • • • • • •</td> <td>±(0.8%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz * AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA ±(2%+5d) at 50Hz~1KHz • 600.00C+40.00MΩ 0.10 ±(0.8%+5d) ±(0.8%+2d) ±(1.2%+2d) • • • • • • • • • • • • •</td>	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(1.5%+3d) at 45Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.2%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz * AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA ±(2%+5d) at 50Hz~1KHz • 600.00C+40.00MΩ 0.10 ±(0.8%+5d) ±(0.8%+2d) ±(1.2%+2d) • • • • • • • • • • • • •
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:         Ranges         AC+DC A:         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:         Ranges         AC+DC mA:         Resolution         Basic Accuracy         Overload Protection: 440mA         OHM:         Resolution         Basic Accuracy:         00verload Protection: 4000A         OHM:         Resolution         Basic Accuracy:         00000         Overload Protection: 1000V rms         Continuity Beeper:         Didde Test:       Open circuit voltage         Frequency Counter: Ranges         Resolution         Basic Accuracy: ±(0.1%+2d)         Sensitivity: 1Hz~10KHz, 10KHz~50KHz         ACmA, ACA         Overload Protection: 1000V rms         Capacitance:         Ranges <t< th=""><td>±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz ● True RMS NA NA 600.0Ω-40,00MΩ 0.1Ω ±(0.8%+5d) ±(1.0%+5d) ±(1.0%+5d) ±(1.0%+5d) = &lt;30Ω, 2KHz tone buzzer 1.3BV max 100.00Hz-50.00KHz 0.01Hz 0.01Hz 0.01Hz 0.001µF ±(1.9%+8d) • NA NA</td><td>0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A ±(2.5%+3d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •</td><td><math display="block">\begin{array}{c} \pm (0.8\% + 3 d) \\ \bullet \\ </math></td></t<>	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.5%+3d) at 50Hz-500Hz ● True RMS NA NA 600.0Ω-40,00MΩ 0.1Ω ±(0.8%+5d) ±(1.0%+5d) ±(1.0%+5d) ±(1.0%+5d) = <30Ω, 2KHz tone buzzer 1.3BV max 100.00Hz-50.00KHz 0.01Hz 0.01Hz 0.01Hz 0.001µF ±(1.9%+8d) • NA NA	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A ±(2.5%+3d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •	$\begin{array}{c} \pm (0.8\% + 3 d) \\ \bullet \\ $
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Overload Protection: 440mA           OHM:         Ranges           6,000KQ, 60,00KQ, 60,00KQ, 60,00KQ           6,000KQ, 60,00KQ, 60,00KQ, 60,00KQ           A0,00MQ           0         Generation: 1000V rms           Diode Test:         Open circuit voltage           Frequency Counter: Ranges         Generation: 1000V rms or 11A           Capacitance:         Ranges           Mesolution         Basic Accuracy: ±(0.1%+2d)           Basic Accuracy: ±(0.1%-2d)         Basic Accuracy           Overload Protection: 1000V rms or 11A         Capacitance:           Resolution         Basic Accuracy<	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA 600.0Ω~40,00MΩ 0.1Ω ±(0.8%+5d) ±(1.0%+5d) ±(1.0%+5d) ±(1.0%+5d) • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA • • AC+DC True RMS 6.000A, 10.00A 1mA ±(1.5%+3d) at 45Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+5d) at 50Hz~1KHz • 600.00mA, 600.0mA 0.01mA ±(2.5%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.8%+5d) ±(1.2%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • 60.00mA, 600.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz~1KHz * AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA ±(2%+5d) at 50Hz~1KHz • 600.00C+40.00MΩ 0.10 ±(0.8%+5d) ±(0.8%+2d) ±(1.2%+2d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA         Conversion Type           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA         Conversion Type           AC+DC A:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A         AC+DC mA:           Resolution         Basic Accuracy           Overload Protection: 440mA         OHM:           Resolution         Basic Accuracy           Overload Protection: 1000V         6,000KΩ, 60,00KΩ, 60,00KΩ, 6,00MΩ           AC+DC mA:         Resolution           Resolution         Basic Accuracy: 600.0Ω           Continuity Beeper:         0           Didde Test:         Open circuit voltage           Frequency Counter: Ranges         Resolution           Basic Accuracy: ±(0.1%+2d)         Sensitivity: 1Hz-10KHz, 10KHz-50KHz           ACmA, ACA         Overload Protection: 1000V rms or 11A           Capacitance:         Ranges           Resolution         Basic Accuracy           Overload Protection: 1000V rm	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A ↓0.01mA ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA 600.002-40.00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d) • <30Ω, 2KHz tone buzzer 1.8V max 100.00Hz-50.00KHz 0.01Hz • × 100.00Hz-50.00KHz 0.001µF ±(1.9%+8d) • NA • NA • NA • • NA • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,000MΩ 0.01mA ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00~40.00MA 0.01mA ±(2%+3d) • • 600.00~40.00MΩ 0.10 ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:         Ranges         AC+DC mA:         Basic Accuracy         Overload Protection: 11A         AC+DC mA:         Ranges         Overload Protection: 440mA         OHM:         Resolution         Basic Accuracy         Overload Protection: 60,00KΩ, 60,00KΩ, 600,0KΩ, 600,0ΩΩ, 600,0	±(1.0%+3d)           •           60.00mA, 60.00mA, 6.000A, 10.00A           •	0.01mA ±(1.0%+3d) 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+3d) at 50Hz~1KHz 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) 600.00-40,00MΩ 0.11D ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+2d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) ±(1.5%+5d) ±(1.5%+5d) (0.00Hz-100.00KHz 0.00Hz 1.000Hz-100.00KHz 0.001Hz • • NA NA	±(0.8%+3d) • • • • • • • • • • • • •
Basic Accuracy         Overload Protection: 11A or 440mA         ACA:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         AC+DC A:       Ranges         Resolution         Basic Accuracy         Overload Protection: 11A or 440mA         Conversion Type         AC+DC A:         Ranges         Conversion Type         AC+DC A:         Ranges         Overload Protection: 11A         AC+DC mA:         Ranges         Overload Protection: 440mA         OHM:         Resolution         Basic Accuracy         Overload Protection: 1000X         Basic Accuracy: 600.00         6.000KΩ, 60.00KΩ, 60.00KΩ, 60.00KΩ, 60.00MΩ         0verload Protection: 1000V rms         Continuity Beeper:         Diode Test:         Open circuit voltage         Frequency Counter: Ranges         Resolution         Basic Accuracy: ±(0.1%+2d)         Sensitivity: 1Hz-10KHz, 100V rms or 11A         Capacitance:         Ranges         Mesolution         Basic Accuracy         Ove	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A ↓0.01mA ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA 600.002-40.00MΩ 0.1Ω ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.0%+5d) • <30Ω, 2KHz tone buzzer 1.8V max 100.00Hz-50.00KHz 0.01Hz • × 100.00Hz-50.00KHz 0.001µF ±(1.9%+8d) • NA • NA • NA • • NA • • • • • • • • • • • • •	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,000MΩ 0.01mA ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.2%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+3d) • 600.00~40.00MA 0.01mA ±(2%+3d) • • 600.00~40.00MΩ 0.10 ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           Conversion Type           AC+DC A:         Ranges           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC A:           Ranges           AC+DC A:           Resolution           Basic Accuracy           Overload Protection: 11A           AC+DC mA:           Resolution           Basic Accuracy           Overload Protection: 440mA           OHM:           Resolution           Basic Accuracy:           00.000           6.000KΩ, 60.00KΩ, 600.0KΩ, 600.0KΩ, 6,00MΩ           00           Continuity Beeper:           Didde Test:           Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±(0.1%+2d)           Sensitivity: 1Hz~10KHz~50KHz           ACmA, ACA           Overload Protection: 1000V rms           Capacitance:           Ranges           Reso	±(1.0%+3d) ● 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 50Hz-500Hz • True RMS NA NA 600.0Ω-40,00MΩ 0.1Ω ±(0.8%+5d) ±(1.0%+5d) ±(1.0%+5d) 4(1.0%+5d) (1.0%+5d) = <30Ω, 2KHz tone buzzer 1.8V max 100.00Hz-50.00KHz 0.01Hz • ×5V, >20.0V >8mA, >0.8A • 1.0001µF 0.001P	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA ±(1.5%+3d) at 45Hz~1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2.5%+5d) at 50Hz~1KHz • 60.00mA, 600.0mA 0.01mA ±(2.5%+3d) • 600.00~40,000MΩ 0.10 ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(0.8%+5d) ±(1.5%+5d) • • • • • • • • • • • • •	±(0.8%+3d) • • • 60.00mA, 60.0mA, 6.000A, 10.00A ±(1.2%+3d) at 45Hz-1KHz • AC+DC True RMS 6.000A, 10.00A 1mA ±(2%+5d) at 50Hz-1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 50Hz-1KHz • 60.00mA, 600.0mA 0.01mA ±(2%+5d) at 50Hz-1KHz • • • • • • • • • • • • •
Basic Accuracy           Overload Protection: 11A or 440mA           ACA:         Ranges           Resolution         Basic Accuracy           Overload Protection: 11A or 440mA           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC A:         Ranges           AC+DC MA:         Ranges           AC+DC MA:         Ranges           Overload Protection: 11A           AC+DC MA:         Ranges           Overload Protection: 440mA           OHM:         Ranges           Goverload Protection: 440mA           OHM:         Ranges           Goverload Protection: 0000           Basic Accuracy: 600.0Ω           Basic Accuracy: 600.0Ω           Goverload Protection: 1000V rms           Continuity Beeper:           Diode Test:         Open circuit voltage           Frequency Counter: Ranges           Resolution           Basic Accuracy: ±0.1%+2d)           Basic Accuracy: ±0.1%+2d)           Basic Accuracy: ±0.1%+2d)           Basic Accuracy: ±0.1%+2d)           Basic Accuracy           Overload Protection: 1000V rms or 11A           Capacitanc	±(1.0%+3d)           •           60.00mA, 60.0mA, 6.000A, 10.00A           •<	0.01mA ±(1.0%+3d) • 60.00mA, 600.0mA, 6.000A, 10.00A 0.01mA .0.01mA .0.01mA 	±(0.8%+3d) • • • • • • • • • • • • •



# APPA 130 Series All New Designed Pro Clamp-On Meter



## AUTOMATIC SELECTION

Automatically detect AC, DC and AC+DC of Ampere and Voltage function with AC+DC True RMS, and automatically selection of resistance, continuity and diode.



# ACTIVE BACKLIT

APPA 130 series Pro clamp meters all have an active backlit display that turns ON at the

touch of a button or rotate the knob, also automatically goes off to save battery life.

# **INNOVATIVE NAVIGATOR**

Innovative designed navigator key optimized the function selection and feature operation with a finger of thumb.

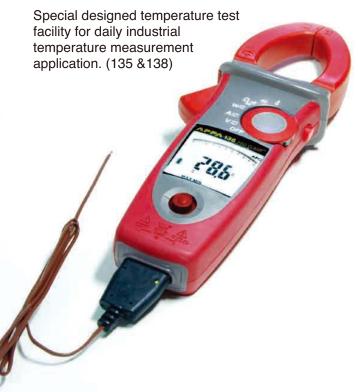




# INNOVATIVE LIGHTENING AND LIVE VOLTAGE SENSING

Torch lightening during cable clamping and automatically non contact voltage detection for better identification of working environment.

## **EXTRA TEMPERATURE FEATURE**





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## ADVANCED POWER FEATURES MADE EASY

Every APPA 130 series Pro clamp meter provides advanced Power features, Phase rotation, Total Harmonics Distortion and even Harmonics 1 to 25<sup>th</sup> with easy-to-use interface, which enables fully professional power measurement application with excellent performance.



#### **APPA 133**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping AC 600 Amps capability Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability VoltSense™ (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min/Max Hold Low Pass Filter Auto Power Off Up to 37mm dia. (750MCM) Conductor 4 feet Drop Proof **Deluxe Carrying Case** Convenient Battery Door CAT. IV 600V /CAT. III 1000V Safety Standard

#### **APPA 137**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping AC 1000 Amps capability Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability VoltSense™ (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min/Max Hold Low Pass Filter Auto Power Off Up to 42mm dia. (1000MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Convenient Battery Door CAT. IV 600V /CAT. III 1000V Safety Standard

# **OVER-MOLDING SLIM DESIGN**

Ergonomically designed comfort over-molding slim shape with extra large LCD, one hand operated knob and navigator. Just fit the palm of your hand and your needs.









#### **APPA 135**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping AC 600 Amps capability Auto AC/DC 1000 Volts capability Auto AC/DC 1000 Voits capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability VoltSense<sup>™</sup> (None Contact Voltage) Frequency Counter Capacitance capability °C/ °F Temperature Function DC µA for flame rod testing Smart Data Hold Peak Hold Inrush Current Min/Max Hold Low Pass Filter Auto Power Off Up to 37mm dia. (750MCM) Conductor 4 feet Drop Proof Temp. probe included Deluxe Carrying Case Convenient Battery Door CAT. IV 600V /CAT. III 1000V Safety Standard



#### **APPA 136**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping Auto AC/DC 600 Amps capability and selection Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability VoltSense™ (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current DCA Auto-Zeroing Key Min/Max Hold Low Pass Filter Auto Power Off Up to 37mm dia. (750MCM) Conductor Bus bar size 45mm x 10mm 4 feet Drop Proof Deluxe Carrying Case Convenient Battery Door CAT. IV 600V /CAT. III 1000V Safety Standard



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#### **APPA 138**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping Auto AC/DC 1000 Amps capability and selection Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Total Harmonics Distortion and Harm Phase Rotation Indication 100K Ohms Resistance capability VoltSense<sup>™</sup> (None Contact Voltage) Frequency Counter Capacitance capability °C/ °F Temperature Function Smart Data Hold Peak Hold Inrush Current DCA Auto-Zeroing Key Min/Max Hold Low Pass Filter Auto Power Off Up to 42mm dia. (1000MCM) Conductor Bus bar size 62mm x 12mm 4 feet Drop Proof Temp. probe included **Deluxe Carrying Case** Convenient Battery Door CAT. IV 600V /CAT. III 1000V Safety Standard



#### **APPA 130 SERIES CLAMP MULTIMETERS**

FEATURES:
Digital display
Analog bar graph
True RMS measuring
Auto AC/DC detection
Smart Data hold
Min/Max function
Peak hold
Inrush Current measurement
DCA zeroing
Low Pass Filter
Frequency counter
Power and Power Factor measurement
Total Harmonic Distortion
Harmonics
Phase Rotation
Temperature measurement
Capacitance
Audible continuity and Diode test
Backlight
Torch Lighting
VoltSense <sup>=</sup> (None Contact Voltage)
Automatic power shut off
Shock proof from 4 feet drops
Standard full-sleeve safety test leads
Deluxe carrying case

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

ACA:	Ranges
	Resolution
	Basic Accuracy: ±(1.5%+5d) at 50Hz~500Hz
	Conversion Type
DCA:	Ranges
	Resolution
	Basic Accuracy
DCµA:	Ranges
	Resolution
	Basic Accuracy
AC+DC A:	Ranges
	Resolution
	Basic Accuracy
ACV:	Ranges
	Resolution
	Basic Accuracy: ±(1.0%+5d) at 50Hz~500Hz
	Input Impedance:3.5MQ
	Overload Protection: 1000V rms
	Conversion Type
DCV:	Ranges
DCV:	Resolution
	Basic Accuracy: ±(0.7%+2d)
	Input Impedance:3.5MΩ
	Overload Protection: 1000V rms
AC+DC V:	Ranges
	Resolution
	Basic Accuracy:Same as ACV+(1.0%+5d)
	Input Impedance:3.5MΩ
	Overload Protection: 1000V rms
Watt:	Ranges
	Resolution
	Basic Accuracy: ±(2.5%+5d)
P.F.:	Ranges
	Resolution
	Basic Accuracy
T.H.D.:	Ranges
	Resolution
	Basic Accuracy: ±(3.0%+10d)
Harmonics:	Ranges
	Resolution
	Basic Accuracy: ±(5.0%+10d) for order 1-12, ±(10.0%+10d) for order 13-25
онм:	Ranges
OHM.	Resolution
	Basic Accuracy: ±(1.0%+3d)
	Overload Protection: 1000V rms
Continuity Beeper:	<30Ω, 2KHz tone buzzer
Diode Test:	Open circuit voltage: ±1.8V max
Capacitance	Ranges
	Resolution
	Basic Accuracy: ±(1.9%+8d)
	Overload Protection: 1000V rms
Frequency Counter	: Ranges
	Resolution
	Basic Accuracy: ±(0.5%+3d)
Temperature:	Ranges
· ·	Resolution
	Basic Accuracy
-	
L	Overload Protection: 1000V rms
CENERAL	
GENERAL:	
Sampling Rate	
Overload Indication	
Low Battery Indicat	ion
Auto Power Off: Ap	
	prox. forminates ture: 0 °C~50°C, ≦ 80% RH
Storage Temperatu	
	cient: 0.2(Spec. Acc) / °C, <18 °C or > 28 °C
Safety: IEC 61010 a	nd designed to meet UL61010 specifications

Maximum Conductor Size
Maximum Jaw Opening
Maximum Busbar Size
Power Requirement: Single 9V battery (NEDA 1604A or IEC 6LF22)
Battery Life: In hours (Alkaline battery)
Size: 87.5mm(W) x 242 mm(L) x 50.5 mm(H)
87.5mm(W) x 257mm(L) x 50.5 mm(H)
Weight: In grams (with battery)
Included with instrument: Test Leads, ZnC battery (installed)
manual and carrying case

# An MGL Brand



APPA 133	APPA 135	APPA 136	APPA 137	APPA 138
10000 count				
60 segments				
AC+DC	AC+DC	AC+DC	AC+DC	AC+DC
				•
•	•	•	•	•
	•	•	•	•
•	•	•	•	•
•	•	•	•	•
NA	NA	•	NA	•
•	•	•	•	•
•	•	•	•	•
-	•	•	•	-
		•	•	•
•	•	•		•
•	•	•	•	•
NA	•	NA	NA	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
	•	•		-
•	•	•	•	•
•	•			•
•	•	•	•	•

100.00A, 600.0A	100.00A, 600.0A	100.00A, 600.0A	100.00A, 1000.0A	100.00A, 1000.0A
0.01A	0.01A ·	0.01A	0.01A	0.01A
AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS 100.00A, 1000.0A
NA	NA	100.00A, 600.0A 0.01A	NA	<u> </u>
	1 1	±(1.5%+5d)		±(1.5%+5d)
N A	1000.0µA	NIA	N10	NIA
NA	<u>0.1µA</u> ±(1.7%+2d)	NA	NA	NA
NA	NA .	100.00A, 600.0A 0.01A	NA	100.00A, 1000.0A 0.01A
		Same as ACA+(1.5%+5d)		Same as ACA+(1.5%+5d)
100.00V~1000V 0.01V	100.00V~1000V 0.01V	100.00V~1000V 0.01V	100.00V~1000V 0.01V	100.00V~1000V 0.01V
•	•	•	•	•
	·			
AC+DC True-RMS 100.00V~1000V	AC+DC True-RMS 100.00V~1000V	AC+DC True-RMS 100.00V~1000V	AC+DC True-RMS 100.00V~1000V	AC+DC True-RMS 100.00V~1000V
0.01V	0.01V	0.01V	0.01V	0.01V
•	· .	·	· .	•
-	- -		•	
100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
0.01V	0.01V	0.01V	0.01V	0.01V
•	•	•	•	•
•	•	•	•	•
10KW~600KW	10KW~600KW	10KW~600KW	10KW~1MW	10KW~1MW
1W	1W	1W	1W	1W
-1.00~1.00	-1.00~1.00	-1.00~1.00	-1.00~1.00	-1.00~1.00
0.01	0.01	0.01	0.01	0.01
±3°	±3° 0.1%~100.0%	±3°	±3°	±3°
0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0% 0.1%	0.1%~100.0%
•	•	•	•	•
0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%
0.1%	0.1%	0.1%	0.1%	0.1%
1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000KΩ, 10.00KΩ, 100.00KΩ	1,0000ΚΩ, 10,00ΚΩ, 100,00ΚΩ
0.01Ω	0.01Ω	0.01Ω	0.01Ω	0.01Ω
•	• •	•	•	•
-	-	-		
•	•	•	•	•
400.0 <sup>µ</sup> F, 4.000mF	400.0PF, 4.000mF	400.0 <sup>µ</sup> F, 4.000mF	400.0 <sup>µ</sup> F, 4.000mF	400.0PF, 4.000mF
0.1µF	0.1µF	0.1µF	0.1µF	0.1µF
•	•	•	•	•
20.0Hz~10KHz	20.0Hz~10KHz	20.0Hz~10KHz	20.0Hz~10KHz	20.0Hz~10KHz
0.1Hz	0.1Hz	0.1Hz	0.1Hz	0.1Hz
	-50 °C ~ 1000 °C		•	-50 °C ~ 1000 °C
NA	0.1 °C	NA	NA	0.1°C
NG ING	±(1%+1°C)		NA	±(1%+1°C)
	•			·
3times/sec	3times/sec	3times/sec	3times/sec	3times/sec
"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"
			0	
			•	
•		·	•	
•	•	•	•	
CAT. IV 600V	CAT. IV 600V	CAT. IV 600V	CAT. IV 600V	CAT. IV 600V
CAT. III 1000V 37mm dia. (750MCM)	CAT. III 1000V 37mm dia. (750MCM)	CAT. III 1000V 37mm dia. (750MCM)	CAT. III 1000V 42 mm dia. (1000MCM)	CAT. III 1000V 42mm dia. (1000MCM)
45mm	45mm	45mm	45mm	45mm
45x10mm	45x10mm	45x10mm	62x12mm	62x12mm
100	100	100	100	. 100
150		180	100	100
			•	•
435	435	435	470	470
·	(Also Including Temperature Probe)	·	•	(Also Including Temperature Probe)



# APPA 130F Series Clamp-On Meter with Flexible Current Probe



# **AUTOMATIC SELECTION**

Automatically detect AC, DC and AC+DC of Ampere and Voltage function with AC+DC True RMS, and automatically selection of resistance, continuity and diode.



# **ACTIVE BACKLIT**

APPA 130F series Pro clamp meters all have an active backlit display that turns ON at the

touch of a button or rotate the knob, also automatically goes off to save battery life.



# **FLEXIBLE CURRENT TEST**

APPA 130F series intergated with SFLEX-T flexible current probe expanding the current range to 3000 ACA, providing increased display flexibility, making electrical measurement easier and safer.



# INNOVATIVE LIGHTENING AND LIVE VOLTAGE SENSING

Torch lightening during cable clamping and automatically non contact voltage detection for better identification of working environment.



# ADVANCED POWER FEATURES MADE EASY

Every APPA 130F series Pro clamp meter provides advanced Power features, Phase rotation, Total Harmonic Distortion and even Harmonics 1 to 25<sup>th</sup> with easy-to-use interface, which enables fully professional power measurement application with excellent performance.



# An MGL Brand



#### **APPA 133F**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping AC 600 Amps capability Auto AC/DC 1000 Volts capability and selection

Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonic Distortion and Harmonics 1 to 25

## Phase Rotation Indication

AC Current via Flexible Current Probe 100K Ohms Resistance capability VoltSense™ (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min/Max Hold Low Pass Filter Auto Power Off Up to 37mm dia. (750MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard



#### **APPA 136F**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping Auto AC/DC 600 Amps capability and selection Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonic Distortion and Harmonics 1 to 25 Phase Rotation Indication AC Current via Flexible Current Probe 100K Ohms Resistance capability VoltSense<sup>™</sup> (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current DCA Auto-Zeroing Key Min/Max Hold Low Pass Filter Auto Power Off Up to 37mm dia. (750MCM) Conductor Bus bar size 45mm x 10mm 4 feet Drop Proof **Deluxe Carrying Case** Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard

#### **APPA 138F**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping Auto AC/DC 1000 Amps capability and selection Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonic Distortion and Harmonics 1 to 25 Phase Rotation Indication AC Current via Flexible Current Probe 100K Ohms Resistance capability VoltSense<sup>™</sup> (None Contact Voltage) Frequency Counter Capacitance capability °C/°F Temperature Function Smart Data Hold Peak Hold Inrush Current DCA Auto-Zeroing Key Min/Max Hold Low Pass Filter Auto Power Off Up to 42mm dia. (1000MCM) Conductor Bus bar size 62mm x 12mm 4 feet Drop Proof Temp. probe included Deluxe Carrying Case Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard



#### **APPA 137F**

10000 Count digital display Active Backlit, Large scale display Analog Bar graph True RMS reading on AC and AC+DC mode Torch lightening when clamping AC 1000 Amps capability Auto AC/DC 1000 Volts capability and selection Auto Ohms/Continuity/Diode selection Power and Power factor Measurement Total Harmonic Distortion and Harmonics 1 to 25 Phase Rotation Indication

AC Current via Flexible Current Probe 100K Ohms Resistance capability VoltSense™ (None Contact Voltage) Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min/Max Hold Low Pass Filter Auto Power Off Up to 42mm dia. (1000MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard





#### **APPA 130F SERIES CLAMP MULTIMETERS**

FEATURES:	APPA 133F	APPA 136F	APPA 137F	APPA 138F
Digital display	10000 count	10000 count	10000 count	10000 count
Analog bar graph	60 segments	60 segments	60 segments	60 segments
True RMS measuring	AC+DC	AC+DC	AC+DC	AC+DC
Auto AC/DC detection		•	•	•
Smart Data hold	•	•	·	•
Min/Max function		•	•	
Peak hold	•	•		•
Inrush Current measurement		•	·	
DCA zeroing	NA	•	NA	•
Low Pass Filter				
Frequency counter		•	•	•
Power and Power Factor measurement		•		
Total Harmonic Distortion	•	•	•	•
Harmonics		•		· ·
Phase Rotation		•	•	•
Temperature measurement	NA	NA	NA	· ·
Capacitance	•	•	•	•
Audible continuity and Diode test				
Backlight		•	•	•
Torch Lighting		•	•	
VoltSense <sup>∞</sup> (None Contact Voltage)	•	•	•	•
Automatic power shut off		•	•	
Shock proof from 4 feet drops				•
Standard full-sleeve safety test leads		•	•	· ·
Deluxe carrying case		•	•	

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

ACA:	Ranges	100.00A, 600.0A	100.00A, 600.0A	100.00A, 1000.0A	100.00A, 1000.0A
	Resolution	0.01A	0.01A	0.01A	0.01A
	Basic Accuracy: ±(1.5%+5d) at 50Hz~500Hz		0.01A		
	Conversion Type	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS
DCA:	Ranges	AC+DC Inde-RMS	100.00A, 600.0A	AC+DC True-RMS	100.00A, 1000.0A
DCA.	Resolution	NA	0.01A	NA	0.01A
		NA		INA	
	Basic Accuracy		±(1.5%+5d)		±(1.5%+5d)
AC Current via SFL		0.1A~3000A	0.1A~3000A	0.1A~3000A	0.1A~3000A
AC+DC A:	Ranges		100.00A, 600.0A		100.00A, 1000.0A
	Resolution	NA	0.01A	NA	0.01A
	Basic Accuracy		Same as ACA+(1.5%+5d)		Same as ACA+(1.5%+5d)
ACV:	Ranges	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy: ±(1.0%+5d) at 50Hz~500Hz	•	•		•
	Input Impedance:3.5MQ	•	•	•	•
	Overload Protection: 1000V rms	•	•		•
	Conversion Type	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS
DCV:	Ranges	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy: ±(0.7%+2d)	0.010	0.010	0:010	0.010
	Input Impedance:3.5MΩ				· · · · · · · · · · · · · · · · · · ·
	Overload Protection: 1000V rms		·	•	•
AC+DC V:	Ranges	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy: Same as ACV+(1.0%+5d)	•	•	•	•
	nput mpedance:3.5MΩ		•		•
	Overload Protection: 1000V rms	•	•	•	•
Watt:	Ranges	10KW~600KW	10KW~600KW	10KW~1MW	10KW~1MW
	Resolution	1W	1W	1W	1W
	Basic Accuracy: ±(2.5%+5d)		±(2.5%+5d)		
P.F.:	Ranges	-1.00~1.00	-1.00~1.00	-1.00~1.00	-1.00~1.00
	Resolution	0.01	0.01	0.01	0.01
	Basic Accuracy	±3°	±3°	±3°	±3°
T.H.D.:	Ranges	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%
	Resolution	0.1%	0.1%	0.1%	0.1%
	Basic Accuracy: ±(3.0%+10d)		±(3.0%+10d)		
Harmonics:	Ranges	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%
Harmonioon	Resolution	0.1%	0.1%	0.1%	0.1%
	Basic Accuracy: ±(5.0%+10d) for order 1-12,	011/0	0.170	0.170	0.1.70
	±(10.0%+10d) for order 13-25				
OHM:	Ranges	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ
	Resolution	0.01Ω	0.01Ω	0.01Ω	0.01Ω
	Basic Accuracy: ±( 1.0%+3d)	•	±( 1.0%+3d)		•
	Overload Protection: 1000V rms	•	·	•	•
Continuity Beeper:	<30Ω, 2KHz tone buzzer	•	•		•
Diode Test:	Open circuit voltage: ±1.8V max	•			
Capacitance	Ranges	400.0HF, 4.000mF	400.0 <sup>µ</sup> F, 4.000mF	400.0HF, 4.000mF	400.0HF, 4.000mF
	Resolution	0.1FE	0.1/F	0.1PF	0.14F
	Basic Accuracy: ±(1.9%+8d)	0.166	±(1.9%+8d)	0.166	0.14F
	Overload Protection: 1000V rms		±(1.970+00)	•	•
			20.011- 101/11-		
Frequency Counter:	Resolution	20.0Hz~10KHz	20.0Hz~10KHz	20.0Hz~10KHz	20.0Hz~10KHz
	Basic Accuracy: ±(0.5%+3d)	0.1Hz	0.1Hz	0.1Hz	0.1Hz
<b>T</b>			±(0.5%+3d)		
Temperature:	Ranges	4			-50 °C∼1000 °C
	Resolution	NA	NA	NA	0.1°C
	Basic Accuracy			1.07	±(1%+1°C)
	Overload Protection: 1000V rms				•

#### GENERAL:

Sampling Rate	3times/sec	3times/sec	3times/sec	3times/sec
Overload Indication	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"
Low Battery Indication	Ō	Ū	Ū	Ŭ
Auto Power Off: Approx. 15 minutes	•	•	•	
Operating Temperature: 0 °C ~ 50 °C, ≦ 80% RH	•	•	•	·
Storage Temperature: -20°C ~ 60°C	•	•	•	
Temperature Coefficient: 0.2(Spec. Acc) / °C, <18 °C or > 28 °C	•	•	•	·
Safety: IEC 61010 and designed to meet UL61010 specifications	CAT IV 600V	CAT IV 600V	CAT IV 600V	CAT IV 600V
	CAT     1000V	CAT     1000V	CAT     1000V	CAT     1000V
Maximum Conductor Size	37mm dia. (750MCM)	37mm dia. (750MCM)	42 mm dia. (1000MCM)	42mm dia. (1000MCM)
Maximum Jaw Opening	45mm	45mm	45mm	45mm
Maximum Busbar Size	45x10mm	45x10mm	62x12mm	62x12mm
Power Requirement: Single 9V battery (NEDA 1604A or IEC 6LF22)	•	•	•	
Battery Life: In hours (Alkaline battery)	100	100	100	100
Size: 87.5mm(W) x 242 mm(L) x 50.5 mm(H)	•	•		
87.5mm(W) x 257mm(L) x 50.5 mm(H)			•	·
Weight: In grams (with battery)	435	435	470	470
Included with instrument: Test Leads, ZnC battery (installed) manual and carrying case		•	•	(Also Including Temperature Probe)



# All New Design Bluetooth Clamp-on Meter APPA 150/150B Series

HOLD

COM

CLR RATE

OTIL



# **ACTIVE BACKLIT**

APPA 150/150B series Pro clamp meters all have an active backlit display that turns ON at the touch of a button or rotate the knob, also automatically goes off to save battery life.



# ADVANCED POWER FEATURES MADE EASY

APPA 150/150B series Pro clamp meter provide advanced Power features, Phase rotation, Total

Harmonics Distortion and even Harmonics 1 to 25th with easy-to-use interface, which enables fully professional power measurement application with excellent performance.



APPA 150B Series with Bluetooth Ver. 4.0 feature for streaming data via iOS/Android APP on any mobile devices to provide easy Data Acquisition and Analysis.



# **FLEXIBLE CURRENT TEST**

Integrated with sFLEX-T flexible current probe expanding the current range to 3,000 ACA, providing direct "Amp" reading display, making electrical measurement easier and safer.



# INNOVATIVE LIGHTENING AIDS AND LIVE VOLTAGE INDICATION

Torch lightening during cable clamping and automatically non contact voltage detection for better identification of working environment.



# **AUTOMATIC SELECTION**

Automatically detect AC, DC and AC+DC of Ampere and Voltage function with AC+DC True RMS, and automatically selection of resistance, continuity and diode.





## **APPA 155** APPA 155B 🚯 Bluetooth

10,000 count digital display 50 segment Analog Bar graph Active Backlit with Large white LED display Bluetooth (with"B"letter) connecting(155B) Auto Store up to 1000 memories Data Logging up to 9,999 records VoltSeek<sup>™</sup> for non-contact voltage detection True RMS reading on AC and AC+DC mode Torch lightoning on triagor nuch Torch lightening on trigger push Auto Ohms/Continuity/Diode selection AC 600 Amps capability Auto AC/DC 1000 Volts capability and selection AC Current via Flexible Current Probe Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability ContiVision™ for visible continuity beeper Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min Max Hold High Frequency Rejection Auto Power Off Up to 33mm dia. (750MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard



#### **APPA 157** APPA 157B 🚯 Bluetooth 10,000 count digital display



10,000 count digital display 50 segment Analog Bar graph Active Backlit with Large white LED display Bluetooth (with<sup>®</sup>Iletter) connecting(157B) Auto Store up to 1000 memories Data Logging up to 9,999 records VoltSeek<sup>™</sup> for non-contact voltage detection True RMS reading on AC and AC+DC mode Torch lightening on trigger push Auto Ohms/Continuity/Diode selection AC 1000 Amps capability Auto AC/DC 1000 Volts capability and selection AC Current via Flexible Current Probe Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability ContiVision™ for visible continuity beeper Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min Max Hold High Frequency Rejection Auto Power Off Up to 40mm dia. (1000MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard







#### **APPA 156** APPA 156B 🚯 Bluetooth

10,000 count digital display 50 segment Analog Bar graph Active Backlit with Large white LED display Bluetooth (with"B"letter) connecting(156B) Auto Store up to 1000 memories Data Logging up to 9,999 records VoltSeek™ for non-contact voltage detection True RMS reading on AC and AC+DC mode Torch lightening on trigger push Auto Ohms/Continuity/Diode selection Auto AC/DC 600 Amps capability and selection Auto AC/DC 1000 Volts capability and selection AC Current via Flexible Current Probe Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability ContiVision™ for visible continuity beeper Frequency Counter Capacitance capability Smart Data Hold Peak Hold Inrush Current Min Max Hold High Frequency Rejection Auto Power Off Up to 33mm dia. (750MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard

#### **APPA 158** APPA 158B 🚯 Bluetooth

10,000 count digital display 50 segment Analog Bar graph Active Backlit with Large white LED display Bluetooth (with"B"letter) connecting(158B) Auto Store up to 1000 memories Data Logging up to 9,999 records VoltSeek™ for non-contact voltage detection True RMS reading on AC and AC+DC mode Torch lightening on rigger push Auto Ohms/Continuity/Diode selection Auto AC/DC 1000 Amps capability and selection Auto AC/DC 1000 Volts capability and selection AC Current via Flexible Current Probe Power and Power factor Measurement Total Harmonics Distortion and Harmonics 1 to 25 Phase Rotation Indication 100K Ohms Resistance capability ContiVision™ for visible continuity beeper Frequency Counter Capacitance capability °C/°F Temperature Function Temperature probe included Smart Data Hold Peak Hold Inrush Current DCA Auto-Zeroing Key Min Max Hold High Frequency Rejection Auto Power Off Up to 40mm dia. (1000MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT IV 600V /CAT III 1000V Safety Standard





#### APPA 150 SERIES CLAMP MULTIMETERS

FEATURES:	APPA 155(B)	APPA 156(B)	APPA 157(B)	APPA 158(B)
Digital display	10000 count	10000 count	10000 count	10000 count
Analog bar graph	50 segments	50 segments	50 segments	50 segments
True RMS measuring	AC+DC	AC+DC	AC+DC	AC+DC
Bluetooth	•	•	•	•
Auto Store	1000	1000	1000	1000
Data Logging	9999	9999	9999	9999
Auto Ranging	•	•	•	•
Auto AC/DC detection	•	•	•	•
Smart Data hold	•	•	•	•
Min/Max function	•	•	•	•
Peak hold	•	•	•	•
Inrush Current Measurement	•	•	•	•
DCA Zeroing	NA	•	NA	•
HFR(LPF)	•	•	•	•
Phase Rotation	•	•	•	•
Backlight	•	•	•	•
Torch Lighting	•	•	•	•
VoltSeek™(None Contact Voltage)	•	•	•	•
Automatic Power Off(can be disabled)	•	•	•	•
Continuity Check(Beep/LED)	•	•	•	•
Diode Test	•	•	•	•
Frequency counter	•	•	•	•
Capacitance Measurement	•	•	•	•
Temperature Measurement	NA	NA	NA	
Total Harmonic Distortion	•	•	•	•
Harmonics	•	•	•	•
Power and Power Factor measurement	•	•	•	•
Shock proof from 4 feet drops	•	•	•	•
Standard full-sleeve safety test leads	•	•	•	•
Deluxe carrying case	•	•	•	•

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

	$5.(AII at 25 C \pm 5 C, = 80\% R.H.)$	100.00A, 600.0A	100.00A, 600.0A	100.00A, 1000.0A	100.00A, 1000.0A
ACA:	Ranges	0.01A	0.01A	0.01A	0.01A
	Resolution	0.01A	0.01A	0.01A	0:01A
	Basic Accuracy: ±(1.5%+5d) at 50Hz~500Hz Conversion Type:	AC+DC True-BMS	AC+DC True-BMS	AC+DC True-BMS	AC+DC True-RMS
504		AC+DC True-RMS	100,00A, 600,0A	AC+DC True-RMS	100,00A, 1000,0A
DCA:	Ranges	NA	0.01A	NA	0.01A
	Resolution	NA NA		NA	
	Basic Accuracy:	0.44.00004	±(1.5%+5d)	0.14.00004	±(1.5%+5d)
AC Curerent via SFL		0.1A~3000A	0.1A~3000A	0.1A~3000A	0.1A~3000A
AC+DC A:	Ranges	NA	100.00A, 600.0A	NA	100.00A, 1000.0A
	Resolution	INA INA	0.01A	INA INA	0.01A
	Basic Accuracy:	100.00V~1000V	±(3.0%+10d)	100.00V~1000V	±(3.0%+10d)
ACV:	Ranges		100.00V~1000V		100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy: ±(1.0%+5d) at 50Hz~500Hz	•		•	-
	Input Impedance:3.5MΩ	•	•	•	•
	Overload Protection: 1000V rms	•	•	•	•
	Conversion Type:	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS	AC+DC True-RMS
DCV:	Ranges	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy: ±(0.70%+2d)	•	•	•	•
	Input Impedance:3.5MΩ	•	•	•	•
	Overload Protection: 1000V rms	•	•	•	•
AC+DC V:	Ranges	100.00V~1000V	100.00V~1000V	100.00V~1000V	100.00V~1000V
	Resolution	0.01V	0.01V	0.01V	0.01V
	Basic Accuracy:	±(1.7%+7d)	±(1.7%+7d)	±(1.7%+7d)	±(1.7%+7d)
	Input Impedance:3.5MΩ	•	•	•	•
	Overload Protection: 1000V rms	•	•	•	•
Watt:	Ranges	10KW~600KW	10KW~600KW	10KW~1MW	10KW~1MW
	Resolution	1W	1W	1W	1W
PF:	Ranges	-1.00~1.00	-1.00~1.00	-1.00~1.00	-1.00~1.00
	Resolution	0.01	0.01	0.01	0.01
	Basic Accuracy	±5d	±5d	±5d	±5d
T.H.D.:	Ranges	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%
	Resolution	0.1%	0.1%	0.1%	0.1%
	Basic Accuracy	±(3.0%+10d)	±(3.0%+10d)	±(3.0%+10d)	±(3.0%+10d)
Harmonics:	Ranges	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%	0.1%~100.0%
	Resolution	0.1%	0.1%	0.1%	0.1%
	Basic Accuracy	±(5.0%+10d) for order 1-12 ±(10.0%+10d) for order 13-25	±(5.0%+10d) for order 1-12 ±(10.0%+10d) for order 13-25	±(5.0%+10d) for order 1-12 ±(10.0%+10d) for order 13-25	±(5.0%+10d) for order 1-12 ±(10.0%+10d) for order 13-2
OHM:	Ranges	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ	1.0000ΚΩ, 10.00ΚΩ, 100.00ΚΩ
	Resolution	0.1Ω	0.1Ω	0.1Ω	0.1Ω
	Accuracy:	±( 1.0%+5d)	±( 1.0%+5d)	±( 1.0%+5d)	±( 1.0%+5d)
	Overload Protection: 1000V rms	•	•	•	•
Continuity Beeper:	<30Ω, 2KHz tone buzzer	•	•	•	•
Diode Test:	Open circuit voltage: ±1.8V max	•	•	•	•
Capacitance	Ranges	400.0µF, 4.000mF	400.0µF, 4.000mF	400.0µF, 4.000mF	400.0µF, 4.000mF
	Resolution	1nF	1nF	1nF	1nF
	Basic Accuracy: ±(1.9%+8d)	•	•	•	•
	Overload Protection: 1000V rms	•	•	•	•
Frequency Counter:		20.00Hz~10.00KHz	20.00Hz~10.00KHz	20.00Hz~10.00KHz	20.00Hz~10.00KHz
	Resolution	0.01Hz	0.01Hz	0.01Hz	0.01Hz
	Accuracy	0.5%+3d	0.5%+3d	0.5%+3d	0.5%+3d
Temperature:	Ranges				-50°C~1000°C
	Resolution	1			0.1°C
	Accuracy	NA	NA	NA	±(1.0%+3°C)
	Overload Protection: 1000V rms	4	1		±(1.0%+0.0)

#### GENERAL:

Sampling Rate	3times/sec	3times/sec	3times/sec	3times/sec
Overload Indication	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"
Low Battery Indication	Û	<u> </u>	Û	Ů
Auto Power Off: Approx. 15 minutes	•	•	•	•
Operating Temperature: 0°C~50°C, ≤80% RH	•	•	•	•
Storage Temperature: - 10°C ~ 50°C	•	•	•	•
Temperature Coefficient: 0.2(Spec. Acc)/°C, <18°C or>28°C	•	•	•	•
Safety: IEC 61010 and designed to meet UL61010 specifications	CAT IV 600V/CAT III 1000V			
Maximum Conductor Size	33mm dia. (750MCM)	33mm dia. (750MCM)	40mm dia. (1000MCM)	40mm dia. (1000MCM)
Maximum Busbar Size	45x10mm	45x10mm	62x12mm	62x12mm
Power Requirement: AAA size 1.5V x 6 batteries	•	•	•	•
Battery Life: In hours (Alkaline battery)	50	50	50	50
Size: 243mm(L) X 103mm(W) x 55m(H)	•	•		
258mm(L) X 103mm(W) x 55m(H)			•	•
Weight: In grams(with battery)	540	540	600	600
Included with instrument: Test Leads, ZnC battery (installed) carrying case and manual	•	•	•	(also including Temperature Probe)



An MGL Brand

# **APPA 200 Series VersaMeter**<sup>™</sup> The Most Friendly Bench Instruments





# An MGL<sup>1</sup>/<sub>2</sub> Brand





Designed for using in a laboratory



Extra back storage for full accessories



**Designed for harsh environment** 



Handle carrying design for mobility



All New Design Bluetooth High Performance Desktop Multimeter





# NEW APPA 208 APPA 208B **Bluetooth**

40,000 count digital display and 43 segment analog display Large white LED backlight display Dual display AC, DC and AC+DC on Voltage & Current mode with Frequency indication 0.03% DCV accuracy 40M Ohms Resistance capability True RMS reading on AC and AC+DC mode Auto Store up to 100 memories Data Logging up to 40,000 records BlueTooth(Ver. 4.0, 208B only) Auto Calibration **On-Screen-Menu Selection** LoZ for prevent false reading from ghost voltage Auto Fuse Detector High Frequency Rejection (LPF) Min/Max/Avg **Relative/% Function** Auto Hold/Peak Hold 11A/1000V & 400mA/1000V High Energy Fuses dBm/dB measurement Store/Recall memories Virtual Instrumentation USB interface with Software included Temperature Probe included Test lead storage compartment Side & neck strap design for handle carrying Power Line 110V, 220V Selectable CAT III 600V/CAT II 1000V standard



# **APPA 201N**

2000 count large scale digital display Autoranging and Manual selection Backlight 0.5% DCV accuracy 20M Ohms Resistance capability True RMS reading on AC mode AC/DC Dual Power Sources Data Hold Min/Max function Capacitance measurement **Frequency Counter Diode and Continuity Test** 6KV transients protection on 660 VAC feeders Test lead storage compartment Side & neck strap design for handle carrying Power Line 110V, 220V Selectable CAT III 300V/CAT II 600V standard





APPA 200 SERIES VERSAMETERS			
	APPA 201N	APPA 208	APPA 208B
FEATURES :			
Digital display	2000 count	4000/40000 count	4000/40000 count
Analog Bar graph Segments	N/A	43	43
Autoranging and Manual selection	•	•	•
AC+DC True RMS	AC only	•	•
Auto Calibration	N/A	•	•
Backlit	•	•	•
Automatic AC/DC voltage detector with low impedance(Auto-V LoZ)	N/A	•	•
High Frequency Rejection (HFR)	N/A	•	•
Peak Hold	N/A	•	•
Auto Hold	•	•	•
MIN/MAX	•	•	•
Relative Mode	N/A	•	•
Duty Cycle	N/A	•	•
Memory Store/Recall	N/A	1000	1000
dBm/dB reading	N/A	•	•
Data Logging Capacity	N/A	40,000	40,000
Optical interface	N/A	•	•
Bluetooth	N/A	N/A	•
Auto fuse detection	N/A	•	•
Beep Guard	N/A	•	•
Low Battery Indication	•	•	•

#### SPECIFICATIONS : (All at 23℃ ±5℃, ≦80% R.H.)

DCV :	Ranges	200mV to 600V	40mV to 1000V	40mV to 1000V
	Resolution	100uV	1uV	1uV
	Basic Accuracy	±(0.5%+2d)	±(0.03%+10d)	±(0.03%+10d)
ACV :	Ranges	200mV to 600V	40mV to 1000V	40mV to 1000V
	Resolution	100uV	1uV	1uV
	Basic Accuracy	±(1.5%+5d)	±(0.5%+20d)	±(0.5%+20d)
	Bandwidth	50Hz to 500Hz	40Hz to 100kHz	40Hz to 100kHz
AC+DC)V:	Ranges & Resolution : Same as ACV, except Accuracy	N/A	•	•
Auto V-LoZ	Range: 400.0V, 1000V	N/A	•	•
DCA:	Ranges	200uA to 10A	40mA to 10A	40mA to 10A
	Resolution	0.1uA	1uA	1uA
	Basic Accuracy	±(1.0%+2d)	±(0.2%+10d)	±(0.2%+10d)
ACA:	Ranges	200uA to 10A	40mA to 10A	40mA to 10A
	Resolution	0.1uA	1uA	1uA
	Basic Accuracy	±(1.5%+5d)	±(0.8%+20d)	±(0.8%+20d)
	Bandwidth	50Hz to 500Hz	40Hz to 10KHz	40Hz to 10KHz
AC+DC)A :	Ranges & Resolution : Same as ACA, except Accuracy	N/A	•	٠
CHM :	Ranges	200Ω to 20MΩ	400Ω to 40MΩ	400Ω to 40MΩ
	Resolution	0.1Ω	0.01Ω	0.01Ω
	Basic Accuracy	±(0.7%+3d)	±(0.2%+10d)	±(0.2%+10d)
Continuity :	2kHz Tone Buzzer	<50Ω	10Ω~50Ω(Adj)	10Ω~50Ω(Adj)
Diode Test:	Open Circuit Voltage	±3V	±2.5V	±2.5V
Frequency Counter :	Ranges	2000Hz to 20MHz	40Hz to 4MHz	40Hz to 4MHz
	Resolution	1Hz	0.001Hz	0.001Hz
	Basic Accuracy	±(0.01%+2d)	±5d	±5d
Duty Factor :	Ranges	N/A	5% to 95%	5% to 95%
	Resolution	N/A	0.1%	0.1%
	Basic Accuracy : 5Hz to 10kHz, 5Vp-p	N/A	±3d	±3d
Capacitance :	Ranges	2nF to 2mF	40nF to 40mF	40nF to 40mF
	Resolution	1pF	10pF	10pF
	Basic Accuracy	±(1.9%+8d)	±(0.9%+2d)	±(0.9%+2d)
°C / °F	Ranges	N/A	-200℃ to 1200℃	-200℃ to 1200℃
	Resolution :	N/A	0.1℃	0.1℃
	Basic Accuracy :	N/A	±(1%+30d) for ℃	±(1%+30d) for ℃

#### GENERAL :

Analog bargraph display :	N/A	•	•
Measuring Rate:	1.5 times/sec	10 times/sec	10 times/sec
Over range Indication :	OL	OL	OL
Auto Power Off :	10 minutes	1~30 minutes(Adj)	1~30 minutes(Adj)
Operating Temperature : 0℃~50℃, ≦80%RH	•	•	•
Storage Temperature : -20°C~60°C	•	•	•
Temperature Coefficient : 0.1 x (Spec Acc)/℃, <18℃ or >28℃	•	•	•
Safety : IEC 1010-1	CAT III 300V/CAT II 600V	CAT III 600V/CAT II 1000V	CAT III 600V/CAT II 1000V
EMC: EN61326-1	N/A	•	•
Power Requirement : AC 100~ 240V, 50/60Hz, 10VA	•	•	•
DC AA or LR6 or AM3 battery 1.5V x 6	•	•	•
Battery Life : In hours without backlight (Alkaline battery)	1200	50	50
Size : without carrying case (mm)	218(W) x 195(L) x 73(H)	230(W) x 233(L) x 95(H)	230(W) x 233(L) x 95(H)
Weight : without power cord	1.3Kg	1.6Kg	1.6Kg
Accessories : Test Leads, carrying strap, power cord and manual	•	(also including Temp. probe, USB cable and APPA WinDMM 208 software)	(also including Temp. probe, USB cable and APPA WinDMM 208 software)



# APPA 500 Series Multimeter





# **APPA Connect APP**

APPA 506B with Bluetooth Ver. 4.0 feature for streaming data via iOS/Android APP on any mobile devices to provide easy Data Acquisition and Analysis.



# AUTOMATICALLY VOLTAGE DETECT WITH LOW IMPEDANCE

Special designed LoZ(Low Impedance)with Automatically Voltage detect, prevent false reading caused by ghost voltage.(506,506B)



# **DAY & NIGHT**

An innovative auto ON/OFF backlit feature give you fulltime display visibility and increased battery life.



# **ALL-WEATHER HOUSING**

Designed for harsh environments with water tight gasket as the seams rotary switch, input terminal and battery cover to keep out of dust, dirt and splashing. They can also take shocks and drops, work anywhere form indoor to outdoor.

# **EXTRA PROTECTION**

Ergonomically designed slim shape 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.



# **NO-OPTION FULL ACCESSORIES**

Ergonomically designed test leads with comfort-grip, safety-shrouded, full-sleeve right-angle plug and hard alloy tips for long life. Slip-on insulated alligator clips are standard. Also supplied with a temperature adaptor, bead sensor, magnetic hanging kit, USB cable and CD software.







#### APPA 503/505

40,000/4,000 count extra large digital display(503) 100,000/10,000 count extra large digital display(505) 43 segments analog bar graph Auto Backlit, Dual display Auto detect AC and DC AC mode with Frequency indiction Auto Selection on Ohm, Capacitance, Diode or Continuity(505) 0.03% DCV accuracy(503) 0.015% DCV accuracy(505) True RMS reading on AC and AC+DC mode High Frequency Rejection (HFR) Min/Max/Avg Relative/% Function Auto Hold/Peak Hold Store/Recall memories dBm/dB measurement 20000 records data logging capacity USB interface with Software included CAT IV 600V/CAT III 1000V standard

#### APPA 506/506B 🚯 Bluetooth



40,000 count digital display and 43 segment analog display Large white LED backlight display Auto Backlit, Dual display AC mode with Frequency indiction 0.03% DCV accuracy True RMS reading on AC and AC+DC mode Auto Store up to 1,000 memories Data Logging up to 40,000 records Bluetooth(Ver. 4.0, 506B only) Auto Calibration LoZ for prevent false reading from

ghost voltage Auto Fuse Detector

High Frequency Rejection(LPF) Min/Max/Avg Relative/% Function Auto Hold/Peak Hold

Store/Recall memories Virtual Instrumentation Continuity Check/Beeper Selectable continuity level: 10 to 50Ω dBm/dB measurement USB interface with Software included

C



#### **APPA 507 Process Multimeter**

50,000 count extra large digital display Auto Backlit, Dual display Auto detect AC and DC Frequency indication On-Screen-Menu Selection Navigator Key Drive High Frequency Rejection(HFR) Auto Hold 0.05% DCV accuracy 20 mA DC current source / loop calibrator / simulator Manual Step (100% to 0%, Coarse, Fine) plus Auto Step and Auto Ramp HART mode setting with Loop Power USB interface with Software included CAT IV 600V/CAT III 1000V standard

#### NEW

APPA 501/502 4,000/40,000 counts digital display and 43 segments analog display Large white LED backlight display Auto Backlit, Dual reading display AC mode with Frequency indication True RMS reading on AC and AC+DC mode 0.05% DCV accuracy Up to 4GΩ Resistance measurement Temperature measurement (502 Only) LoZ for prevent false reading from ghost voltage High Frequency Rejection(LPF) Relative & Relative % Function Min/Max/Avg Auto Hold/Peak Hold Auto Store up to 1,000 memories Data Logging up to 20,000 records (501) up to 40,000 records (502) Beeper Guard Selectable continuity level: 10 to 50Ω Auto Fuse Detector dBm/dB measurement USB interface with Software

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#### APPA 500 SERIES MULTIMETERS

Digital display         4,000 / 40,000 count         4,000 / 40,000 count         10,000 / 10,000 count         4,000 / 40,000 count         50,000 count           Analog Bargnah Segments         43	FEATURES :	APPA 501/502	APPA 503	APPA 505	APPA 506/506B	APPA 507
True FMS reading       AC, AC+DC, HFR AC         Auto Backiti, Dual Display       •	Digital display	4,000 / 40,000 count	4,000 / 40,000 count	10,000 / 100,000 count	4,000 / 40,000 count	50,000 count
Auto Backlit, Dual Display       •       •       •       •       •         Auto Backlit, Dual Display       N/A       •       •       N/A       •         Auto detect AC and DC       N/A       •       •       •       •       •         Auto Getect AC and DC       •       •       •       •       •       •       •         Auto Selection on Ohm, Capacitance, Diode or Continuity       N/A       N/A       N/A       N/A       N/A         Auto Selection on Ohm, Capacitance, Diode or Continuity       N/A       N/A       •<		43	43	43	43	N/A
Auto detect AC and DC       N/A       N/A       N/A         AC mode with Frequency indiction       •       •       •       N/A         Acto Selection on Ohm, Capacitance, Diode or Continuity       N/A       N/A       N/A       N/A         On-Screen-Menu Selection       •       •       •       •       •       •         Navigator Key Drive       •       •       •       •       •       •       •         High Frequency Rejection (HFR)       •	True RMS reading	AC, AC+DC, HFR AC	AC, AC+DC, HFR AC	AC, AC+DC, HFR AC	AC, AC+DC, HFR AC	AC, AC+DC, HFR AC
AC mode with Frequency indiction       •       •       •       N/A         Auto Selection on Mm, Capacitance, Diode or Continuity       N/A       N/A       N/A       N/A         On-Screen-Menu Selection       •       •       •       •       •         Navigator Key Drive       •       •       •       •       •       •         High Frequency Rejection (HFR)       •		•	•	•	•	•
Auto Selection on Ohm, Capacitance, Diode or Continuity     N/A     N/A     N/A     N/A       On-Screen-Meru Selection     •     •     •     •       Navigator Key Drive     •     •     •     •       High Frequency Rejection (HFR)     •     •     •     •       Peak Hold     •     •     •     •       Auto Hold     •     •     •     •       MINMAX/AVG     •     •     •     •       Relative Mode     •     •     •     •       Duty Cycle     N/A     •     •     •       Store/Recall memories     1000     1000     1000     1000       Data Logging     20,000 / 40,000     20,000     20,000     40,000       USB Interface     •     •     •     •       Autoratic power shut off     •     •     •     •       Beep Guard with Auto fuse detection     •     •     •     •		N/A	•	•	N/A	•
On-Screen-Menu Selection         • <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>N/A</td>		•	•	•	•	N/A
Navigator Key Drive         •		N/A	N/A	•	N/A	N/A
High Frequency Rejection (HFR)     •     •     •       Peak Hold     •     •     •     N/A       Auto Hold     •     •     •     •     •       MIN/MAX/AVG     •     •     •     •     •       Relative Mode     •     •     •     •     •       Duty Cycle     •     •     •     •     •       Store/Recall memories     1000     1000     1000     1000     1000       dBm/dB measurement     •     •     •     •     •       Data Logging     20,000 / 40,000     20,000     20,000     40,000     N/A       USB Interface     •     •     •     •     •       Automatic power shut off     •     •     •     •       Beep Guard with Auto fuse detection     •     •     •     •       All weather housing     •     •     •     •     •		•	•	•	•	•
Peak Hold         •         •         N/A           Auto Hold         •		•	•	•	•	•
Auto Hold         •		•	•	•	•	•
MIN/MAX/AVG         • <th< td=""><td>Peak Hold</td><td>•</td><td>•</td><td>•</td><td>•</td><td>N/A</td></th<>	Peak Hold	•	•	•	•	N/A
Relative Mode         •         •         •         •         •           Duty Cycle         N/A         N/A         •         N/A         N/A           Store/Rocall memories         1000         1000         1000         1000         1000           dBm/dd measurement         •         •         •         •         N/A           Data Logging         20,000 / 40,000         20,000         20,000         40,000         N/A           USB Interface         •         •         •         •         •         •           Automatic power shut off         •         •         •         •         •         •           Beep Guard with Auto fuse detection         •         •         •         •         •         •           All weather housing         •         •         •         •         •         •         •	Auto Hold	•	•	•	•	•
Duty Cycle         N/A         ●         N/A         N/A           Stor/Recall memories         10000         10000 </td <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td>		•	•	•	•	•
Store/Recall memories         1000		•	•	•	•	•
dBm/dB measurement         •         •         N/A           Data Logging         20,000 / 40,000         20,000         20,000         40,000         N/A           USB interface         •		N/A	•	•	N/A	N/A
Data Logging         20,000 / 40,000         20,000         20,000         40,000         N/A           USB interface         •		1000	1000	1000	1000	100
USB interface         •         <	dBm/dB measurement	•	•	•	•	N/A
Automatic power shut off         ● <td></td> <td>20,000 / 40,000</td> <td>20,000</td> <td>20,000</td> <td>40,000</td> <td>N/A</td>		20,000 / 40,000	20,000	20,000	40,000	N/A
Beep Guard with Auto fuse detection         ●         ●         ●         N/A           All weather housing         ●		•	•	•	•	•
All weather housing • • • • • •		•	•	•	•	•
		•	•	•	•	N/A
Full Accessories         •		•	•	•	•	•
	Full Accessories	•	•	•	•	•

CCV :	Ranges	40mV to 1000V	40mV to 1000V	100mV to 1000V	40mV to 1000V	50mV to 1000V
	Resolution	1uV	1uV	1uV	1uV	1uV
	Basic Accuracy	±(0.05%+20d)	±(0.03%+20d)	±(0.015%+20d)	±(0.03%+10d)	±(0.05%+5d)
CV :	Ranges	40mV to 1000V	40mV to 1000V	100mV to 1000V	40mV to 1000V	50mV to 1000V
	Resolution	1uV	1uV	1uV	1uV	1uV
	Basic Accuracy	±(0.6%+30d)	±(0.7%+50d)	±(0.4%+50d)	±(0.5%+20d)	±(0.5%+20d)
	Bandwidth	45Hz to 20kHz	40Hz to 100kHz	40Hz to 100kHz	40Hz to 100kHz	40Hz to 10kHz
	Overload Protection : 1000V rms	•	•	•	•	•
AC+DC)V :	Ranges & Resolution : Same as ACV, except Accuracy	•	•	•	•	•
uto V-LoZ	Range: 400.0V, 1000V	•	N/A	N/A	•	N/A
CA :	Ranges	40mA to 10A	40mA to 10A	10mA to 10A	40mA to 10A	50mA to 1A
0.111	Resolution	1uA	1uA	0.1uA	1uA	1uA
	Basic Accuracy	±(0.2%+20d)	±(0.2%+40d)	±(0.1%+40d)	±(0,2%+10d)	±(0.05%+5d)
	Input Protection : 440mA/1000V & 11A/1000V DC/AC high energy		•	•	-(	-(0.00,0.00)
CA :	Ranges	40mA to 10A	40mA to 10A	10mA to 10A	40mA to 10A	50mA to 1A
	Resolution	1uA	1uA	0.1uA	1uA	1uA
	Basic Accuracy	±(0.8%+30d)	±(0.8%+80d)	±(0.7%+80d)	±(0.8%+20d)	±(1.0%+20d)
	Bandwidth	45Hz to 1kHz	40Hz to 1kHz	40Hz to 1kHz	40Hz to 10kHz	40Hz to 10kHz
	Input Protection : 440mA/1000V & 11A/1000V DC/AC high energy	•	•	•	•	•
C+DC)A :	Ranges & Resolution : Same as ACA, except Accuracy	•	•	•	•	•
HM :	Ranges	400Ω to 4GΩ	400Ω to 40MΩ	1000Ω to 40MΩ	400Ω to 40MΩ	500Ω to 50MΩ
	Resolution	0.01Ω	0.01Ω	0.01Ω	0.01Ω	0.01Ω
	Basic Accuracy	±(0.2%+10d)	±(0.2%+30d)	±(0.025%+30d)	±(0.2%+10d)	±(0.2%+10d)
ontinuity & Diode Te	st 2kHz Tone Buzzer, Open Circuit Voltage : ±3V	10Q~50Q (Adi)	<50 Ω	<50 Q	10Q~50Q (Adj)	<30 Q
equency Counter :	Ranges	400Hz to 100kHz	40Hz to 4MHz	40Hz to 4MHz	400Hz to 100KHz	500Hz to 100KH
equency counter :	Resolution	0.001Hz	0.001Hz	0.001Hz	0.01Hz	0.01Hz
	Basic Accuracy	±(5d)	±(0.002%+10d)	±(0.002%+10d)	±5d	±3d
uty Factor :	Ranges	_(==)	20% to 80%	20% to 80%		
aty r dotor :	Resolution	N/A	0.1%	0.1%	N/A	
	Basic Accuracy : 5Hz to 10kHz, 5Vp-p		±(0.1%+10d)	±(0.1%+10d)	· ·	
apacitance :	Ranges	40nF to 40mF	4nF to 40mF	4nF to 40mF	40nF to 40mF	
apuonanoo	Resolution	10pF	1pF	1pF	10pF	N/A
	Basic Accuracy	±(0.9%+2d)	±(0.9%+2d)	±(0.8%+2d)	±(0.9%+2d)	
:/°F	Ranges	N/A / -200 °C to 1200 °C	-200°C to 1200°C	-200°C to 1200°C	-200°C to 1200°C	
., .	Resolution : 0.1°C. Basic Accuracy : ±(1%+1°C)	N/A / .	-	-	200 0 10 1200 0	
	Overload Protection : 1000V rms	N/A / .	•	•	•	
utput :	Ranges					0mA to 24mA
ource Mode	Resolution					1uA
nt. Battery Operation						±(0.05%+5d)
a ballory operation	Driver					>24V / 24mA
utput :	Ranges					0mA to 24mA
mulate Mode	Resolution					1uA
Ext. 24V Loop Supply		N/A	N/A	N/A	N/A	±(0.05%+5d)
	Driver			1	1	>24V / 24mA
	Sirio					
utout :	Banges					
	Ranges Besolution					50mA
oop Power Mode	Ranges Resolution Basic Accuracy					1uA ±(0.05%+5d)

GENERAL :

Sampling Rate :	10times/sec	3times/sec	3times/sec	10times/sec	10times/sec
Overload Indication : "OL" or "-OL"	•	•	•	•	•
Low Battery Indication	<u> </u>	Û	Û	Û	Ú
Auto Power Off :	1~30 minutes(Adj)	1~60 minutes(Adj)	1~60 minutes(Adj)	1~30 minutes(Adj)	20 minutes
Operating Temperature : -10°C~50°C, ≦80%RH	•	•	•	•	•
Storage Temperature : -20°C~60°C	•	•	•	•	•
Temperature Coefficient : 0.15(Spec.Acc)/°C, <18°C or >28°C	•	•	•	•	•
Safety : IEC 61010 and designed to meet UL61010 specifications	CAT IV 600V, CAT III 1000V	CAT IV 600V, CAT III 1000\			
Power Requirement : AA Size 1.5V x 4 batteries (NEDA 15A or IEC LR6)	•	•	•	•	•
Battery Life : In hours (Alkaline battery)	50	100	100	50	100
Size : 95mm(W) x 207mm(L) x 52mm(H), with holster	•	•	•	•	•
Weight : In grams (with holister)	630	630	630	630	630
Accessories : Test Leads, Alligator Clips, Temp. daptor, Bead probe, Protective Holster, USB cable, Software, Magnetic Hanging Kit, Alkaline batteries (installed) and manual	•	•	٠	•	•



# APPA 600 Series Insulation Tester and Multimeter

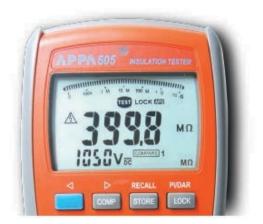
AC -18

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SULATIO





# **DAY & NIGHT**

An innovative auto ON/OFF backlit feature give you fulltime display visibility and increased battery life.



## **INSULATION TESTING**

Insulation testing with leakage current display (605) and testing range up to  $20G \Omega$  with 50V, 100V, 250V, 500V and 1000V DC testing voltage.



Ergonomically designed remote test probe for repetitive testing without pressing the TEST button on Tester/Meter for better convenience.



# **EXTRA PROTECTION**

Ergonomically designed slim shape protective holster that includes a built-in till stand, a nail hook, and convenient test lead storage. This holster provides an extra degree of protection and convenience for your meter.

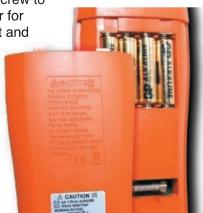


# LOW PASS FILTER (HIGH FREQUENCY REJECTION)

Bypass the noise of electrical equipment for stable reading of measurement.

# BATTERY & FUSE EASY TO REPLACE

Unscrew only one screw to remove battery door for battery replacement and fuse replacement, designed for user's convenience without opening the bottom case.







# NEW

APPA 605 Insulation Resistance Tester

4,000 count extra large digital display 48 segments analog bar graph Auto Backlit, Dual display Insulation test range: 0.01M  $\Omega\,$  to 20G  $\Omega\,$ Insulation test voltage: 50V, 100V, 250V, 500V, 1000V Auto AC/DC Voltage Detection Automatic calculation of Polarization Index and Dielectric Absorption Ratio Store/Recall memories Convenient Compare (Pass/Fail) Function Resistance capability from 0.01  $\Omega$ to 20.00k  $\Omega$ Auto Power Off to save battery life Included with Remote test probe, test leads, alligator clips and magnetic hanging kit. CAT. IV 600V



## NEW

APPA 607 Insulation Multimeter

10,000 count extra large digital display 48 segments analog bar graph Auto Backlit, Dual display Auto AC/DC Voltage Detection AC/DC 1000V capability Min Max AVG features Store/Recall memories Resistance capability up to  $40M\Omega$ Insulation test range up to 22G  $\Omega$ Insulation test voltage: 50V, 100V, 250V, 500V, 1000V Auto Power Off to save battery life Included with Remote test probe, test leads, alligator clips and magnetic hanging kit. CAT. IV 600V/CAT. III 1000V standard



#### APPA 600 SERIES INSULATION TESTER AND MULTIMETER

FEATURES:		APPA 605	APPA 607
Digital display		4.000 count	10,000 count
Analog Bar graph Segmen	Its	48	48
Auto Backlit, Dual Display		•	•
Insulation Test Voltage 50		•	•
nsulation Test 0.001M $\Omega$ ~2		N/A	•
Insulation Test 0.001M $\Omega$ ~		•	N/A
Auto-discharge of capacit		•	•
Min/Max		•	•
Store/Recall Memories		•	•
Low Pass Filter (High Fred	uency Rejection)	•	•
Auto AC/DC Voltage detec		•	•
Compare Function		•	N/A
PI/DAR		•	N/A
nsulation test smooth tes	ting	N/A	•
Continuity	5	N/A	•
Diode Test		N/A	•
AC/DC mV		N/A	•
AC/DC mA		N/A	•
Frequency		N/A	•
Capacitance		N/A	•
Temperature		N/A	•
Temp. Adaptor & Bead pro	be	N/A	•
Remote Probe, test leads,		•	•
Automatic power shut off		•	•
	$a + 22^\circ C + E^\circ C \leq 200^\circ P \parallel )$		
	at 23°C±5°C, ≦ 80% R.H.)		
DCV:	Ranges:	600.0V	100.00mV~1000.0V
	Resolution:	0.1V	0.01mV
	Basic Accuracy:	±(1.0%+5d)	± (0.08%+2d)
	Input Impedance:	<u>3M</u> Ω	10MΩ
	Overload Protection:	600V rms or DC	1000V rms or DC
ACV:	Ranges:	600.0V	100.00mV~1000.0V
	Resolution:	0.1V	0.01mV
	Basic Accuracy: 50Hz~5KHz	±(1.5%+5d)	± (0.9%+3d)
	Input Impedance:	3MΩ//<100pF	10MΩ//<100pF
	Overload Protection:	600V rms or DC	1000V rms or DC
	Conversion Type: True RMS indicating	•	•
DCA:	Ranges:		100.00mA~400.0mA
	Resolution:	N/A	0.01mA
	Basic Accuracy:		±(0.2%+2d)
	Input Protection: 440mA/1000V DC/AC fuse		• 100.00m A. 100.0m A
ACA:	Ranges:	51/0	100.00mA~400.0mA
	Resolution:	N/A	0.01mA
	Basic Accuracy: 40Hz~100KHz		± (1.5%+2d)
OHM/Earth Bond Resistan	Input Protection: 440mA/1000V DC/AC fuse	40.00 Ω ~40.00k Ω	• 1000.0 Ω ~40.00M Ω
OHW/Earth Bond Resistan	ce: Ranges: Resolution:	0.01 Ω	
			0.1 Ω
	Basic Accuracy: Overload Protection:	± (1.5%+3d) at 400.0 Ω 600V rms or DC	± (0.5%+2d) 1000V rms or DC
Continuity Beeper:	<30 Ω, 2KHz tone buzzer	N/A	TOODVIIIIS OF DC
Diode Test:	Open circuit voltage: 3V	IN/A	±(0.5%+2d)
nsulation Resistance:		50V, 100V, 250V, 500V, 1000V	50V, 100V, 250V, 500V, 1000V
insulation Resistance.	Testing Voltage Ranges: Resistance Ranges:	0.001MΩ~20.0GΩ	0.001MΩ~22.0GΩ
	Resolution:	1kΩ	1kΩ
	Basic Accuracy:	±(1.5%+5d)	$\pm (1.5\%+5d)$
	Overload Protection:		
Frequency Counter:		600V rms or DC	1000V rms or DC
requency counter.	Ranges:	N1/A	10.00Hz~100kHz
requency counter.	Resolution:	N/A	0.01Hz
requency counter.	Resolution: Basic Accuracy:	N/A	0.01Hz ± (0.1%+5d)
	Resolution: Basic Accuracy: Overload Protection:	N/A	0.01Hz ± (0.1%+5d) 1000V rms
	Resolution: Basic Accuracy: Overload Protection: Ranges:		0.01Hz ± (0.1%+5d) 1000V rms 10.000nF~40.00mF
	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution:	N/A N/A	0.01Hz ± (0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF
	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy:		$\begin{array}{c} 0.01 \text{Hz} \\ \pm (0.1\% + 5 \text{d}) \\ 1000 \text{V rms} \\ 10.000 \text{nF} \sim 40.00 \text{mF} \\ 0.001 \text{nF} \\ \pm (1.2\% + 2 \text{d}) \end{array}$
Capacitance:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection:		0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms
Capacitance:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges:	N/A	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C
Capacitance:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution:		0.01Hz ± (0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ± (1.2%+2d) 1000V rms -200°C~1200°C 0.1°C
Capacitance:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges:	N/A	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C
Capacitance:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution:	N/A	0.01Hz ± (0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ± (1.2%+2d) 1000V rms -200°C~1200°C 0.1°C
Capacitance: C /*F GENERAL:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution:	N/A	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C
Capacitance: C /*F GENERAL: Sampling Rate:	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy:	N/A N/A	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C)
Capacitance: C / 'F GENERAL: Sampling Rate: Dverload Indication: "OL"	Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy: Overload Protection: Ranges: Resolution: Basic Accuracy:	N/A N/A	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C)
Capacitance: C / 'F GENERAL: Sampling Rate: Dverload Indication: "OL" ow Battery Indication	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"	N/A N/A 3times/sec	0.01Hz ± (0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ± (1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ± (1%+1°C)
Capacitance: C / 'F ENERAL: Sampling Rate: Overload Indication: "OL" .ow Battery Indication Juto Power Off: Approx. 2	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         00 minutes	N/A N/A 3times/sec	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec •
C / "F C / "C /	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Basic Accuracy:         or "-OL"         0 minutes         C ~ 50°C, ≤80% RH	N/A N/A 3times/sec	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec ↓
Capacitance: C / 'F C / 'F C SENERAL: Sampling Rate: Dverload Indication: "OL" ow Battery Indication Auto Power Off: Approx. 2 Operating Temperature: 0 Storage Temperature: 20	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Basic Accuracy:         or "-OL"         0 minutes         C ~ 50°C, ≤80% RH	N/A N/A Stimes/sec	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C 0.1°C ±(1%+1°C) 6times/sec • •
Capacitance: C / 'F C / 'F C Dverload Indication: "OL" ow Battery Indication Auto Power Off: Approx. 2 Dperating Temperature: 0 Storage Temperature: - 20 Temperature Coefficient: C	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         to minutes         C ~ 50°C, ≤ 80% RH         C ~ 60°C	N/A N/A 3times/sec • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec • • •
Capacitance: C /'F GENERAL: Sampling Rate: Dverload Indication: "OL" ow Battery Indication Auto Power Off: Approx. 2 Operating Temperature: 0 Storage Temperature: - 20 Femperature Coefficient: C Safety: IEC 61010 and des	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         0         or "-OL"         0 minutes         C ~ 50°C, ≤80% RH         °C ~ 60°C         0.15 (Spec. Acc) /°C, <18°C or >28°C         igned to meet UL61010 specifications, Compliance to IEC61557.	N/A N/A 3times/sec • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 66times/sec • • •
Capacitance: C / 'F C /	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         Cominutes         C ~ 50°C, ≤80% RH         °C ~ 60°C         0.15 (Spec. Acc) / °C, <18°C or >28°C         igned to meet UL61010 specifications, Compliance to IEC61557.         ize 1.5V x 4 batteries (NEDA 15A or IEC LR6)	N/A N/A 3times/sec • • • • • • • • • • • • • • • • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000NF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec • • CAT. IV. 600V, CAT. III 1000V
Capacitance: C / 'F C / 'F C / 'F C / 'F C Sampling Rate: Diverload Indication: "OL" ow Battery Indication Auto Power Off: Approx. 2 Diverating Temperature: 0 Storage Temperature: - 20 Temperature Coefficient: C Safety: IEC 61010 and des Cower Requirement: AA si Sattery Life: In hours (Alka	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         or "-OL"         0 minutes         C ~ 50°C, ≤80% RH         °C ~ 60°C         0.15 (Spec. Acc) / °C, < 18°C or >28°C         igned to meet UL61010 specifications. Compliance to IEC61557.         ze 1.5V x 4 batteries (NEDA 15A or IEC LR6)         aline battery)	N/A N/A 3times/sec • • • • • • • • • • • • • • • • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec • • CAT. IV. 600V, CAT. III 1000V
Capacitance: C /*F GENERAL: Sampling Rate: Dverload Indication: "OL" ow Battery Indication Auto Power Off: Approx. 2 Operating Temperature: • 20 Storage Temperature: • 20 Genperature Coefficient: C Safety: IEC 61010 and des Power Requirement: AA si Sattery Life: In hours (Alka Size: 95mm (W) x 200mm (	Resolution:         Basic Accuracy:         Overload Protection:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         or minutes         C ~ 50°C, ≤80% RH         °C ~ 60°C         ./15 (Spec. Acc) / °C, <18°C or >28°C         igned to meet UL61010 specifications, Compliance to IEC61557,         ize 1.5V x 4 batteries (NEDA 15A or IEC LR6)         aline battery)         (L) x 51.20 mm (H), without holster	N/A N/A 3times/sec • • • • • • • • • • • • • • • • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000NF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec 0 0 0 0 0 0 0 0 0 0 0 0 0
Capacitance: C / 'F GENERAL: Sampling Rate: Overload Indication: "OL" Low Battery Indication Auto Power Off: Approx. 2 Operating Temperature: 0 Storage Temperature: - 20 Temperature Coefficient: C Safety: IEC 61010 and des Power Requirement: AA si Battery Life: In hours (Alk Size: 95mm (W) x 200mm ( Weight: In grams (with hol	Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         0r "-OL"         0 minutes         C ~ 50°C, ≤80% RH         °c ~ 60°C         0.15 (Spec. Acc) / °C, <18°C or >28°C         igned to meet UL61010 specifications, Compliance to IEC61557, ize 1.5V x 4 batteries (NEDA 15A or IEC LR6)         aline battery)         (L) x 51.20 mm (H), without holster         ister)	N/A N/A 3times/sec • • • • • • • • • • • • • • • • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec • • CAT. IV. 600V, CAT. III 1000V • 80 • •
Capacitance: C / 'F C /	Resolution:         Basic Accuracy:         Overload Protection:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         Overload Protection:         Ranges:         Resolution:         Basic Accuracy:         or "-OL"         or minutes         C ~ 50°C, ≤80% RH         °C ~ 60°C         ./15 (Spec. Acc) / °C, <18°C or >28°C         igned to meet UL61010 specifications, Compliance to IEC61557,         ize 1.5V x 4 batteries (NEDA 15A or IEC LR6)         aline battery)         (L) x 51.20 mm (H), without holster	N/A N/A 3times/sec • • • • • • • • • • • • • • • • • • •	0.01Hz ±(0.1%+5d) 1000V rms 10.000nF~40.00mF 0.001nF ±(1.2%+2d) 1000V rms -200°C~1200°C 0.1°C ±(1%+1°C) 6times/sec • • • CAT. IV. 600V, CAT. III 1000V • 80 •

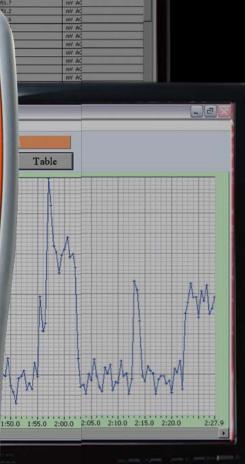


# APPA 700 Series LCR Meters Automatic Selection Technology

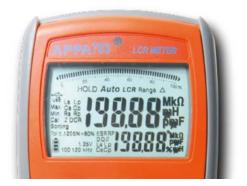
AC mV











# **DAY & NIGHT**

An innovative auto ON/OFF backlit feature give you fulltime display visibility and increased battery life.

# **BATTERY EASY TO REPLACE**

Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.





# FULL AUTOMATIC SELECTION

Automatically measuring L, C and R with Q, D, and  $\theta$  by just turn on the meter,...the first ever-smart LCR meter.



Ergonomically designed slim shape 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.



# **USB INTERFACE**

Safe and easy used USB interface to connect to PC for data acquisition or connect to a DC power supply.

# **NO-OPTION FULL ACCESSORIES**

Ergonomically designed test clip with comfort-grip (700b, 701, 703), 4-wires SMD test clip, magnetic hanging kit, shorting bar, AC power adaptor, USB cable and a CD software(703)





# An MGL Brand



#### **APPA 701**

20.000/2.000 count dual digital display 46 segments Bar graph display Auto Selection of LCR Testing Auto Ranging Auto Backlit 0.2% basic accuracy Capacitance and Inductance Measurement Parameters: L.C.R.D.Q.  $\theta$ , EsR Testing Frequency: 100Hz/120Hz /1KHz/10KHz selectable Parallel/Serial test mode Sorting mode for QC Data Hold Self Calibration External DC power operation Zeroing Mode Low Battery Indication



### NEW

APPA 700b

20.000/2.000 count dual digital display 46 segments Bar graph display Auto Selection of LCR Testing Auto Ranging Auto Backlit 0.2% basic accuracy Capacitance and Inductance Measurement Parameters: L.C.R.D.Q.  $\theta$ , EsR Testing Frequency: 100Hz/120Hz /1KHz selectable Parallel/Serial test mode Sorting mode for QC Data Hold Self Calibration External DC power operation Zeroing Mode Low Battery Indication Auto Power Off **Optical USB interface** 2 Wires Easy Testing 4 Wires Accuracy Testing



#### APPA 703

Auto Power Off

Optical USB interface

2 Wires Easy Testing

4 Wires Accuracy Testing

20,000/2,000 count dual digital display 46 segments Bar graph display Auto Selection of LCR Testing

Auto Ranging Auto Backlit 0.2% basic accuracy Capacitance and Inductance Measurement Parameters: L.C.R.D.Q.  $\theta$ , EsR Testing Frequency: 100Hz/120Hz/1KHz/ 10KHz /100KHz selectable Parallel/Serial test mode Sorting mode for QC Static recording (Max/Min) Data Hold Self Calibration External DC power operation Zeroing Mode Low Battery Indication Auto Power Off Optical USB interface 2 Wires Easy Testing 4 Wires Accuracy Testing



# APPA 700 SERIES LCR METERS

FEATURES:	APPA 700b	APPA 701	APPA 703
Digital display	20,000/2,000 count	20,000/2,000 count	20,000/2,000 count
Analog Bar graph Segments	46	46	46
Auto Backlit, Dual Display	•	•	•
Auto Selection of LCR testing	•	•	•
Auto Ranging	•	•	•
Measurement Parameters	L,C,R,D,Q, $ heta$ , EsR	L,C,R,D,Q, θ , EsR	L,C,R,D,Q, $\theta$ , EsR
Testing Frequency 100Hz/120Hz/1kHz/10kHz/100kHz selectable			•
Testing Frequency 100Hz/120Hz/1kHz/10kHz selectable		•	
Testing Frequency 100Hz/120Hz/1kHz selectable	•		
Parellel/Serial test mode	•	•	•
Sorting mode for QC	•	•	•
Data Hold	•	•	•
Self-Calibration	•	•	•
External DC Power operation	•	•	•
Max/Min	N/A	N/A	•
Zeroing Mode	•	•	•
Low battery Indication	•	•	•
Automatic power shut off	•	•	•
USB interfrace	•	•	•
2 wires Easy Testing	•	•	•
4 wires Accuracy Testing	•	•	•
Full Accessories	Standard Accessories	Standard Accessories	•

SPECIFICATIONS:(All at 23°C±5°C,  $\leq$  80% R.H.) Multiply accuracy digit by 10 in 20,000 count mode.

Inductance:	Ranges	2000 µ H~20KH	200 µ H~20KH	20 µ H~20KH	
	Resolution	0.1 µ H	0.01 µ H	0.001 µ H	
	Basic Accuracy	± (0.2%+5d)	± (0.2%+5d)	± (0.2%+5d)	
Capacitance:	Ranges	2000pF~20mF	200pF~20mF	20pF~20mF	
	Resolution	0.1pF	0.01pF	0.001pF	
	Basic Accuracy	± (0.2%+5d)	± (0.2%+5d)	±(0.2%+5d)	
Resistance:	Ranges	<b>20</b> Ω ~200M Ω	<b>20</b> Ω ~200Μ Ω	<b>20</b> Ω ~200M Ω	
	Resolution	0.001 Ω	0.001 Ω	<b>0.001</b> Ω	
	Basic Accuracy	± (0.2%+5d)	±(0.2%+5d)	±(0.2%+5d)	
DC Resistance:	Ranges	<b>200</b> Ω ~200M Ω	<b>200</b> Ω ~200M Ω	<b>200</b> Ω ~200M Ω	
	Resolution	0.01 Ω	<b>0.01</b> Ω	<b>0.01</b> Ω	
	Basic Accuracy: 40Hz~100KHz	±(0.2%+5d)	±(0.2%+5d)	±(0.2%+5d)	
Q:	Ranges	0.000~2000	0.000~2000	0.000~2000	
	Resolution	0.001	0.001	0.001	
D:	Ranges	0.000~2000	0.000~2000	0.000~2000	
	Resolution	0.001	0.001	0.001	
θ:	Ranges:	±90°	±90°	±90°	
	Resolution	0.1°	0.1°	0.1°	

#### GENERAL:

Sampling Rate	1.25 times/sec	1.25 times/sec	1.25 times/sec
Overload Indication: "OL" or "-OL"	٠	•	•
Low Battery Indication	Ĺ	Ū	Ĺ
Auto Power Off: Approx. 10 minutes	٠	•	•
Operating Temperature: 0°C ~ 50°C, ≦80% RH	•	•	•
Storage Temperature: - 20°C ~ 60°C	٠	•	•
Temperature Coefficient: 0.15 (Spec. Acc) / °C, < 18°C or >28°C	•	•	•
Safety: Complies with EN 61010-1, IEC 61010-1 and EN 61326-1	٠	•	•
Power Requirement: AA size 1.5V x 4 batteries (NEDA 15A or IEC LR6)	٠	•	•
Battery Life: In hours (No backlit, Alkaline battery)	80	80	80
Size: 95mm(W) x 200mm (L) x 51.20 mm(H), without holster	•	•	•
Weight: In grams (with batteries))	630	630	630
Accessories: Alligator Clips, Shorting Bar, Magnetic Hanging Kit,	•	•	Also included 4 wries SMD dip, DC power cord,
Alkaline batteries (installed) and manual			USB cable and CD-ROM software



# APPA 705/707 Tweezer LCR meter Automatic Selection Technology

C55







## NEW

NEW APPA 707

Auto Ranging

and Inductance

Self Calibration

Zeroing Mode Low Battery Indication Auto Power Off USB interface

Tweezers Easy Testing Full accessories included

20000 count digital display Auto Selection of LCR Testing

Measurement Parameters: L.C.R.D.Q.O, DCR

0.5% basic accuracy Capacitance

Testing Frequency: 100Hz/120Hz /1KHz/10KHz/100KHz selectable

External USB power operation

**APPA 705** 20000 count digital display Auto Selection of LCR Testing Auto Ranging 0.5% basic accuracy Capacitance and Inductance Measurement Parameters: L.C.R.D.Q-O, DCR Testing Frequency: 100Hz/120Hz /1KHz/10KHz selectable Self Calibration External USB power operation Zeroing Mode Low Battery Indication Auto Power Off USB interface Tweezers Easy Testing

#### APPA 705 / 707 Tweezer LCR meter

FEATURES:	APPA 705	APPA 707
Main Display	20,000 count	20,000 count
Auto Selection on LCR testing	ŧ	•
Auto Ranging	•	•
Measurement Parameters	L,C,R,D,Q,O,DCR	L,C,R,D,Q,Ə,DCR
Testing Frequency	100Hz/120Hz/1kHz/10kHz selectable	100Hz/120Hz/1kHz/10kH /100kHz selectable
Self-Calibration	•	•
External USB Power operation	•	•
Zeroing Mode	•	•
Elegant Modern Design	•	•
Low Battery Segement Indication	•	•
Auto Power Shot off	•	•
USB Interface	•	•
4 Wire Easy Testing	•	•
Full Accessories	Standard Accessories	•

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

Inductance:	Ranges	200µH~2000mH	20µH~2000mH
	Minimum Resolution	0.01µH	0.001µH
	Basic Accuracy	±(0.5%+5d)	±(0.5%+5d)
Capacitance:	Ranges	200pF~200µF	200pF~200µF
	Minimum Resolution	0.01pF	0.01pF
	Basic Accuracy	±(0.5%+5d)	±(0.5%+5d)
Resistance:	Ranges	20Ω~200ΜΩ	20Ω~200ΜΩ
	Minimum Resolution	0.001Ω	0.001Ω
	Basic Accuracy	±(0.5%+5d)	±(0.5%+5d)
DC Resistance	e: Ranges	200Ω~200ΜΩ	200Ω~200ΜΩ
	Minimum Resolution	0.01Ω	0.01Ω
	Basic Accuracy	±(0.5%+5d)	±(0.5%+5d)
Q:	Ranges	2.000~2000	2.000~2000
	Resolution	0.001	0.001
D:	Ranges	2.000~2000	2.000~2000
	Resolution	0.001	0.001
θ:	Ranges	±90°	±90°
	Resolution	0.1°	0.1°

#### GENERAL:

Sampling Rate	1.25 times/sec	1.25 times/sec
Overload Indication	"OL" or "-OL"	"OL" or "-OL"
Low Battery Indication	Û	Û
Auto Power Off: Approx. 10 minutes	•	•
Operating Temperature: 0°C~50°C, ≦80% RH	•	•
Storage Temperature: - 20°C ~ 60°C	•	•
Temperature Coefficient: 0.15 (Spec. Acc) / °C, <18°C or >28°C	•	•
Power Requirement: Li-ion 400mAh battery or Ext. DC 5V mini-USB plug	•	•
Battery Life(Full charged): In hours(No backlight)	20	20
Size: 38mm(W) x 168mm(L) x 23mm(D	•	•
Weight: In grams	70	70
Included with instrument: Li-ion battery(installed), Flat tip, manual and carrying pouch	•	Also included Bend Tip, AC Adapter, USB cable and CD-ROM software

Specifications subject to change without notice.

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# APPA A Series The Innovative Electrical Tester





## FULL AUTOMATIC SELECTION

Automatically measuring Voltage, Resistance, Continuity, Diode and Ampere by just turn on the meter,.....the first ever smart electrical tester and clamp meter.

(A3AR, A5AR, A9, A7A, A6N, A6D and A6DR only)



## **INVENTIVE OPEN JAW**

APPA A5AR, A7D, A7A and A5 provide an inventive open jaw technology for AC current measuring without opening a clamp jaw. 16mm jaw opening enable to measure aluminum 4/0 cable.



## **AUTO BACKLIT**

An innovative automatic bright backlit feature on APPAA6N, A6Dand A6DR gives you fulltime display visibility and increased battery life.

## **INNOVATIVE ADVANCED FEATRURES**

Featuring a safer and smarter display hold offers you an extra protection of measuring. An additional fast current captured Auto Hold function get your job done faster, safer and more accurate.

(A3AR, A5AR, A9, A7A, A6N, A6D and A6DR only)



## **PROBE HOLDER**

Every A series tester (A5, A5AR,A7D, and A9 only) has a convenient test lead storage also provides probe holder for two poles voltage testing application.

### **BATTERY EASY TO REPLACE**

0

Unscrew only one or two screws to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.





#### APPA A5

2000 count digital display VoltSense™ function **Truly measure up to AC 200A Aluminum 4/0 cable** AC 200 Amps capability AC 750 Volts capability DC 1000 Volts capability 20M Ohms Resistance range Continuity Beeper Diode Test Display Hold Auto Power Off Up to 16mm dia. conductor size CAT. IV 600V/ CAT. III 1000V Safety Standard



#### NEW APPA A5AR

10000 count digital display with backlit Auto Selection on ACV, DCV, Q,ACA, Diode, and Continuity True RMS reading on AC mode 0.3% basic DCV accuracy Smart Data Hold VoltSense<sup>™</sup> feature (None contact voltage detecting) AC 200 Amps capability AC 1000 Volts/DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and Disable available) Up to 16mm dia.Conductor size CAT.IV 600V /CAT.III 1000V Safety Standard



#### APPA A7D

2000 count digital display **Truly measure up to AC 200A Aluminum 4/0 cable** AC 200 Amps capability AC 600 Volts capability DC 600 Volts capability 2000 Ohms Resistance range Continuity Beeper Display Hold Auto Power Off Up to 16mm dia. conductor size CAT. III 600V Safety Standard



#### APPA A9

10000 count digital display Auto Selection on ACV, DCV, ACA, Q, Continuity and Diode Smart Data Hold Auto Hold (Current mode only) AC 400 Amps capability AC 750 Volts capability DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and disable available) Up to 27mm dia. (500MCM) Conductor CAT. IV 600V/ CAT. III 1000V Safety Standard





#### APPA A7A

10000 count digital display Auto Selection on ACV, DCV, ACA, Ω, Continuity and Diode Truly measure up to AC 200A Aluminum 4/0 cable Single key operation for all functions Smart Data Hold Auto Hold (Current mode only) AC 200 Amps capability AC 750 Volts capability DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and disable available) Up to 16mm dia. conductor size CAT. IV 600V/ CAT. III 1000V Safety Standard

#### APPA A6N

10000 count digital display Auto Selection on ACV, DCV, ACA,  $\Omega$  Continuity and Diode Auto Backlit Single key operation for all functions Smart Data Hold Auto Hold (Current mode only) AC 600 Amps capability AC 750 Volts capability DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and disable available) Up to 32mm dia. (750MCM) conductor size Deluxe carrying case CAT, III 600V/ CAT, II 1000V Safety Standard



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#### APPA A6D/A6DR

10000 count digital display Auto Selection on ACV, DCV, ACA, DCA, Ω, Continuity and Diode Auto Backlit True RMS reading on AC mode (A6DR) Single key operation for all functions Auto Zeroing key for DCA Smart Data Hold Auto Hold (Current mode only) AC/DC 600 Amps capability AC 750 Volts capability DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and disable available) Up to 35mm dia. (750MCM) conductor size Deluxe carrying case CAT. IV 600V/ CAT. III 1000V Safety Standard

#### NEW APPA A3AR

10000 count digital display with backlit Auto Selection on ACV, DCV, Q,ACA, Diode, and Continuity True RMS reading on AC mode 0.3% basic DCV accuracy Smart Data Hold VoltSense<sup>™</sup> feature (None contact voltage detecting) AC 400 Amps capability AC 1000 Volts/DC 1000 Volts capability 10K Ohms Resistance range Fast Continuity Beeper Battery capacity auto indication Auto Power Off (Enable and Disable available) Up to 27mm dia. (500MCM) Conductor size CAT.III 600V /CAT.II 1000V Safety Standard





#### APPA A SERIES ELECTRICAL TESTER & CLAMP METER

SPECIFICAT	IONS:(All at 23°C $\pm$ 5°C, $\leq$ 80% R.H.)	APPA A3AR	APPA A5	APPA A5AR
ACV:	Ranges	1.3V~1000.0V	200.0V, 1000V	1.3V~1000.0V
	Resolution	0.1V	0.1V	0.1V
	Basic Accuracy	50Hz~500Hz	50Hz~500Hz	50Hz~500Hz
	· · · · · · · · · · · · · · · · · · ·	±(0.9%+3d)	±(1.5%+5d)	±(0.9%+3d)
	Input Impedance	6ΚΩ~420ΚΩ	2MΩ//<100pF	5ΚΩ~420ΚΩ
	Overload Protection: 600V rms	1000V	1000∨	1000V
	Conversion Type: Average sensing RMS indicating	True RMS	•	True RMS
DCV:	Ranges	2.1V~1000.0V -0.7V~-1000.0V	200.0V, 1000V	2.1V~1000.0V -0.7V~-1000.0V
	Resolution	0.1	0.1V	0.1
	Basic Accuracy	±(0.3%+2d)	±(1.0%+2d)	±(0.3%+2d)
	Input Impedance	6ΚΩ~420ΚΩ	2MΩ//<100pF	5ΚΩ~420ΚΩ
	Overload Protection: 600V rms			
	1000V peak	-	-	•
ACA:	Ranges	400.0A	200.0A	200.0A
	Resolution	0.1A	0.1A	0.1A
		50Hz~60Hz	50Hz~60Hz	50Hz~60Hz
	Basic Accuracy	±(2%+5d)	±(3.0%+5d)	±(3.0%+5d)
		True RMS		True RMS
DCA:	Conversion Type: Average sensing RMS indicating Ranges			
	Resolution			
	Basic Accuracy	10ΚΩ	20MΩ	10ΚΩ
OHM:	Ranges	1Ω	0.1Ω	1Ω
	Resolution			
	Basic Accuracy	±(0.9%+2d)	±(1.0%+2d)	±(0.9%+2d) 1000V
	Overload Protection: 600V rms			
Continuity Beeper:		-		
	Threshold: <25 $\Omega$		<50Ω	
Diode Test:	Ranges	0.4V~0.8V	0.4V~0.8V	0.4V~0.8V
	Resolution	100mV	100V	100mV
	Basic Accuracy	±(1.0%+3d)	±(1.5%+5d)	±(1.0%+3d)
	Open circuit voltage: 2V max		3V max	
GENERAL:				
Sampling Rate Overload Indication	<b>n:</b> "OL" is displayed for "Ω" and "V" function,	2times/sec	1 5times/sec	2times/sec
	shows the real value for "A" function.			
Low Battery Indica	tion	0	<b>+-</b>	
Auto Power Off: Ap	pprox. 20 minutes	•	10min	•
Operating Tempera	ature: 0°C~50°C, ≦80% RH	-	•	•
Storage Temperatu	<b>Ire: -</b> 20°C ~ 60°C	•	•	•
Temperature Coeffi	icient: 0.2(Spec. Acc)/°C, <18°C or>28°C	-	-	•
Safety: IEC 61010 a	and designed to meet UL61010 specifications	CAT. III 600V, CAT. II 1000V	CAT. IV 600V, CAT. III 1000V	CAT. IV. 600V, CAT. III 1000V
Maximum Conduct	or Size	27mm dia. (500MCM)	16mm dia.	16mm dia.
Maximum Jaw Ope	ening	35mm		
Power Requiremen	nt: Single 9V battery (NEDA 1604A or IEC 6LF22)			
	IEC LR03, AM4 or AAA size 1.5V x2	•	•	•
Battery Life: In hou	rs (No backlit, Alkaline battery)	300	250	300
<b>Size:</b> 56mm(W) x 18	38mm (L) x 28mm(H)	-		
84mm(W) x 17	75mm (L) x 31mm(H)			
54mm(W) x 19	93mm (L) x 31mm(H)		· ·	•
66mm(W) x 19	98mm (L) x 46mm(H)			
83mm(W) x 20	00mm (L) x 48mm(H)			
86.5mm(W) x	213mm (L) x 49.5mm(H)			
Weight: In grams (w	vith battery)	225	280	280
Included with instru	ument: Test Leads, ZnC battery (installed) and manual	•	·	•





APPA A7D	ΑΡΡΑ Α9	ΑΡΡΑ Α7Α	APPA A6N	APPA A6D/A6DR
600V	1.3V~600.0V	1.0V~750.0V	1.3V~750.0V	1.3V~750.0V
1V	0.1∨	0.1V	0.1V	0.1V
40Hz~500Hz	50Hz~500Hz	50Hz~500Hz	50Hz~500Hz	50Hz~500Hz
±(1.5%+3d)	±(1.5%+3d)	±(1.5%+3d)	±(1.5%+3d)	±(0.9%+3d)
1MΩ//<100pF	4ΚΩ~200ΚΩ	4ΚΩ~375ΚΩ	4ΚΩ~375ΚΩ	4ΚΩ~375ΚΩ
·	· ·	750∨	750V	750V
•		· ·		<sup>-</sup> /True RMS
600∨	2.1V~600.0V -0.7V~-600.0V	2.1V~1000.0V -0.5V~-1000.0V	2.1V~1000.0V -0.7V~-1000.0V	2.1V~1000.0V -0.7V~-1000.0V
1V	1V	0.1V	0.1	0.1
±(1.0%+2d)	±(1.0%+2d)	±(1.0%+2d)	±(1.0%+2d)	±(0.3%+2d)
1MΩ//<100pF	4ΚΩ~200ΚΩ	4ΚΩ~375ΚΩ	4ΚΩ~375ΚΩ	4ΚΩ~375ΚΩ
	· ·			
				•
200.0A	0.9A~400.0A	0.9A~200.0A	0.9A~600.0A	0.9A~600.0A
0.1A	0.1A	0.1A	0.1A	0.1A
45Hz~66Hz	50Hz~60Hz	50Hz~60Hz	50Hz~60Hz	50Hz~60Hz
±(3.0%+3d)	±(1.8%+3d)	±(2.5%+3d)	±(1.9%+5d)	±(1.5%+5d)
±(3.0 % · 30)	1(10/0100)			/True RMS
				0.9A~600.0A
				0.1A
2000.0	10/20	10/20	10/20	±(1.5%+5d)
2000Ω	10KΩ	10ΚΩ	10ΚΩ	10ΚΩ
1Ω	1Ω	1Ω	1Ω	1Ω
±(1.0%+2d)	±(2.0%+2d)	±(1.0%+2d)	±(2.0%+2d)	±(0.9%+2d)
		1000VDC/750VAC	1000VDC/750VAC	1000VDC/750VAC
•	· ·	•	•	
	0.4V~0.8V	0.4V~0.8V	0.4V~0.8V	0.4V~0.8V
	100mV	100mV	100mV	100mV
	±(1.0%+3d)	±(1.0%+3d)	±(1.0%+3d)	±(0.9%+3d)
				5times/sec
2.5times/sec	5times/sec	5times/sec	5times/sec	
	· ·	· ·	·	
(+-)	· ·			
		¢=		<b></b>
30min	30min	· · · · · · · · · · · · · · · · · · ·		· •
30min	30min			· • •
30min	30min	· · · · · · · · · · · · · · · · · · ·		· •
30min				· • • •
30min	30min		· • • • •	
	CAT. III 600V 27mm dia. (500MCM) 35mm			CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min	CAT. III 600V 27mm dia. (500MCM)			CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM)
	CAT. III 600V 27mm dia. (500MCM) 35mm			CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
	CAT. III 600V 27mm dia. (500MCM) 35mm			CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250		CAT. III 600V, CAT. II 1000V 16mm dia.		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
CAT. III 600V 16mm dia.		CAT. III 600V, CAT. II 1000V 16mm dia.		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250		CAT. III 600V, CAT. II 1000V 16mm dia. 250		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250		CAT. III 600V, CAT. II 1000V 16mm dia. 250		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250	Image: Constraint of the second s	CAT. III 600V, CAT. II 1000V 16mm dia. 250		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250	Image: Constraint of the second s	CAT. III 600V, CAT. II 1000V 16mm dia. 250		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm
30min     .     .     CAT. III 600V     16mm dia.     .     .     250	Image: Constraint of the second s	CAT. III 600V, CAT. II 1000V 16mm dia. 250		CAT. IV. 600V, CAT. III 1000 35mm dia. (750MCM) 38mm 125



# APPA A1 & A0 Mini AC/DC Clamp Meter







40

## NEW

APPA A1

6000 count large scale LCD display with backlit AC/DC current measuring capability up to 300Amps Automatically detect DCA/ACA with AC True RMS reading mode 10mA Resolution 1.5% basic DCA/ACA accuracy

Inrush Current Measurement Smart Data Hold and Low Pass Filter DCA Zeroing Auto Power Off (20 min.) VoltSense™ feature (None contact voltage detecting) Battery door easy to replace battery Up to 22mm dia. Conductor size Shock proof from 4 feet drops CAT III 600V Safety Standard

#### APPA A1 / A0 Mini AC/DC Clamp Meter

FEATURES:	APPA A1	APPA A0
Main Display	6000 count	6000 count
Large scale display	•	•
Auto AC/DC detection	•	AC only
True RMS	•	•
Inrush Current measurement	•	•
Display Hold	Smart Data Hold	Smart Data Hold
Low Pass Filter	•	•
Backlight	•	•
Volt Sense <sup>™</sup> (None Contact Voltage)	•	•
DCA Zeroing Key	•	N/A
Auto Power Off (Sleep Mode)	•	•
4 feet Drop Proof	•	•
Hand Guard Designed	•	•
Convenient Battery Door	•	•
Deluxe Carrying Pouch	Included	Included
Safety Standard	CAT III 600V	CAT III 600V

#### SPECIFICATIONS:(All at 23 $^\circ C \pm 3 \,^\circ C, \, \leqq \,$ 80% R.H.)

ACA	Ranges	60.00A, 300.0A	60.00A, 300.0A
	Resolution	10mA	10mA
	Basic Accuracy	±(1.5%+5d) at 50Hz~100Hz	±(2.0%+5d) at 50Hz~60Hz
	Dasic Accuracy	±(2.5%+5d) at 101Hz~400Hz	±(2.0%+30) at 30H2~00H2
DCA	Ranges	60.00A, 300.0A	N/A
	Resolution	10mA	N/A
	Basic Accuracy	±(1.5%+5d)	N/A
Inrush Current	Ranges	300.0A	300.0A
	Resolution	0.1A	0.1A
Low Pass Filter	Ranges	60.00A, 300.0A	60.00A, 300.0A
	Resolution	10mA	10mA
	Basic Accuracy: 50Hz~60Hz	±(3.5%+5d)	±(3.5%+5d)

#### NEW APPA A0

6000 count large scale LCD display with backlit AC current measuring capability up to 300Amps

Automatically detect ACA with AC

True RMS reading mode

10mA Resolution 2.0% basic ACA accuracy Inrush Current Measurement Smart Data Hold and Low Pass Filter Auto Power Off (20 min.) VoltSense™ feature (None contact voltage detecting)

Battery door easy to replace battery Up to 22mm dia. Conductor size Shock proof from 4 feet drops CAT III 600V Safety Standard

#### GENERAL:

Sampling Rate	2 times/sec	2 times/sec
Overload Indication	"OL"	"OL"
Low Battery Indication	Û	Ĺ
Auto Power Off: Approx. 20 minutes	•	•
Operating Temperature: 0°C~50°C, ≦80% RH	•	•
Storage Temperature: - 20°C ~ 60°C	•	•
Temperature Coefficient	0.2(Spec.Acc)/°C,<18°C or>28°C	0.2(Spec.Acc)/°C,<20°C or>26°C
Safety: IEC 61010-1 and designed to meet UL 61010-1 specifications	CAT III 600V	CAT III 600V
Maximum Conductor Size	22mm dia. (350MCM)	22mm dia. (350MCM)
Maximum Jaw Opening	24mm	24mm
Power Requirement: LR44 or A76 x 2 pcs button cell	٠	•
Battery Life: In hours (Alkaline battery)	20	50
Size: 147mm(L) x 60mm(W) x 31mm(D)	•	•
Weight: In grams(with batteries)	140	140
Included with instrument: Button cells(installed), manual and carrying pouch	•	•



# APPA A2,A3 & A3D/A3DR Top of Low-Cost Clamp Meters

004-





## INNOVATIVE ADVANCED FEATURES

Featuring a safer and smarter display hold offers you an extra protection of measuring (A3D, A3DR only).

## **NEW SLIM DESIGN**

Ergonomically designed slim shape with one hand operated knob and buttons. Just fit the palm of your hand and your needs.



## **BATTERY EASY TO REPLACE**

Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.

## NONE CONTACT VOLTAGE DETECTING

APPA A3D and A3DR featured with a VoltSense<sup>™</sup> function to detect live cable and outlet without contact also find the cable alignment behind the wall as cable finder.







## NEW APPA A2

2000 count Large-scale LCD display AC current measuring capability up to 400Amps Data Hold and Max Hold to capture important readings Battery door easy to replace battery Up to 27mm dia. (500MCM) Conductor size 4 feet Drop Proof Hand Guard & Stream Line Designed CAT. III 600V safety standard Carrying case included



#### NEW APPA A3D/A3DR

4000 count Large-scale LCD display AC/DC 400Amps capability with 0.01A resolution AC/DC 600V capability 40K Ω Resistance capability True RMS reading on AC mode (A3DR) Auto ranging Continuity beeper Smart Data Hold On touched DCA Zeroing Battery door easy to replace battery Up to 27mm dia. (500MCM) Conductor size 4 feet Drop Proof Hand Guard & Stream Line Designed CAT. III 600V safety standard Carrying case included



### NEW APPA A3

2000 count Large-scale LCD display AC current measuring capability up to 400Amps AC/DC 600V capability  $20M\Omega$  Resistance capability Auto ranging Continuity beeper Data Hold Battery door easy to replace battery Up to 27mm dia. (500MCM) Conductor size 4 feet Drop Proof Hand Guard & Stream Line Designed CAT. III 600V safety standard Carrying case included



#### APPA A2, A3 & A3D / A3DR LOW COST CLAMP MULTIMETERS

FEATURES:		APPA A2	APPA A3	APPA A3D/A3DR
Digital display		2000 count	2000 count	4000 count
Data hold		•	•	Smart Data Hold
Max hold		NA	•	NA
VoltSense		NA	NA	•
AC Amps Capability	,	•	•	•
DC Amps Capability	,	NA	NA	•
DCA Zeroing		NA	NA	•
AC Volts Capability		NA	•	•
DC Volts Capability		NA	•	•
Ohm Capability		NA	•	•
Audible continuity a		•	•	•
Automatic power sl		•	•	•
Shock proof from 4		•	•	•
Standard full-sleeve	safety test leads	•	•	•
Deluxe carrying cas	e	•	•	•
SPECIFICATION	S:(All at 23°C±5°C, ≦ 80% R.H.)			
ACV:	Ranges		200.0V, 600V	400.0V, 600V
	Resolution		100mV	100mV
Basic Accuracy:	±(1.5%+5d) at 50Hz~500Hz	NA	•	$\pm$ (0.9%+5d) at 50Hz~500Hz
Input Impedance:	1MΩ//<100pF		•	•
<b>Overload Protection</b>	a: 600V rms		•	•

<b>Overload Protection:</b>	600V rms		•	•
Conversion Type:	Average sensing RMS indicating		•	True RMS (A3DR only)
DCV:	Ranges		200.0V, 600V	400.0V, 600V
	Resolution		100mV	100mV
Basic Accuracy:	±(1.0%+2d)	NA	•	±(0.7%+5d)
Input Impedance:	<b>≥1M</b> Ω		•	•
Overload Protection:	600V rms		•	•
ACA:	Ranges	200.0A, 400A	200.0A, 400A	40.00A, 400.0A
	Resolution	0.1A	0.1A	0.01A
Basic Accuracy:	±(1.9%+5d) at 50Hz~60Hz	•	•	±(1.5%+5d) at 50Hz~60Hz
Conversion Type:	Average sensing RMS indicating	•	•	True RMS (A3DR only)
DCA:	Ranges			40.00A, 400.0A
	Resolution	NA	NA	0.01A
Basic Accuracy:	±(1.5%+5d)			•
OHM:	Ranges		<b>200.0</b> Ω ~20M Ω	400.0Ω~40.00KΩ
	Resolution	NA	0.1 Ω	0.1 Ω
Accuracy:	±( 0.7%+2d)	NA	•	±(0.9%+2d)
Overload Protection:	600V rms		•	•
Continuity Beeper:	<50 $\Omega$ , 2KHz tone buzzer	•	•	•
Diode Test:	Open circuit voltage: -3.1V max	•	•	•
Overload Protection:	600V rms	•	•	•
Hz:	Ranges			40.00Hz~40.00KHz
	Resolution			0.01Hz
Accuracy:	±( 0.7%+2d)			±(0.3%+5d)
Sensitivity:		NA	NA	>4 lp
Max. Sensitivity:	600A			•
Sense Source:	ACA			•
Overload Protection:	600V rms			•

GENERAL:			
Sampling Rate	1.5times/sec	1.5times/sec	3times/sec
Overload Indication	"OL" or "-OL"	"OL" or "-OL"	"OL" or "-OL"
Low Battery Indication	<b>+-</b>	<b>+-</b>	<b>+-</b>
Auto Power Off: Approx. 10 minutes	•	•	20 minutes
Operating Temperature: 0°C~50°C, ≦80% RH	•	•	•
Storage Temperature: - 20°C ~ 60°C	•	•	•
Temperature Coefficient: 0.15(Spec. Acc)/°C, <18°C or>28°C	•	•	0.2(Spec. Acc)/°C, <18°C or>28°C
Safety: IEC 61010 and designed to meet UL61010 specifications	CAT. III 600V	CAT. III 600V	CAT. III 600V
Maximum Conductor Size	27mm dia. (500MCM)	27mm dia. (500MCM)	27mm dia. (500MCM)
Maximum Jaw Opening	31mm	31mm	31mm
Power Requirement: Single 9V battery (NEDA 1604 or IEC 6F22)	•		
IEC LR03, AM4 or AAA size 1.5V x 2		•	•
Battery Life: In hours (Alkaline battery)	200	200	200
Size: 56mm(W) x 180mm(L) x 32mm(H)	•		
56mm(W) x 188mm(L) x 28mm(H)		•	•
Weight: In grams (with holster)	250	225	225
Included with instrument: Test Leads, ZnC battery (installed) manual and carrying case	•	•	٠



# APPA A10 Series All New Industrial Clamp Multimeter

CLD

COM A V-R

## An MGL<sup>1</sup>/<sub>2</sub> Brand





## **DAY & NIGHT**

APPA A10 series clamp multimeters all have a LED backlit display that turns ON/OFF at the touch of a button, also automatically goes off to extend battery life.

## NEW SLIM DESIGN





## EXTRA TEMPERATURE FEATURE

Special designed temperature test facility for daily industrial temperature measurement application. (A10N & A18plus only)

## ADVANCED POWER FEATURES MADE EASY

APPA A18plus provides advanced Power features and Total Harmonic Distortion along with easy-to-use interface, which enables fully power measurement application with excellent performance.



## **BATTERY EASY TO REPLACE**

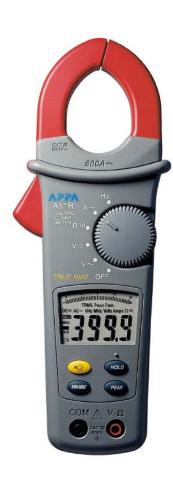
Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.

## FULL SIZE JAW

True 1000A conductor size up to 51mm diameter (2000MCM) with excellent residual magnetism (A16H/A16HR).









#### APPA A11 APPA A11R (True-RMS reading)

4000 count digital display Backlit, Large scale display Analog Bar graph True RMS reading on AC mode (A11R) AC 600 Amps capability AC 600 Volts capability DC 600 Volts capability 400 Ohms Resistance capability **Continuity Beeper** Display Hold Peak Hold (10ms) Min Max Function Frequency Counter Auto Power Off Up to 34mm dia. (750MCM) Conductor 4 feet Drop Proof **Deluxe Carrying Case** Hand Guard & Stream Line Designed Convenient Battery Door CAT.III 600V Safety Standard



#### APPA A12 APPA A12R (True-RMS reading)

4000 count digital display Backlit, Large scale display Analog Bar graph True RMS reading on AC mode (A12R) AC 600 Amps capability DC 600 Amps capability AC 600 Volts capability DC 600 Volts capability 400 Ohms Resistance capability Continuity Beeper Display Hold Peak Hold (10ms) DCA Zeroing Key Min Max Function **Frequency Counter** Auto Power Off Up to 35mm dia. (750MCM) Conductor 4 feet Drop Proof **Deluxe Carrying Case** Hand Guard & Stream Line Designed Convenient Battery Door CAT.III 600V/CAT.II 1000V Safety Standard

#### APPA A16 APPA A16R (True-RMS Reading) APPA A16H APPA A16HR (True-RMS Reading)

4000 Count digital display Backlit, Large scale display Analog Bargraph True RMS reading on AC mode (A16R, A16HR) Silicon-Steel alloy jaw mechanism (A16, A16R) Nickel-Steel alloy jaw mechanism (A16H, A16HR) Excellent Residual Magnetism Performance (A16H, A16HR) AC 1000 Amps capability DC 1000 Amps capability AC 750 Volts capability DC 1000 Volts capability 400 Ohms Resistance capability **Continuity Beeper** Display Hold Peak Hold (10ms) DCA Zeroing Key Min Max Function **Frequency Counter** Auto Power Off Up to 51mm dia. (2000MCM) Conductor 4 feet Drop Proof **Deluxe Carrying Case** Hand Guard & Stream Line Designed Convenient Battery Door CAT.IV600V/ CAT.III 1000V Safety Standard

#### APPA A15 APPA A15R (True-RMS reading)

4000 Count digital display Backlit, Large scale display Analog Bar graph True RMS reading on AC mode (A15R) AC 1000 Amps capability AC 750 Volts capability DC 1000 Volts capability 400 Ohms Resistance capability **Continuity Beeper** Display Hold Peak Hold (10ms) Min Max Function **Frequency Counter** Auto Power Off Up to 51mm dia. (2000MCM) Conductor 4 feet Drop Proof **Deluxe Carrying Case** Hand Guard & Stream Line Designed Convenient Battery Door CAT.IV600V/ CAT.III 1000V Safety Standard





#### APPA A10N

4000 Count digital display Backlit, Large scale display AC 600 Amps capability DC 4000µAmps capability AC 750 Volts capability DC 1000 Volts capability 40M Ohms Resistance capability Continuity Beeper Diode Test Display Hold Capacitance Measurement Up to 4mF °C / °F Temperature Test Auto Power Off Up to 32mm dia. (750MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT. III 600V/CAT.II 1000V Safety Standard





6000 Count digital display Backlit, Large scale display Power and Power Factor measurement Total Harmonic Distortion measurement Phase Rotation indication AC+ DC True RMS reading Auto AC/DC detection AC/DC 600A capability AC1000V, DC1000V capability Power 600K Watt capability  $20 \text{K}\Omega$  Ohms Resistance capability Continuity Beeper Display Hold Peak Hold Inrush current measurement DCA Auto-Zeroing Key Min Max Function **Frequency Counter** Temperature measurement Auto Power Off Up to 35mm dia. (750MCM) Conductor 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT. III 600V/CAT.II 1000V Safety Standard



## APPA A10 SERIES CLAMP MULTIMETERS

| FEATURES:  | SERIES CLAMP MULTIMETERS   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
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--|-------------------|--|---|--|--|--|--|---|-------------------
--|---|---|--|
|  |  | APPA A10N  
   
  | APPA A11/A11R  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Digital display<br>Analog bar graph  |  | 4000 count<br>NA   
   
  | 4000 count<br>43 segments  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| True RMS measuri   | ring   | NA   
   
  | A11R   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Auto AC/DC detec   | stion  | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Data hold<br>Min Max function  |  | •<br>NA  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Peak hold  |  | NA   
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Inrush Current me  | easurement   | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| DCA zeroing  |  | NA NA  
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Frequency counte<br>Power and Power  | er<br>Factor measurement   | NA   
   
  | •<br>NA  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Total Harmonic Di  |  | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Phase Rotation   |  | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Temperature meas<br>Capacitance  | surement   | · ·  
   
  | NA<br>NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Audible continuity   | y and Diode test   |  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Backlight  |  | •  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Automatic power  |  | •  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Shock proof from<br>Standard full-sleep  | eve safety test leads  | •  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Deluxe carrying ca   |  | •  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| SPECIFICATIONS:  | (All at 23°C±5°C, ≤ 80% R.H.)  |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| ACV  | Ranges   | 4V~750V  
   
  | 400.0V, 600V   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Resolution   | 1mV  
   
  | 100mV  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy: ±(1.0%+5d) at 50Hz~500Hz<br>Input Impedance:1MΩ//<100pF  | <u>±(1.5%+5d)</u><br>10MΩ//<100pF  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Overload Protection: 600V rms  | 10/ws2//<100pr   
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | 750V rms   | •  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| DCV  | Conversion Type: Average sensing RMS indicating  | Average<br>4V~1000V  
   
  | A11R True-RMS<br>400.0V, 600V  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| DCV  | Ranges Resolution  | 4V~1000V<br>1mV  
   
  | 400.0V, 600V<br>100mV  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy: ±(0.7%+2d)   | ±(0.9%+2d)   
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Input Impedance: ≥1MΩ  | 10ΜΩ   
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Overload Protection: 600V DC or AC rms   |  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| ACA  | 1000V DC or AC Peak<br>Ranges  | •<br>400.0A, 600A  
   
  | 400.0A, 600A   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Resolution   | 0.1A   
   
  | 0.1A   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy: ±1.9%+5d) at 50Hz~60Hz   | ±(1.9%+1A)   
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| DCA  | Conversion Type: Average sensing RMS indicating<br>Ranges  | Average  
   
  | A11R True-RMS  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| DCA  | Resolution   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy: ±(1.5%+5d)   | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | ±(1.9%+3d)   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Watt   | ±( 1.0%+3d)<br>Ranges  |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| watt   | Resolution   | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| P.F.   | Ranges   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Resolution Basic Accuracy  | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| T.H.D.   | Ranges   |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Resolution   | NA   
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Basic Accuracy   |  
   
  | 100.00   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| ОНМ  | Ranges Resolution  | 400Ω~40MΩ<br>0.1Ω  
   
  | <u>400.0Ω</u><br>0.1Ω  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Accuracy:±( 1.0%+3d)   | ±(1.0%+2d)   
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | Overload Protection: 600V rms  | •  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
|  | r <30Ω, 2KHz tone buzzer<br>Open circuit voltage: 3V max   | <100Ω  
   
  | •  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Continuity Beeper  |  | -  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test   |  | 4nF~4mF  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Continuity Beeper<br>Diode Test<br>Capacitance   | Ranges<br>Resolution   | 4nF~4mF<br>1pF   
   
  | NΔ   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test   | Ranges<br>Resolution<br>Basic Accuracy   |  
   
  | NA   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance  | Ranges<br>Resolution<br>Basic Accuracy<br>Overload Protection: 600V rms  | 1pF  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance  | Ranges<br>Resolution<br>Basic Accuracy<br>Overload Protection: 600V rms  | 1pF  
   
  | NA<br>20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test   | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy: ±(0.1%+2d) at 5V rms max   | 1pF<br>±(2.0%+8d)  
   
  | 20Hz~400Hz   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           er Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(5400Hz Unspecified)  | 1pF  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy:         ±0.1%+2d) at 5V rms max         Sensitivity: 3A rms for ACA (A-)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V~)   | 1pF<br>±(2.0%+8d)  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           er Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(5400Hz Unspecified)  | 1pF<br>±(2.0%+8d)  
   
  | 20Hz~400Hz<br>1Hz<br>•   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test   | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V rms max         Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V~)         Overload Protection: AC/DC 600A   | 1pF           ±(2.0%+8d)           ·      ·  
   
  | 20Hz~400Hz<br>1Hz<br>•   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           er Ranges           Resolution           Accuracy:           40.1%+2d) at 5V rms max           Sensitivity:           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges   | 1pF           ±(2.0%+8d)           · <t< td=""><td>20Hz~400Hz<br/>1Hz</td></t<>  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           er Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           A/DC 1000A   | 1pF           ±(2.0%+8d)           -           <   
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           er Ranges           Resolution           Accuracy:           40.1%+2d) at 5V rms max           Sensitivity:           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges   | 1pF           ±(2.0%+8d)           · <t< td=""><td>20Hz~400Hz<br/>1Hz</td></t<>  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy   | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V rms max         Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection:: AC/DC 600A         AC/DC 1000A         Ranges         Resolution  | 1pF           ±(2.0%+8d)           .              .  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy:         10%+20) at 5V ms max         Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection: AC/DC 600A         AC/DC 1000A         Ranges         Resolution  | 1pF           ±(2.0%+8d)           . </td <td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec</td>  
   
  | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec  |   |   | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Femperature<br>Accuracy<br>ENERAL:<br>Sampling Rate<br>Dverload Indicatio  | Ranges         Resolution           Basic Accuracy         Overload Protection: 600V rms           P Ranges         Resolution           Accuracy:         ±(0.1%+2d) at 5V rms max           Sensitivity:         3V rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)         Overload Protection: AC/DC 600A           Ac/DC 1000A         Ranges           Resolution         Overload Protection: 600V rms   | 1pF           ±(2.0%+8d)           . <tr tr="">          .      <t< td=""><td>20Hz-400Hz<br/>1Hz</td></t<></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counte<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Dverload Indicatic<br/>Overload Indicatic</td><td>Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy:         20/2012         Sensitivity:         3V rms to 110V rms for ACA (A-)(&gt;400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms</td><td>1pF           ±(2.0%+8d)           .           <!--</td--><td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec</td></td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counte<br/>Frequency Counte<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Dverload Indicatio<br/>Cow Battery Indica<br/>Auto Power Off: A<br/>Operating Temper</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           r Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           ature: 0°C~50°C, ±80% RH</td><td>1pF           ±(2.0%+8d)           .</td><td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec<br/>"OL" or "-OL"<br/>[==]</td></tr> <tr><td>Capacitance Capacitance Frequency Counte Frequency Counte Fremperature Accuracy ENERAL: Sampling Rate Overload Indicatic was Battery Indication Cow Battery Indication Storage Temperat</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms</td><td>1pF           ±(2.0%+8d)           ·</td><td>20Hz~400Hz<br/>1Hz</td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counte<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Overload Indicatic<br/>Low Battery Indic<br/>Joverload Indicatic<br/>Auto Power Off: A<br/>Operating Temperat<br/>Storage Temperat</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar Mark 200           Overload Protection:           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar ms for ACA (A~)C&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           prom           ation           pyprox.           ation:           ato:           ato:     <!--</td--><td>1pF           ±(2.0%+8d)           .</td><td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec<br/>"OL" or "-OL"<br/>[==]<br/>·</td></td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counte<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Overload Indicatic<br/>Low Battery Indic<br/>Joverload Indicatic<br/>Auto Power Off: A<br/>Operating Temperat<br/>Storage Temperat</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms</td><td>1pF           ±(2.0%+8d)           ·           &lt;</td><td>20Hz~400Hz<br/>1Hz</td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counter<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Overload Indicatic<br/>Cowr Battery Indica<br/>Auto Power Off: A<br/>Operating Temperature<br/>Storage Temperature<br/>Storage Temperature Coef<br/>Safety: IEC 61010<br/>Maximum Conduc</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           Overload Protection: 600V rms</td><td>1pF           ±(2.0%+8d)           .</td><td>20Hz-400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec<br/>"OL" or "-OL"<br/>[==]<br/>·<br/>·<br/>·</td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counter<br/>Frequency Counter<br/>Temperature<br/>Accuracy<br/>SENERAL:<br/>Sampling Rate<br/>Overload Indicatio<br/>Sampling Rate<br/>Overload Indicatio<br/>Low Battery Indic<br/>Auto Power Off: A<br/>Operating Temperat<br/>Storage Temperature Coef<br/>Safety: IEC 61010<br/>Maximum Conduc</td><td>Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(&gt;400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         Protection: :AC/DC 600A         Overload Protection: :600V rms         Overload Protection: :600V rms         Dimeter         ation         ture: .20°C- 60°C         Efficient: 0.15(Spec. Acc)/°C, &lt;18°C or&gt;28°C         and designed to meet UL3111 specifications         stor Size         ening</td><td>1pF           ±(2.0%+8d)           .           &lt;</td><td>20Hz~400Hz<br/>1Hz</td></tr> <tr><td>Diode Test<br/>Capacitance<br/>Frequency Counter<br/>Frequency Counter<br/>Femperature<br/>Accuracy<br/>ENERAL:<br/>Sampling Rate<br/>Diverload Indicatio<br/>ow Battery Indica<br/>Auto Power Off: A<br/>Diverload Indicatio<br/>ower Off: A<br/>Diverload Indicatio<br/>Diversor Temperature<br/>Femperature Coef<br/>Safety: IEC 61010<br/>daximum Jaw Opp<br/>daximum Jaw Dusbar</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sarma           Sensitivity:           3V rms for ACA (A~)C&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           600V rms           on           ation           ppprox. 30 minutes           rature:           rature:           0°C~50°C, ≤80% RH           ture:           ture:           20°C ~ 60°C           and designed to meet UL3111 specifications           ctor Size           size</td><td>1pF           ±(2.0%+8d)           .           &lt;</td><td>20Hz-400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>NA<br/>1.5imes/sec<br/>*OL* or *-OL*<br/>(₽=)<br/>·<br/>·<br/>·<br/>CAT. III 600V<br/>.34mm dia. (750MCM)<br/>.37mm<br/>40x15mm</td></tr> <tr><td>Capacitance Capacitance Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency ENERAL: Sampling Rate Diverload Indicatic ow Battery Indica Auto Power Off: A Depretating Temperature Coef Storage Temperat Frequence Coef Safety: IEC 61010 Maximum Jaw Opi Maximum Jaw Day</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           r Ranges           Resolution           Accuracy:           0.%2000           Sensitivity: 3A rms for ACA (A)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 2°C - 6°C           fficient: 0.15(Spec. Acc)/°C, &lt;18°C or&gt;28°C           and designed to meet UL3111 specifications           ctor Size           ening           Size           ening           Size           ening: Size           ening: Size</td><td>1pF           ±(2.0%+8d)           .           &lt;</td><td>20Hz-400Hz<br/>1Hz</td></tr> <tr><td>Capacitance Capacitance Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Courses Courses</td><td>Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy:           sensitivity: SArms for ACA (A~)(&gt;400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           Accuracy:           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Resolution           Overload Protection: 600V rms           Operation           Overload Protection: 600V rms           Domation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 20°C - 60°C           Titicent: 0.15(Spec. Acc)/°C, &lt;18°C or&gt;28°C           and designed to meet UL3111 specifications           tor Size           ening           Size           Its: Single 9V battery (NEDA 1604 or IEC 6F22)           IEC LR03, AM4 or AAA size 1.5V x 2"</td><td>1pF           ±(2.0%+8d)           .           &lt;</td><td>20Hz-400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>NA<br/>1.5times/sec<br/>*OL*or*-OL*<br/>*OL*or*-OL*<br/>CAT. III 600V<br/>34mm dia. (750MCM)<br/>37mm<br/>40x15mm<br/>A11R<br/>A11</td></tr> <tr><td>Capacitance Capacitance Capaci</td><td>Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         r Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(&gt;400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         Ac/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :600V rms         On         ation         upporx. 30 minutes         rature: 0°C-50°C, ≤80% RH         ure: -20°C - 60°C         fficient: 0.15(Spec. Acc)/°C, &lt;18°C or&gt;28°C         and designed to meet UL3111 specifications         stor Size         ening         Size         mt: Single 9V battery (NEDA 1604 or IEC 6F22)         IEC LR03, AM4 or AAA size 1.5V x 2'         urs (Akaline battery)         212mm(L) x 40mm(H)</td><td>1pF<br/>±(2.0%+8d)           .</td><td>20Hz-400Hz<br/>1Hz</td></tr> <tr><td>Capacitance Capacitance Capaci</td><td>Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Presolution         Accuracy:         Accuracy:         i(0.1%+2d) at 5V rms max         Sensitivity:         Sensitivity:         Sarms for ACA (A~)(&gt;400Hz Unspecified)         3V rms to 110V rms for ACV (V~)         Overload Protection:         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms         Overload Protection:         600V rms         Din         ation         ppprox. 30 minutes         rature:       0°C~50°C, &lt;30% RH</td>         ture:       2°C ~ 60°C         and designed to meet UL3111 specifications         ctor Size         ening         Size         ment:       Single SV battery (NEDA 1604 or IEC 6F22)         IEC LR03. M4 or AAA size 1.5V x 2"         urs (Alkaline battery)         212mm(L) x 40mm(H)         220mm(L) x 50mm(H)</tr> | 20Hz-400Hz<br>1Hz  | Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Dverload Indicatic<br>Overload Indicatic | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy:         20/2012         Sensitivity:         3V rms to 110V rms for ACA (A-)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms | 1pF           ±(2.0%+8d)           . </td <td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec</td> | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec | Diode Test<br>Capacitance<br>Frequency Counte<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Dverload Indicatio<br>Cow Battery Indica<br>Auto Power Off: A<br>Operating Temper | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           r Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           ature: 0°C~50°C, ±80% RH | 1pF           ±(2.0%+8d)           . | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==] | Capacitance Capacitance Frequency Counte Frequency Counte Fremperature Accuracy ENERAL: Sampling Rate Overload Indicatic was Battery Indication Cow Battery Indication Storage Temperat | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms | 1pF           ±(2.0%+8d)           · | 20Hz~400Hz<br>1Hz | Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Low Battery Indic<br>Joverload Indicatic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperat | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar Mark 200           Overload Protection:           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar ms for ACA (A~)C>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           prom           ation           pyprox.           ation:           ato:           ato: </td <td>1pF           ±(2.0%+8d)           .</td> <td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec<br/>"OL" or "-OL"<br/>[==]<br/>·</td> | 1pF           ±(2.0%+8d)           . | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==]<br>· | Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Low Battery Indic<br>Joverload Indicatic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperat | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms | 1pF           ±(2.0%+8d)           ·           < | 20Hz~400Hz<br>1Hz | Diode Test<br>Capacitance<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Cowr Battery Indica<br>Auto Power Off: A<br>Operating Temperature<br>Storage Temperature<br>Storage Temperature Coef<br>Safety: IEC 61010<br>Maximum Conduc | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           Overload Protection: 600V rms | 1pF           ±(2.0%+8d)           . | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==]<br>·<br>·<br>· | Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatio<br>Sampling Rate<br>Overload Indicatio<br>Low Battery Indic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperature Coef<br>Safety: IEC 61010<br>Maximum Conduc | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(>400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         Protection: :AC/DC 600A         Overload Protection: :600V rms         Overload Protection: :600V rms         Dimeter         ation         ture: .20°C- 60°C         Efficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         stor Size         ening | 1pF           ±(2.0%+8d)           .           < | 20Hz~400Hz<br>1Hz | Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Femperature<br>Accuracy<br>ENERAL:<br>Sampling Rate<br>Diverload Indicatio<br>ow Battery Indica<br>Auto Power Off: A<br>Diverload Indicatio<br>ower Off: A<br>Diverload Indicatio<br>Diversor Temperature<br>Femperature Coef<br>Safety: IEC 61010<br>daximum Jaw Opp<br>daximum Jaw Dusbar | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sarma           Sensitivity:           3V rms for ACA (A~)C>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           600V rms           on           ation           ppprox. 30 minutes           rature:           rature:           0°C~50°C, ≤80% RH           ture:           ture:           20°C ~ 60°C           and designed to meet UL3111 specifications           ctor Size           size | 1pF           ±(2.0%+8d)           .           < | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>NA<br>1.5imes/sec<br>*OL* or *-OL*<br>(₽=)<br>·<br>·<br>·<br>CAT. III 600V<br>.34mm dia. (750MCM)<br>.37mm<br>40x15mm | Capacitance Capacitance Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency ENERAL: Sampling Rate Diverload Indicatic ow Battery Indica Auto Power Off: A Depretating Temperature Coef Storage Temperat Frequence Coef Safety: IEC 61010 Maximum Jaw Opi Maximum Jaw Day | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           r Ranges           Resolution           Accuracy:           0.%2000           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 2°C - 6°C           fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C           and designed to meet UL3111 specifications           ctor Size           ening           Size           ening           Size           ening: Size           ening: Size | 1pF           ±(2.0%+8d)           .           < | 20Hz-400Hz<br>1Hz | Capacitance Capacitance Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Courses | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy:           sensitivity: SArms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           Accuracy:           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Resolution           Overload Protection: 600V rms           Operation           Overload Protection: 600V rms           Domation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 20°C - 60°C           Titicent: 0.15(Spec. Acc)/°C, <18°C or>28°C           and designed to meet UL3111 specifications           tor Size           ening           Size           Its: Single 9V battery (NEDA 1604 or IEC 6F22)           IEC LR03, AM4 or AAA size 1.5V x 2" | 1pF           ±(2.0%+8d)           .           < | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>NA<br>1.5times/sec<br>*OL*or*-OL*<br>*OL*or*-OL*<br>CAT. III 600V<br>34mm dia. (750MCM)<br>37mm<br>40x15mm<br>A11R<br>A11 | Capacitance Capaci | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         r Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(>400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         Ac/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :600V rms         On         ation         upporx. 30 minutes         rature: 0°C-50°C, ≤80% RH         ure: -20°C - 60°C         fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         stor Size         ening         Size         mt: Single 9V battery (NEDA 1604 or IEC 6F22)         IEC LR03, AM4 or AAA size 1.5V x 2'         urs (Akaline battery)         212mm(L) x 40mm(H) | 1pF<br>±(2.0%+8d)           . | 20Hz-400Hz<br>1Hz | Capacitance Capaci | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Presolution         Accuracy:         Accuracy:         i(0.1%+2d) at 5V rms max         Sensitivity:         Sensitivity:         Sarms for ACA (A~)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V~)         Overload Protection:         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms         Overload Protection:         600V rms         Din         ation         ppprox. 30 minutes         rature:       0°C~50°C, <30% RH | 1pF           ±(2.0%+8d)           . <t< td=""><td>20Hz-400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>NA<br/>1.5times/sec<br/>*OL*or*-OL*<br/>*OL*or*-OL*<br/>CAT. III 600V<br/>34mm dia. (750MCM)<br/>37mm<br/>40x15mm<br/>A11R<br/>A11</td></t<> | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>NA<br>1.5times/sec<br>*OL*or*-OL*<br>*OL*or*-OL*<br>CAT. III 600V<br>34mm dia. (750MCM)<br>37mm<br>40x15mm<br>A11R<br>A11 |
| 20Hz-400Hz<br>1Hz  |  |  
   
  |  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Dverload Indicatic<br>Overload Indicatic  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         er Ranges         Resolution         Accuracy:         20/2012         Sensitivity:         3V rms to 110V rms for ACA (A-)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms  | 1pF           ±(2.0%+8d)           . </td <td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec</td>  
   
  | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Dverload Indicatio<br>Cow Battery Indica<br>Auto Power Off: A<br>Operating Temper   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           r Ranges           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           ature: 0°C~50°C, ±80% RH   | 1pF           ±(2.0%+8d)           .   
   
  | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==]   |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Capacitance Capacitance Frequency Counte Frequency Counte Fremperature Accuracy ENERAL: Sampling Rate Overload Indicatic was Battery Indication Cow Battery Indication Storage Temperat  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms  | 1pF           ±(2.0%+8d)           ·   
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Low Battery Indic<br>Joverload Indicatic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperat   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar Mark 200           Overload Protection:           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sar ms for ACA (A~)C>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           prom           ation           pyprox.           ation:           ato:           ato: </td <td>1pF           ±(2.0%+8d)           .</td> <td>20Hz~400Hz<br/>1Hz<br/>·<br/>·<br/>NA<br/>1.5times/sec<br/>"OL" or "-OL"<br/>[==]<br/>·</td> | 1pF           ±(2.0%+8d)           .  
   
   | 20Hz~400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==]<br>·  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
  |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |   
  |  |  |  |   |  |                   |  |   |  |  |  |  |   
   |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counte<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Low Battery Indic<br>Joverload Indicatic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperat   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           Presolution           Accuracy:           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V-)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms  | 1pF           ±(2.0%+8d)           ·           <   
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Cowr Battery Indica<br>Auto Power Off: A<br>Operating Temperature<br>Storage Temperature<br>Storage Temperature Coef<br>Safety: IEC 61010<br>Maximum Conduc  | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy: ±(0.1%+2d) at 5V rms max           Sensitivity: 3A rms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           Overload Protection: 600V rms  | 1pF           ±(2.0%+8d)           .   
   
  | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[==]<br>·<br>·<br>·  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatio<br>Sampling Rate<br>Overload Indicatio<br>Low Battery Indic<br>Auto Power Off: A<br>Operating Temperat<br>Storage Temperature Coef<br>Safety: IEC 61010<br>Maximum Conduc  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(>400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         Protection: :AC/DC 600A         Overload Protection: :600V rms         Overload Protection: :600V rms         Dimeter         ation         ture: .20°C- 60°C         Efficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         stor Size         ening  | 1pF           ±(2.0%+8d)           .           <   
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Femperature<br>Accuracy<br>ENERAL:<br>Sampling Rate<br>Diverload Indicatio<br>ow Battery Indica<br>Auto Power Off: A<br>Diverload Indicatio<br>ower Off: A<br>Diverload Indicatio<br>Diversor Temperature<br>Femperature Coef<br>Safety: IEC 61010<br>daximum Jaw Opp<br>daximum Jaw Dusbar   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Presolution           Accuracy:           40.1%+20) at 5V rms max           Sensitivity:           Sarma           Sensitivity:           3V rms for ACA (A~)C>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           AC/DC 1000A           Ranges           Resolution           Overload Protection:           600V rms           on           ation           ppprox. 30 minutes           rature:           rature:           0°C~50°C, ≤80% RH           ture:           ture:           20°C ~ 60°C           and designed to meet UL3111 specifications           ctor Size           size   | 1pF           ±(2.0%+8d)           .           <   
   
  | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>NA<br>1.5imes/sec<br>*OL* or *-OL*<br>(₽=)<br>·<br>·<br>·<br>CAT. III 600V<br>.34mm dia. (750MCM)<br>.37mm<br>40x15mm     |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Capacitance Capacitance Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency Counter Frequency ENERAL: Sampling Rate Diverload Indicatic ow Battery Indica Auto Power Off: A Depretating Temperature Coef Storage Temperat Frequence Coef Safety: IEC 61010 Maximum Jaw Opi Maximum Jaw Day   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V ms           r Ranges           Resolution           Accuracy:           0.%2000           Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Ranges           Resolution           Overload Protection: 600V rms           on           ation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 2°C - 6°C           fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C           and designed to meet UL3111 specifications           ctor Size           ening           Size           ening           Size           ening: Size           ening: Size  | 1pF           ±(2.0%+8d)           .           <   
   
  | 20Hz-400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Capacitance Capacitance Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Counte Frequency Courses   | Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Resolution           Accuracy:           sensitivity: SArms for ACA (A~)(>400Hz Unspecified)           3V rms to 110V rms for ACV (V~)           Overload Protection: AC/DC 600A           Accuracy:           AC/DC 1000A           Ranges           Resolution           Overload Protection: AC/DC 600A           AC/DC 1000A           Resolution           Overload Protection: 600V rms           Operation           Overload Protection: 600V rms           Domation           upprox. 30 minutes           rature: 0°C-50°C, ≤80% RH           Ure: - 20°C - 60°C           Titicent: 0.15(Spec. Acc)/°C, <18°C or>28°C           and designed to meet UL3111 specifications           tor Size           ening           Size           Its: Single 9V battery (NEDA 1604 or IEC 6F22)           IEC LR03, AM4 or AAA size 1.5V x 2"  | 1pF           ±(2.0%+8d)           .           <   
   
  | 20Hz-400Hz<br>1Hz<br>·<br>·<br>NA<br>NA<br>1.5times/sec<br>*OL*or*-OL*<br>*OL*or*-OL*<br>CAT. III 600V<br>34mm dia. (750MCM)<br>37mm<br>40x15mm<br>A11R<br>A11 |   |   |   |   |  |  |  |  |   | | | | | | | | | | | | | |
   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  |  |  |  |  
  |  |                   |  |   |  |  |  |  |   |                   |  
   |   |   |  |
| Capacitance Capaci   | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         r Ranges         Resolution         Accuracy: :(0.1%+2d) at 5V ms max         Sensitivity: 3A rms for ACA (A-)(>400Hz Unspecified)         3V ms to 110V ms for ACV (V~)         Overload Protection: :AC/DC 600A         Ac/DC 1000A         Ranges         Resolution         Overload Protection: :AC/DC 600A         AC/DC 1000A         Ranges         Resolution         Overload Protection: :600V rms         On         ation         upporx. 30 minutes         rature: 0°C-50°C, ≤80% RH         ure: -20°C - 60°C         fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         stor Size         ening         Size         mt: Single 9V battery (NEDA 1604 or IEC 6F22)         IEC LR03, AM4 or AAA size 1.5V x 2'         urs (Akaline battery)         212mm(L) x 40mm(H)   | 1pF<br>±(2.0%+8d)           .  
   
  | 20Hz-400Hz<br>1Hz  |   |   |   |   |  |  |  |  |   | | | | | | | | | | | | | |
   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  |  |  |  |  
  |  |                   |  |   |  |  |  |  |   |                   |  
   |   |   |  |
| Capacitance Capaci   | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Presolution         Accuracy:         Accuracy:         i(0.1%+2d) at 5V rms max         Sensitivity:         Sensitivity:         Sarms for ACA (A~)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V~)         Overload Protection:         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms         Overload Protection:         600V rms         Din         ation         ppprox. 30 minutes         rature:       0°C~50°C, <30% RH  |  
   
  |  |   |   |   |   |  |  |  |  |   | | | | | | | | | | | | | |
   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  |  |  |  |  
  |  |                   |  |   |  |  |  |  |   |                   |  
   |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Dverload Indicatic<br>Low Battery Indic<br>Auto Power Off: A<br>Operating Temper<br>Storage Temperature<br>Coef<br>Safety: IEC 61010<br>Maximum Busbar<br>Power Requiremei<br>Battery Life: In hor<br>Size: 84mm(W) x 2<br>76mm(W) x  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy:         0.100         Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection: 6.00V rms         Accuracy:         0.100 A         Ranges         Resolution         Overload Protection: 6.00V rms         Overload Protection: 6.00V rms         Overload Protection: 6.00V rms         on         ation         upprox. 30 minutes         upprox. 30 minutes         upprox. 30 minutes         upprox. 30 minutes         stature: 0.0°C, cs00° RH         utre: - 20°C - 60°C         fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         ctor Size         ening         Size         urs (Alkaline battery)         21EC LR03. AM4 or AAA size 1.5V x 2°         urs (Alkaline battery)         21Emm(L) x 40mm(H)         (235mm(L) x 51mm(H)   | 1pF           ±(2.0%+8d)           . <t< td=""><td>20Hz~400Hz<br/>1Hz</td></t<>  
   
  | 20Hz~400Hz<br>1Hz  |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Low Battery Indic.<br>Safety: IEC 61010<br>Maximum Jaw Opp<br>Safety: IEC 61010<br>Maximum Gonduc<br>Maximum Busbar<br>Power Requiremei<br>Battery Life: In hou<br>Size: 84mm(W) x 2<br>76mm(W) x 2<br>76mm(W) x 2  | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Presolution         Accuracy:         Accuracy:         i(0.1%+2d) at 5V rms max         Sensitivity:         Sensitivity:         Sarms for ACA (A~)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V~)         Overload Protection:         Overload Protection:         AC/DC 1000A         Ranges         Resolution         Overload Protection:         600V rms         Overload Protection:         600V rms         Din         ation         ppprox. 30 minutes         rature:       0°C~50°C, <30% RH  | 1pF<br>±(2.0%+8d)           .  
   
  | 20Hz400Hz<br>1Hz<br>·<br>·<br>NA<br>1.5times/sec<br>"OL" or "-OL"<br>[ <sup>1</sup> ]<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·<br>·         |   |   | | | | | | | | | | | | | | | | | | | | | | | |
   |   |  |  |  |  |   |   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  
   |  |  |  |   |  |                   |  |   |  |  |  |  |  
  |                   |  |   |   |  |
| Diode Test<br>Capacitance<br>Frequency Counter<br>Frequency Counter<br>Temperature<br>Accuracy<br>SENERAL:<br>Sampling Rate<br>Overload Indicatic<br>Cowr Battery Indicatic<br>Storage Temperature<br>Storage Temperature<br>Sto | Ranges         Resolution         Basic Accuracy         Overload Protection: 600V ms         er Ranges         Resolution         Accuracy:         0.100         Sensitivity: 3A rms for ACA (A)(>400Hz Unspecified)         3V rms to 110V rms for ACV (V-)         Overload Protection: 6.00V rms         Accuracy:         0.100 A         Ranges         Resolution         Overload Protection: 6.00V rms         Overload Protection: 6.00V rms         Overload Protection: 6.00V rms         on         ation         upprox. 30 minutes         upprox. 30 minutes         upprox. 30 minutes         upprox. 30 minutes         stature: 0.0°C, cs00° RH         utre: - 20°C - 60°C         fficient: 0.15(Spec. Acc)/°C, <18°C or>28°C         and designed to meet UL3111 specifications         ctor Size         ening         Size         urs (Alkaline battery)         21EC LR03. AM4 or AAA size 1.5V x 2°         urs (Alkaline battery)         21Emm(L) x 40mm(H)         (235mm(L) x 51mm(H)   | 1pF           ±(2.0%+8d)           . <t< td=""><td>20Hz~400Hz<br/>1Hz</td></t<>  
   
  | 20Hz~400Hz<br>1Hz  |   |   |   |   |  |  |  |  |   | | | | | | | | | | | | | |
   |  |                   |  |  |  |   |  |   |  |                   |   |   |  |   |   |   |  |                   |  |  |  |  |  |  
  |  |                   |  |   |  |  |  |  |   |                   |  
   |   |   |  |

380

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• 420

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APPA A12/A12R	APPA A15/A15R	APPA A16/A16R	APPA A16H/A16HR
4000 count	4000 count	4000 count	4000 count
43 segments	43 segments	43 segments	43 segments
A12R	A15R	A16R	A16HR
NA	NA	NA	NA
•	•	•	•
•	•		•
•	•	•	•
NA	NA	NA	NA
•	NA	•	•
•	•		•
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
•	•	•	•
			•
•	•	•	•
•	•	•	•
400.0V, 600V	400.0V, 750V	400.0V, 750V	400.0V, 750V
100mV	100mV	100mV	100mV
•	•	•	•
•	•	•	•
•			
	•	•	•
A12R True-RMS	A15R True-RMS	A16R True-RMS	A16HR True-RMS
ATZN HUE-NIVIO			
400.0V, 600V	400.0V, 1000V	400.0V, 1000V	400.0V, 1000V
100mV	100mV	100mV	100mV
•	•	•	•
•	•	•	•
	•	•	-
•			
	•	•	•
400.0A, 600A	400.0A, 1000A	400.0A, 1000A	400.0A, 1000A
0.1A	0.1A	0.1A	0.1A
•	•	•	•
A40D True DMO			
A12R True-RMS	A15R True-RMS	A16R True-RMS	A16HR True-RMS
400.0A, 600A		400.0A, 1000A	400.0A, 1000A
0.1A		0.1A	0.1A
	NA		
	INA INA		
		•	
			•
NA	NA	NA	NA
N14		814	NA
NA	NA	NA	NA I
NA	NA	NA	NA
1973	IN/A	1923	
400.0Ω	400.0Ω	400.0Ω	400.0Ω
0.1Ω	0.1Ω	0.1Ω	0.1Ω
			•
•	•	•	•
			•
	•	•	•
•	•	•	•
NA	NA	NA	NA
20Hz~400Hz	20Hz~400Hz	20Hz~400Hz	20Hz~400Hz
1Hz	1Hz	1Hz	1Hz
•	•	•	•
	•		•
	•	•	•
	•	•	•
	•	•	•
NA	NA		• • NA
NA			
	NA	NA	NA
	NA	NA	NA
1.5times/sec	NA 1.5times/sec	NA 1.5times/sec	NA 1.5times/sec
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"
1.5times/sec "OL" or "-OL" ≇=	NA 1.5times/sec "OL" or "-OL" () = ==================================	NA 1.5times/sec "OL" or "-OL" [*=]	NA 1.5times/sec "OL" or "-OL" [年]
1.5times/sec "OL" or "-OL" I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	NA <u>1.5times/sec</u> "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL" [==]	NA <u>1.5times/sec</u> "OL" or "-OL" (==)
1.5times/sec "OL" or "-OL" ≇=	NA 1.5times/sec "OL" or "-OL" () = ==================================	NA 1.5times/sec "OL" or "-OL" [==]	NA <u>1.5times/sec</u> "OL" or "-OL" (==)
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or '-OL"
1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "Ot" or "-Ot"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec **CL**********************************
1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "Ot" or "-Ot"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec **CL**********************************
1.5times/sec "OL" or "-OL" 	NA	NA 1.5times/sec "OL" or "-OL"	NA <u>1.5times/sec</u> "OL" or "-OL" [
1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" (=
1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" 	NA 1.5times/sec "OL" or "-OL" (=
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL" [
1.5times/sec "OL" or "-OL"    CAT. II 1000V CAT. II 1000V 35mm dia. (750MCM)	NA 1.5times/sec "OL" or "-OL" (	NA 1.5times/sec "OL" or "-OL"       	NA 1.5times/sec "OL" or "-OL" (===)
1.5times/sec "OL" or "-OL"    CAT. II 1000V CAT. II 1000V 35mm dia. (750MCM)	NA 1.5times/sec "OL" or "-OL" (	NA 1.5times/sec "OL" or "-OL"       	NA 1.5times/sec "OL" or "-OL" (===)
1.5times/sec "OL" or "-OL"	NA           "OL" or "-OL"           "OL" or "-OL"           CAT. IV 600V           CAT. IV 600V           S1mm dia. (2000MCM)           S3mm	NA 1.5times/sec "OL" or "-OL"    CAT. IV 600V CAT.III 1000V 51mm dia. (2000MCM) 53mm	NA           1.5times/sec           "OL" or "-OL"           "CL" or "-OL"           Image: CAT. III 1000V           CAT. III 1000V           51mm dia. (2000MCM)           53mm
1.5times/sec *OL* or *-OL*	NA 1.5times/sec "OL" or "-OL" (25) - - - - - - - - - - - - -	NA 1.5times/sec "OL" or "-OL" CAT. IV 600V CAT.III 1000V CAT.III 1000V 51mm dia. (2000MCM) 53mm 24x60mm	NA 1.5times/sec "OL" or '-OL"
1.5times/sec *OL* or *-OL*	NA 1.5times/sec "OL" or "-OL" (25) - - - - - - - - - - - - -	NA 1.5times/sec "OL" or "-OL" CAT. IV 600V CAT.III 1000V CAT.III 1000V 51mm dia. (2000MCM) 53mm 24x60mm	NA 1.5times/sec "OL" or '-OL"
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL" (L=)	NA 1.5times/sec "OL" or "-OL"    CAT. IV 600V CAT.III 1000V 51mm dia. (2000MCM) 53mm	NA           1.5times/sec           "OL" or "-OL"           "CL" or "-OL"           Image: CAT. III 1000V           CAT. III 1000V           51mm dia. (2000MCM)           53mm
1.5times/sec "OL" or "-OL"	NA           "OL" or "-OL"           "OL" or "-OL" <td>NA 1.5times/sec "OL" or "-OL"       </td> <td>NA 1.5times/sec "°L" or "-OL" (₹=)</td>	NA 1.5times/sec "OL" or "-OL"       	NA 1.5times/sec "°L" or "-OL" (₹=)
1.5times/sec "OL" or "-OL"	NA           "OL" or "-OL"           "OL" or "-OL" <td>NA 1.5times/sec "OL" or "-OL"       </td> <td>NA 1.5times/sec "°L" or "-OL" (₹=)</td>	NA 1.5times/sec "OL" or "-OL"       	NA 1.5times/sec "°L" or "-OL" (₹=)
1.5times/sec "OL" or "-OL"	NA 1.5times/sec "OL" or "-OL" (L=)	NA 1.5times/sec "OL" or "-OL" CAT. IV 600V CAT.III 1000V CAT.III 1000V 51mm dia. (2000MCM) 53mm 24x60mm	NA 1.5times/sec "OL" or '-OL"
1.5times/sec "OL" or "-OL"	NA           "OL" or "-OL"           "OL" or "-OL" <td>NA 1.5times/sec "OL" or "-OL"       </td> <td>NA 1.5times/sec "°L" or "-OL" (₹=)</td>	NA 1.5times/sec "OL" or "-OL"       	NA 1.5times/sec "°L" or "-OL" (₹=)

420

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• 420

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380

•(also including TA-300 and 50BK)



## APPA A17R Leakage Current Clamp Meter Faster, Smarter and Precise







### NEW APPA A17 APPA A17R (True-RMS reading)

6,000 Count digital large scale display Analog Bar graph AC 100.0 Amps capability AC 0.001mA Resolution True RMS reading (A17R only)

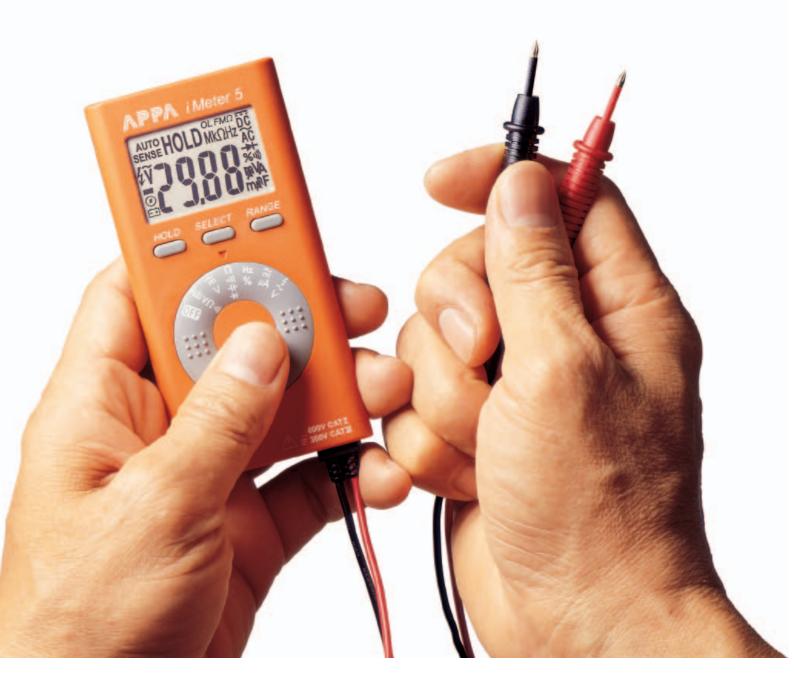
Auto Ranging Auto Hold Data Hold Peak Hold Comparator Low Pass Filter with high stability Auto Power Off (Disable) Up to 40mm dia. (750MCM) Conductor Size 4 feet Drop Proof Deluxe Carrying Case Hand Guard & Stream Line Designed Convenient Battery Door CAT. III 300V Safety Standard

Specifications: (All at  $23^{\circ}C \pm 5^{\circ}C < 80^{\circ}RH$ ) AC A: Ranges: 6.000mA/60.00mA/600mA/6A/60A/100A Basic Accuracy:  $\pm$  (1.0%+3d) Resolution: 0.001mA General Specifications: Sampling Rate: 5 times/sec Overloading Indication: "OL" Low Battery Indication: Auto Power Off: Approx. 20 minutes Operating Temperature: 0°C~50°C Storage Temperature: -20°C~60°C Temperature Coefficient: 0.2 x (Spec. Accuracy)/ °C, <18°C, >28°C Maximum Conductor Size: Up to 40 mm dia. (750MCM) Conductor Size Maximum Jaw Opening: Up to 43mm Safety: IEC 61010 CAT III 300V and designed to meet UL61010 specifications Battery Life: 60 hours (ALKALINE) Power Requirement: 1.5V x 2pcs AAA Size batteries (IEC LR03) Dimensions: 78mm(W) x 203mm(L) x 42mm(D) Weight: Approx. 300g Accessories: Carrying Case, Alkaline battery (installed) and manual.





## **APPA iMeter 3 and iMeter 5** Simple, Smart and Easy to Use







**APPA iMeter 3** 

5000 count large scale digital display Auto ranging and Manual Selection DCV, ACV, OHM, Continuity and Diode Test 0.6% basic DCV accuracy Frequency Counter Capacitance Measurement Data Hold Relative Mode on Capacitance Auto Power Off Shock proof from 4 feet drops Compact Design on Small Size Integral Safety test leads Deluxe Carrying Wallet Included CAT. II 600V/CAT. III 300V Safety standard



#### **APPA iMeter 5**

4000 count with large scale display 0.6% basic DCV accuracy Auto ranging and Manual Selection Auto AC/DC Voltage selection Auto Resistance, Continuity, Capacitance and Diode selection Auto AC/DC 400.0uA and 4000uA ranges Frequency Counter Smart Data Hold VoltSense<sup>™</sup> function Mains Voltage Indicator Auto Power Off Shock proof from 4 feet drops Compact Design on Small Size Integral Safety test leads Deluxe Carrying Wallet Included CAT. II 600V/CAT. III 300V Safety standard

#### APPA iMeter 3 and iMeter 5 CARD TYPE MULTIMETERS

FEATURES:	APPA iMeter 3	APPA iMeter 5
Digital display	5000 count	4000 count
Range selection	Auto/Manual	Auto/Manual
Auto AC/DC Voltage selection	N/A	•
Auto Resistance, Continuity, Capacitance and Diode selection	N/A	•
Auto AC/DC 400.0uA, 4000uA ranges	N/A	٠
Smart Data hold	N/A	•
VoltSense™	N/A	•
Frequency counter	•	•
Capacitance measurement	•	•
Automatic power shut off	•	٠
Shock proof from 4 feet drops	•	•
Integral Safety Test Leads	•	•
Deluxe Carrying Wallet included	•	•

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

DCV	Ranges	400.0mV ~ 600V	400.0mV ~ 600V
	Resolution	0.1mV	0.1mV
	Basic Accuracy: ±(0.6%+2d)	•	•
	Input Impedance: 10MΩ//<100pF	•	٠
	Overload Protection: 600VDC	•	•
ACV	Ranges	400.0mV ~ 600V	400.0mV ~ 600V
	Resolution	0.1mV	0.1mV
	Basic Accuracy: ±(0.9%+5d) at 50Hz ~ 500Hz	•	•
	Input Impedance: 10MΩ//<100pF	•	•
	Overload Protection: 600V rms	•	•
	Conversion Type: Average sensing RMS indicating	•	•
DCA	Ranges		400.0uA, 4000uA
	Resolution	N/A	0.1uA
	Basic Accuracy	IN/A	± (0.9%+5d)
	Overload Protection: 600V rms		•
ACA	Ranges		400.0uA, 4000uA
	Resolution		0.1uA
	Basic Accuracy: At 50Hz ~ 500Hz	N/A	± (1.5%+5d)
	Input Impedance: Approx. 3KΩ		•
	Conversion Type: Average sensing RMS indicating		•
OHM	Ranges	400.0Ω ~ 40.00ΜΩ	400.0Ω ~ 40.00MΩ
	Resolution	0.1Ω	0.1Ω
	Basic Accuracy: ±(0.9%+2d)	•	
	Overload Protection: 600V rms	•	•
Continuity Beeper	Threshold	<50Ω	<50Ω
	Indicator	2KHz tone buzzer	2.7KHz tone buzzer
Diode Test	Open circuit voltage: 1.5V	•	•
Frequency Counter	Ranges	5Hz ~ 5MHz	40Hz ~ 4MHz
	Resolution	0.001Hz	0.01Hz
	Basic Accuracy: ±(0.3%+5d)	•	•
	Overload Protection: 600V rms	•	•
Duty Cycle	Ranges	0.1%~99.9%	0.1%~99.9%
	Resolution	0.1%	0.1%
	Basic Accuracy	±(0.5%+3d)	±(0.5%+10d)
	Overload Protection: 600V rms	•	•
Capacitance	Ranges	50nF~100uF	40nF~400uF
	Resolution	0.01nF	0.01nF
	Basic Accuracy: ±(2.9%+5d)	•	•
	Overload Protection: 600V rms	•	•

#### GENERAL:

GENERAL.		
Sampling Rate	3times/sec	3times/sec
Overload Indication: "OL" or "-OL"	٠	٠
Low Battery Indication	÷-	÷-
Auto Power Off	Approx. 30 min.	Approx. 20 min.
Operating Temperature: 0°C~50°C, ≦80%RH	•	٠
Storage Temperature: -20°C~60°C	•	•
Temperature Coefficient: 0.2(Spec.Acc)/℃, <18℃ or >28℃	•	•
Safety: IEC 61010-1 and designed to meet UL61010-1 specifications	CAT. II 600V, CAT. III 300V	CAT. II 600V, CAT. III 300V
Power Requirement: LR44 Button size 1.5V x 2 battery	•	•
Battery Life: In hours (Button size battery)	100	50
Size: 56mm(W) x 112mm (L) x 12mm(H)	٠	٠
Weight: In grams	115	115
Accessories: Deluxe carrying wallet and Integral safety test leads, Button size battery (installed) and manual	٠	•



## APPA IT-1 InfraRed Thermometer InfraRed Thermo & Voltage Detector





## NEW

**APPA IT-1** 

Large Scale LCD display InfraRed Thermometer Distance to Spot Ratio 8:1 Single point laser sighting Holds temperature reading for 10 seconds Easy °C / °F unit switching Best accuracy in its class  $\pm$ 1°C of reading Integrated non-contact AC voltage detection with LCD indication Ultra bright white LED Torch Single AAA size battery operation Low battery indication in segments Pocket Clip designed for easy carrying Universal designed accessories (Option) to attach on any Clamp meters or DMMs

Specifications (All at 23°C ± 2°C < 80%RH) Infrared °C / °F: Range: -30°C ~ 500°C / -22°F ~ 932°F Best Accuracy: -30°C ~ 0°C / -22°F ~ 32°F: ±3°C/±6°F 1°C ~ 10°C / 34°F ~ 50°F: ±1.5°C/±3°F 11°C ~ 40°C / 52°F ~ 104°F: ±1°C/±2°F 41°C ~ 500°C / 106°F ~ 932°F: ±1.5°C/±3°F or ±1.5% of reading, whichever is greater Non-Contact Voltage Detection: 60VAC ~ 600VAC Display: 0.2°C/0.5°F Response Time: 0.5 sec. Spectral Response: 6.5um ~ 18um Emissivity: E=0.95 D:S Ratio: 8:1(calculated at 80% energy) Repeatability: ±1°C or ±0.5% of reading, whichever is greater Display Hold: 10 sec. Operating Temperature: 0°C ~ 40°C Storage Temperature: -20°C ~ 60°C(without battery) Battery Life: 150 hours Power Requirement: IEC LR03, AM4 or AAA size 1.5V x 1pc Dimensions: 0.8in(W) x 3.95in(L) x 1.15in(D) / 20mm(W) x 100mm(L) x 29mm(D) Weight: 40g



# ALL NEW Pocket-Size APPA M Series Multimeter





### **DAY & NIGHT**

APPA M3 has Super bright LED back light with 6,000 count digital display gives you fulltime visual experience, also automatically goes off to save battery life(can be disabled).



Ergonomically designed slim shape with one hand operated knob and buttons. Comfort compact shape with extra large LCD just fits the palm of your hand and your needs.



## **BATTERY EASY TO REPLACE**

Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.

## NON CONTACT VOLTAGE DETECTING

APPA M series have VoltSeek<sup>™</sup> feature to detect live cable and oultlet without contact also find the cable alignment behind the wall as cable finder.







#### NEW APPA M1



6,000 count digital large display Auto Ranging True RMS on ACV Peak Hold for capture peak readings 0.5% DCV accuracy Smart Hold **Relative Function** Auto Power Off (Can be disabled) Capacitance measurements VoltSeek<sup>™</sup> for non-contact voltage detection ContiVision<sup>™</sup> for visible continuity beeper Frequency Counter **Diode Test** Battery Capacity indication in segments

Pocket size Stream Line Design Optional Holster with Probe Holder, Tilt Stand and Magnetic sticker EasyStick<sup>™</sup> holster with built in magnetic sticker CAT III 600V standard



### NEW

APPA M3

6,000 count digital large display Large white LED backlight display Auto Ranging True RMS on ACV True RMS on ACA Peak Hold for capture peak readings 0.5% DCV accuracy 10Amp ACA/DCA Smart Hold **Relative Function** Auto Power Off (Can be disabled) Back lit Auto Backlight off (Can be disabled) Capacitance measurements VoltSeek<sup>™</sup> for non-contact voltage detection ContiVision<sup>™</sup> for visible continuity beeper Frequency Counter Diode Test DC  $\mu$ A Function High Energy Fuse °C/°F Temperature Function Temperature Probe included Battery Capacity indication in segments Pocket size Stream Line Design Optional Holster with Probe Holder, Tilt Stand and Magnetic sticker EasyStick<sup>™</sup> holster with built in magnetic sticker CAT III 600V standard



#### NEW APPA M2

6,000 count digital large display Auto Ranging True RMS on ACV True RMS on ACA Peak Hold for capture peak readings 0.5% DCV accuracy 10Amp ACA/DCA Smart Hold **Relative Function** Auto Power Off (Can be disabled) Capacitance measurements VoltSeek<sup>™</sup> for non-contact voltage detection ContiVision<sup>™</sup> for visible continuity beeper Frequency Counter Diode Test DC µA Function **High Energy Fuse** Battery Capacity indication in segments Pocket size Stream Line Design Optional Holster with Probe Holder, Tilt Stand and Magnetic sticker EasyStick<sup>™</sup> holster with built in magnetic sticker CAT III 600V standard

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#### **APPA M Series Multimeter**

FEATURES:		APPA M1	APPA M2	APPA M3
Main Display White LED Backligh	t	6000 count N/A	6000 count N/A	6000 count
Autoranging	-			· · · · · · · · · · · · · · · · · · ·
rue RMS on ACV		· ·		•
mart Data Hold		•		
uto Backlight off(c 0 Amp ACA/DCA M		N/A	N/A	20 min.
Camp ACA/DCA M		N/A		·
C Micro Ampere M		N/A	•	•
apacitance Measu	rement and Diode Test			
requency Measure		·	•	•
emperature Measu		N/A	N/A	· ·
	e continuity beeper tact voltage detection			•
eak Hold		· ·	•	•
elative Function		· ·		•
ligh Energy Fuse		N/A	•	•
hock proof from 4		_	·	•
Pocket size Stream	Ine Design with built in magnetic sticker	Option	Option	Option
	Holder, Tilt Stand and Magnetic sticker	Option	Option	Option
		Option	Option	орион
	S:(All at 23°C±5°C, ≦ 80% R.H.)			
CV:	Ranges	6.000V, 60.00V, 600.0V	6.000V, 60.00V, 600.0V	6.000V, 60.00V, 600.0V
	Resolution Basic Accuracy	1mV	1mV	1mV
	Basic Accuracy Input Impedance:10MΩ	±(0.5%+3d)	±(0.5%+3d)	±(0.5%+3d)
	Overload Protection: 600V rms	<u>·</u>	•	
CV:	Ranges	600.0mV, 6.000V, 60.00V, 600.0V	600.0mV, 6.000V, 60.00V, 600.0V	600.0mV, 6.000V, 60.00V, 600.0
	Resolution	0.1mV	0.1mV	0.1mV
	Basic Accuracy: at 45Hz~500Hz	±(1.0%+3d)	±(1.0%+3d)	±(1.0%+3d)
	Input Impedance: 10M Ω//<100pF Overload Protection: 600V rms		-	•
CmV:	Ranges	600.0mV	600.0mV	600.0mV
	Resolution	0.1mV	0.1mV	0.1mV
	Basic Accuracy: at 45Hz~500Hz	±(0.5%+5d)	±(0.5%+5d)	±(0.5%+5d)
	Input Impedance: <10MQ		•	
0114	Overload Protection: 600V rms	·		
CµA:	Ranges Resolution	_	400.0μΑ, 4000μΑ 0.1μΑ	400.0μΑ, 4000μΑ 0.1μΑ
	Basic Accuracy		±(0.9%+5d)	±(0.9%+5d)
	Overload Protection: 600V rms			
CA:	Ranges		6.000A, 10.00A	6.000A, 10.00A
	Resolution		1mA	1mA
	Basic Accuracy		±(1.5%+3d)	±(1.5%+3d)
CA:	Overload Protection: 10A		0.0004 10.004	6.0001 10.001
ACA:	Ranges Resolution		6.000A, 10.00A 1mA	6.000A, 10.00A 1mA
	Basic Accuracy: at 45Hz~500Hz		±(1.5%+3d)	±(1.5%+3d)
	Overload Protection: 10A	_		
DHM:	Ranges	600.0Ω~40.00MΩ	600.0Ω~40.00MΩ	600.0Ω~40.00MΩ
	Resolution	0.1Ω	<b>0.1</b> Ω	<b>0.1</b> Ω
	Basic Accuracy: 600.0Ω, 6.000ΚΩ, 60.00ΚΩ	±(0.5%+2d)	±(0.5%+2d)	±(0.5%+2d)
	<u>600.0KΩ, 6.000MΩ</u> 40.00MΩ	±(1.0%+5d)	±(1.0%+5d)	±(1.0%+5d)
	Overload Protection: 600V rms	±(1.070-30)	±(1.0 % · 50)	1070-50)
ontinuity Beeper:		<30Ω, 2.7KHz tone buzzer	<30Ω, 2.7KHz tone buzzer	<30Ω, 2.7KHz tone buzzer
iode Test:	Ranges	1.500V	1.500V	1.500V
	Resolution	0.001V	0.001V	0.001V
	Basic Accuracy:	±(1.0%+3d) 1.8V max	±(1.0%+3d)	±(1.0%+3d) 1.8V max
	Open circuit voltage Overload Protection: 600V rms	i ov max	1.8V max	I OV IIIAX
requency Counter:		100.00Hz~50.00KHz	100.00Hz~50.00KHz	100.00Hz~50.00KHz
	Resolution	0.01Hz	0.01Hz	0.01Hz
	Basic Accuracy:	±(0.1%+2d)	±(0.1%+2d)	±(0.1%+2d)
	Sensitivity: >4V, >20V, >0.6A Overload Protection: 600V rms			
	Uverload Protection: 600V rms	· ·	50.00nF~1000µF	50.00nF~1000µF
anacitanos		50.00pE=1000UE		0.01nF
apacitance:	Ranges	50.00nF~1000µF		
apacitance:	Ranges Resolution	0.01nF	0.01nF	
apacitance:	Ranges			±(2.0%+5d)
	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752
	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
•	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
emperature:	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
emperature:	Ranges         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
emperature: ENERAL: ampling Rate: 3tim	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
emperature: ENERAL: ampling Rate: 3tim verload Indication	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec         :"OL" or "-OL"	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d)
emperature: SENERAL: ampling Rate: 3tim verload Indication ow Battery Indicat	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec         : "OL" or "-OL"         ion	0.01nF	0.01nF	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F
emperature: ENERAL: ampling Rate: 3tim verload Indication ow Battery Indicati uto Power Off: App	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec         : "OL" or "-OL"         ion         prox. 20 minutes	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d
emperature: ENERAL: ampling Rate: 3tim verload Indication ow Battery Indicati uto Power Off: App perating Temperat	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec         : "OL" or "-OL"         ion         prox. 20 minutes         urre: 0°C-50°C, ≦80% RH	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d
ENERAL: ENERAL: ampling Rate: 3tim verload Indication ow Battery Indicati uto Power Off: App perating Temperatur orage Temperatur	Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           Ranges           Resolution           Basic Accuracy           Overload Protection: 600V rms           es/sec           : "OL" or "-OL"           ion           prox. 20 minutes           ure: 0°C~50°C, ≦80% RH           e: - 20°C ~ 60°C	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d
ENERAL: ampling Rate: 3tim verload Indication ow Battery Indicati uto Power Off: App perating Temperat torage Temperature comperature Coeffic	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         es/sec         : "OL" or "-OL"         ion         prox. 20 minutes         urre: 0°C-50°C, ≦80% RH	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d
emperature: SENERAL: ampling Rate: 3tim iverload Indication ow Battery Indication ow Battery Indication ower Off: App iperating Temperature torage Temperature emperature Coeffic afety: IEC 61010 ar ower Requirement	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         essigned Protection: 600V rms         ion         prox. 20 minutes         cure: 0°C~50°C, ≤80% RH         e: -20°C ~ 60°C         cie: -20°C ~ 60°C         cie	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d) □ □ CAT III 600V
emperature: GENERAL: ampling Rate: 3tim bverload Indication ow Battery Indicati uto Power Off: App operating Temperatur torage Temperature emperature Coeffic iafety: IEC 61010 ar jower Requirement iattery Life: In hours	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         "es/sec         : "OL" or "-OL"         ion         prox. 20 minutes         ure: 0°C-50°C, ≤80% RH         e: -20°C - 60°C         cient: 0.1(Spec. Acc)/°C, <18°C or>28°C         nd designed to meet UL61010 specifications         : IEC LR03, AM4 or AAA size 1.5V x2         s (No backlit, Alkaline battery)	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d) □
torage Temperatur emperature Coeffic afety: IEC 61010 ar ower Requirement	Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         Ranges         Resolution         Basic Accuracy         Overload Protection: 600V rms         essolution         Basic Accuracy         Overload Protection: 600V rms         essolution         Basic Accuracy         Overload Protection: 600V rms         essolution         uses/sec         : "OL" or "-OL"         ion         porox. 20 minutes         ture: 0°C-50°C, ≦80% RH         e: -20°C ~ 60°C         cient: 0.1(Spec. Acc)/°C, <18°C or>28°C         nd designed to meet UL61010 specifications         :: IEC LR03, AM4 or AAA size 1.5V x2         s (No backlit, Alkaline battery)         Brm (L), x 30mm(H)	0.01nF ±(2.0%+5d)	0.01nF ±(2.0%+5d)	±(2.0%+5d) -40°C~400°C -40°F~752 0.1°C 0.1°F ±(1%+20d) ±(1%+36d) □ □ CAT III 600V



## APPA MA3/MA5 All New Design Mini Current Clamp-on Meter









#### NEW APPA MA3

6000 Count digital display Large white LED backlight display Autoranging 1mA High Precise resolution DC 0.1mV High Precise resolution True RMS reading on ACA/ACV VoltSeek™ for non-contact voltage detection Up to 3000A and Direct Ampere Reading with Flex transducer(Optional) Resistance & Diode Test

ContiVision™ for visible continuity beeper Frequency Counter up to 50kHz High Frequency Rejection(Low Pass Filter) Zeroing Key Smart Data Hold

Min Max Hold Auto Power Off(Can be disabled) Up to 20mm dia. Conductor

Torch lightening on trigger push

CAT II 1000V, CAT III 600V, CAT IV 300V Standard

#### NEW **APPA MA5** 6000 Count digital display Large white LED backlight display Autoranging 1mA High Precise resolution DC 0.1mV High Precise resolution True RMS reading on ACA/ACV VoltSeek<sup>™</sup> for non-contact voltage detection Up to 3000A and Direct Ampere Reading with Flex transducer(Optional) Resistance, Capacitance & Diode Test ContiVision<sup>™</sup> for visible continuity beeper Frequency Counter up to 50kHz °C/°F Temperature Function High Frequency Rejection(Low Pass Filter) Zeroing Key Smart Data Hold

Min Max Hold Auto Power Off(Can be disabled)

Up to 20mm dia. Conductor

Torch lightening on trigger push

CAT II 1000V, CAT III 600V, CAT IV 300V Standard

Size: 220mm(L) X 60mm(W) x 33m(H)

ncluded with instrument: Test Leads, ZnC battery (installed),

carrying case and manual

Weight: In grams(with battery)

#### APPA MA SERIES CLAMP MULTIMETER FEATURES: APPA MA3 APPA MA5 6000 count Digital display Large Display with white LED backlit • True RMS measuring • Auto Ranging . • Smart Data hold Smart Data hold Data hold Min/Max hold Zeroing key • • HFR(LPF) • • Backlight . • Trigger Torch • VoltSeek<sup>™</sup>(None Contact Voltage) . • Automatic Power Off(can be disabled) • • Continuity Check(Beep/LED) . • Diode Test • ٠ Frequency counter . . Capacitance Measurement NA • Temperature Measureme NA . . Shock proof from 4 feet drops ٠ • . Deluxe carrying case SPECIFICATIONS:(All at 23°C±5°C, ≤ 80% R.H.) 6000mA, 60.00A, 100.0A 6000mA, 60.00A, 100.0A ACA: Ranges Resolution 1mA 1mA Basic Accuracy: ±(1.8%+5d) at 40Hz~400Hz • DCA: 6000mA, 60.00A, 100.0A 6000mA, 60.00A, 100.0A Ranges Resolution 1mA 1mA Basic Accuracy: ±(1.8%+5d) • . ACA via FLEX: Ranges 300.0A, 3000A 300.0A, 3000A Basic Accuracy: Current probe excluded ±(1.0%+5d) ±(1.0%+5d) ACV: Ranges 6.000V~1000V 6.000V~1000V 1mV 1mV Resolution Basic Accuracy: ±(1.0%+5d) at 40Hz~500Hz . DCV: 600.0mV~1000V 600.0mV~1000V Ranges 0.1mV 0.1mV Resolution Basic Accuracy: ±(0.7%+2d) • ٠ OHM: 600.0Ω ~ 40.00MΩ 600.0Ω ~ 40.00MΩ Ranges 0.1Ω 0.1Ω Resolution Accuracy: ±(1.0%+2d) . ٠ Continuity Be <20Ω, 2.7KHz tone buzzer . • Diode: Ranges 1.500V 1.500V 0.001V 0.001V Resolution Accuracy: ±(1.0%+5d) • . Capacitance 1000nF~10.00mF Ranges NA 1nF Resolution • Basic Accuracy: ±(2.9%+5d) 1000.0Hz~50.00kHz 1000.0Hz~50.00kHz Frequency Counter: Ranges 0.1Hz 0.1Hz Resolution Accuracy: ±(0.3%+5d) ٠ ۰ Temperature: Ranges -40.0℃~400.0℃ NA Resolution 0.1℃ Accuracy: ±(1.0%+20d) . GENERAL: Reading Rate 3times/sec 3times/sec Overload Indication "OL" or "-OL' "OL" or "-OL" Low Battery Indication Auto Power Off: Approx. 20 minutes • • Operating Temperature: -10°C~50°C, ≦80% RH • • ٠ ٠ Storage Temperature: - 20°C ~ 60°C Temperature Coefficient: 0.2(Spec. Acc)/°C, <18°C or>28°C . ۰ CAT II 1000V, CAT III 600V, CAT II 1000V. CAT III 600V Safety: IEC 61010-1 and designed to meet UL 61010-1 specifications CAT IV 300V CAT IV 300V Max. Jaw Opening 21mm 21mm Maximum Conductor Size 20mm dia 20mm dia Power Requirement: 2×1.5V AAA batteries 150 150 Battery Life: In hours

260

(also including

Temperature Probe)

260

•



# **APPA New 60 Series** Top of Low-Cost Digital Multimeters







#### ADD-VALUE DESIGN

Every 60 series meters are designed with two sides soft grips for better user-friendly and convenience, also include a built-in smart tilt stand, a nail hook, and convenient test lead storage.

### **NEW SLIM DESIGN**

Ergonomically designed slim shape with one hand operated knob and buttons. Just fit the palm of your hand and your needs.





## BATTERY EASY TO REPLACE

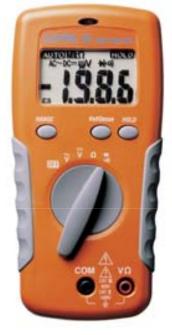
Unscrew only one screw to remove battery door for battery replacement, designed for user's convenience without opening the bottom case.

## NONE CONTACT VOLTAGE DETECTING

APPA New 60 series have VoltSense<sup>™</sup> feature to detect live cable and oultlet without contact also find the cable alignment behind the wall as cable finder.







#### **APPA** 61

2000 count large scale digital display Autoranging and manual selection ACV, DCV, Ohm, Continuity and Diode function 0.5% basic DCV accuracy Data Hold VoltSense™ feature (None contactvoltage detecting) Auto Power Off (Disable) Shock proof from 4 feet drops Probe holder and tilt stand Soft grips of over molding CAT. III 600V Safety standard



#### APPA 62 APPA 62R (True-RMS reading)

2000 count large scale digital display Autoranging and manual selection ACV, DCV, Ohm, Continuity and Diode function True RMS reading on AC mode (62R only) 0.5% basic DCV accuracy Data Hold VoltSense<sup>™</sup> feature (None contact voltage detecting) 10Amp ACA/DCA range MAX/MIN function key **Frequency Counter** Capacitor measurement Auto Power Off (Disable) Shock proof from 4 feet drops Probe holder and tilt stand Soft grips of over molding CAT. III 600V Safety standard

#### NEW

APPA 66R APPA 66RT(Temperature Function) 6000 count large scale digital display Auto detect AC/DC on Voltage and Ampere Autoranging and manual selection ACV, DCV, Ohm, Continuity and Diode function True RMS reading on AC mode 0.5% basic DCV accuracy Smart Data Hold VoltSense™ feature (None contact

voltage detecting) 10Amp ACA/DCA range

### PEAK Hold/Relative function key

Frequency measurement Capacitor measurement Temperature measurement (66RT only) Auto Power Off (Disable) Beep Guard Shock proof from 4 feet drops Comfortable Holster with Probe holder and tilt stand CAT. III 600V Safety standard



#### **APPA 62T**

2000 count large scale digital display Autoranging and manual selection ACV, DCV, Ohm, Continuity and Diode function 0.5% basic DCV accuracy Data Hold VoltSense<sup>™</sup> feature (None contact voltage detecting) 10Amp ACA/DCA range MAX/MIN function key **Frequency Counter** Capacitor measurement Temperature measurement Temp. adaptor and bead probe included Auto Power Off (Disable)

Shock proof from 4 feet drops Probe holder and tilt stand Soft grips of over molding CAT. III 600V Safety standard





#### APPA NEW 60 SERIES MULTIMETERS

FEATURES:	APPA 61	APPA 62/62R	APPA 62T	APPA 66R/66RT
Digital display	2000 count	2000 count	2000 count	6000 count
Range selection	Auto/Manual	Auto/Manual	Auto/Manual	Auto/Manual
True RMS measuring	N/A	<ul> <li>(62R only)</li> </ul>	N/A	•
Data hold	N/A	•	•	•
MIN/MAX function	N/A	•	٠	•
VoltSense TM	•	•	٠	•
Frequency counter	N/A	•	•	•
Capacitance measurement	N/A	•	٠	•
Auditable continuity and Diode test	•	•	•	•
Peak hold/Relative mode	N/A	N/A	N/A	•
Beep guard	N/A	N/A	N/A	•
Automatic power shut off	•	•	•	•
Shock proof from 4 feet drops	•	•	•	•
Standard full-sleeve safety teat leads	•	•	٠	•

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

DCV	All at 23°C ±5°C, ≦80% R.H.) Ranges	200.0mV ~ 1000V	200.0mV ~ 1000V	200.0mV ~ 1000V	60mV ~ 1000V
001	Resolution	0.01mV	0.01mV	0.01mV	0.01mV
	Basic Accuracy	±(0.5%+2d)	±(0.5%+2d)	±(0.5%+2d)	±(0.5%+2d)
	Input Impedance: 10MΩ	±(0.376+20)	±(0.376+20)	±(0.376+20)	±(0.376+20)
	Overload Protection: 1000VDC	•	•		•
ACV	Ranges	200.0mV ~ 750V	200.0mV ~ 750V	200.0mV ~ 750V	60mV ~ 1000V
//01	Resolution	1mV	1mV	1mV	0.01mV
	Basic Accuracy: At 50Hz ~ 60Hz	±(1.5%+5d)	±(1.5%+5d)	±(1.5%+5d)	±(1.0%+5d)
	Input Impedance: 10MΩ	•	•	•	•
	Overload Protection	750VDC	750VDC	750VDC	1000VDC
	Conversion Type: Average sensing RMS indicating	•	TrueRMS (62R only)	•	TrueRMS
DCA	Ranges		2.000A/10.00A	2.000A/10.00A	6.000A/10.00A
	Resolution		1mA	1mA	1mA
	Basic Accuracy	N/A	±(1.0%+3d)	±(1.0%+3d)	±(1.0%+2d)
	Input Protection:10A/500V fast blowfuse for A input		•	•	•
ACA	Ranges		2.000A/10.00A	2.000A/10.00A	6.000A/10.00A
	Resolution	N/A	1mA	1mA	1mA
	Basic Accuracy: At 50Hz ~ 60Hz		±(1.5%+5d)	±(1.5%+5d)	±(1.5%+5d)
	Input Protection: 10A/500V fast blowfuse for A input		•	•	•
	Conversion Type: Average sensing RMS indicating		TrueRMS (62R only)	•	True RMS
ОНМ	Ranges	200.0Ω ~ 20.00ΜΩ	200.0Ω ~ 20.00ΜΩ	200.0Ω ~ 20.00ΜΩ	600.0Ω ~ 40.00ΜΩ
	Resolution	0.1Ω	0.1Ω	0.1Ω	0.01Ω
	Basic Accuracy	±(1.0%+3d)	±(1.0%+3d)	±(1.0%+3d)	±(0.8%+2d)
	Overload Protection: 600V rms	•	•	•	•
Continuity Beeper	2kHz tone Buzzer	<150Ω	<150Ω	<150Ω	<30Ω
Diode Test	Max. Open Circuit Voltage	2V	2V	2V	1.8V
Frequency Counter	Ranges		2kHz ~ 20MHz	2kHz ~ 20MHz	6kHz ~ 100kHz
	Resolution	N/A	1Hz	1Hz	1Hz
	Basic Accuracy	N/A	±(0.01%+1d)	±(0.01%+1d)	±(0.1%+2d)
	Overload Protection: 600V rms		•	•	•
Capacitance	Ranges		2nF ~ 2mF	2nF ~ 2mF	10nF ~ 10mF
	Resolution	N/A	1pF	1pF	0.01nF
	Basic Accuracy: ±(1.9%+8d)		•	•	•
	Overload Protection: 600V rms		•	•	•
Temperature	Ranges			-20°C ~ 800°C	-40°C ~ 400°C (66RT only)
	Resolution	N/A	N/A	0.1°C	0.1°C
	Basic Accuracy	19075	1973	±(1%+3°C)	±(1%+10d)
	Overload Protection: 600V rms		1	•	•

#### GENERAL:

Sampling Rate:	2 times/sec	2 times/sec	2 times/sec	3 times/sec
Overload Indication: "OL" or "-OL"	•	•	•	•
Low Battery Indication	÷=	ŧ.	<u>+</u> -	Û
Auto Power Off: Approx. 10 minutes	•	•	•	•
Operating Temperature: 0°C~50°C, ≦80%RH	•	•	•	•
Storage Temperature: -20°C~60°C	•	•	•	•
Temperature Coefficient: 0.15(Spec.Acc)/ °C, <18°C or >28°C	•	•	•	•
Safety: IEC 61010 and designed to meet UL3111 specifications	CAT. III 600V, CAT. II 1000V	CAT. III 600V, CAT. II 1000V	CAT. III 600V, CAT. II 1000V	CAT. III 600V, CAT. II 1000V
Power Requirement: IEC LR03, AM4 or AAA Size 1.5V x 2	•	•	•	•
Battery Life: In hours (Alkaline battery)	250	250	250	300
Size: 74mm(W) x 156mm(L) x 44mm(H)	•	•	•	•
Weight: In grams	250	250	250	250
Accessories:Test Leads, ZnC battery(installed) and manual	•	•	Also induding Temp. adaptor and Bead probe	Also induding Temp. probe (66RT only)



## **APPA P Series Multimeter** Industrial and Commercial Applications





#### AUTOMATICALLY VOLTAGE DETECT WITH LOW IMPEDANCE

Special designed LoZ(low impedance) feature with auto Voltage detection, to prevent false reading caused by ghost voltage.



#### **DAY & NIGHT**

Super bright LED back light with 6,000 count digital and 60 segments analog display, gives you fulltime visual experience, also automatically goes off to save battery life(can be disabled).

#### **Multifunction Holster**

APPA P series meter is supplied with a protective holster that includes a build-in tilt stand, probe holder and innovative magnetic sticker to free your hands.





#### AC TRUE RMS

Every APPA P series meter has AC True RMS reading on both Voltage and Ampere (P3 only) function for better accuracy of industrial measurement.

#### NON CONTACT VOLTAGE DETECTING

APPA P series have VoltSeek<sup>™</sup> feature to detect live cable and oultlet without contact also find the cable alignment behind the wall as cable finder.









#### NEW

**APPA P1** 6.000 count digital and 60 segments analog display Large white LED backlight display True RMS measurements on ACV LoZ for prevent false reading from ghost voltage AutoVolt automatic AC/DC voltage selection Auto Ranging 0.5% DCV accuracy Smart Hold Peak Hold for capture peak readings **Relative Function** Auto Power Off (can be disabled) Capacitance measurements Frequency Counter on ACV **Diode Test** VoltSeek<sup>™</sup> for non-contact voltage detection EasyStick<sup>™</sup> holster with built in magnetic sticker

ContiVision<sup>™</sup> for visible continuity beeper Battery Capacity indication in segments Included Holster with Probe Holder, Tilt Stand and Magnetic sticker CAT IV 600V/ CATIII 1000V standard



#### NEW

APPA P3

6,000 count digital and 60 segments analog display Large white LED backlight display True RMS measurements on ACV/ACA LoZ for prevent false reading from ghost voltage AutoVolt automatic AC/DC voltage selection Auto Ranging 0.5% DCV accuracy Smart Hold Peak Hold for capture peak readings Relative Function Auto Power Off (can be disabled) Capacitance measurements Frequency Counter on ACV/ACA **Diode Test** 10Amp ACA/DCA VoltSeek<sup>™</sup> for non-contact voltage detection EasyStick<sup>™</sup> holster with built in magnetic sticker ContiVision<sup>™</sup> for visible continuity beeper 11A/1000V High Energy Fuse Battery Capacity indication in segments Included Holster with Probe Holder. Tilt Stand and Magnetic sticker

CAT IV600V/ CATIII 1000V standard



#### NEW

#### **APPA P2**

6,000 count digital and 60 segments analog display Large white LED backlight display True RMS measurements on ACV LoZ for prevent false reading from ghost voltage AutoVolt automatic AC/DC voltage selection Auto Ranging 0.5% DCV accuracy Smart Hold Peak Hold for capture peak readings Relative Function Auto Power Off (can be disabled) Capacitance measurements Frequency Counter on ACV °C/°F Temperature Function AC/DC µA Function Diode Test VoltSeek<sup>™</sup> for non-contact voltage detection EasyStick<sup>™</sup> holster with built in magnetic sticker ContiVision<sup>™</sup> for visible continuity beeper Temperature Probe included Battery Capacity indication in segments Included Holster with Probe Holder, Tilt Stand and Magnetic sticker CAT IV 600V/ CATIII 1000V standard





#### **APPA PSeriesMultimeter**

FEATURES:	APPA P1	APPA P2	APPA P3
Digital digital	6000 count	6000 count	6000 count
Aanalog bargraphy display	60 segment	60 segment	60 segment
Large white LED Backlight	•	•	·
Autoranging	•	•	•
True RMS AC measurements	•	•	·
Smart Data Hold	•	•	•
Automatic AC/DC voltage selection	•	•	·
LoZ to prevent ghost voltage	•	•	•
10 Amp ACA/DCA Measurement	N/A	N/A	·
Resistance Measurement and Diode Test	•	•	•
Frequency Measurement	•	•	·
Micro Ampere Measurement	N/A	•	N/A
Capacitance Measurement	•	•	•
Temperature Measurement	N/A	•	N/A
ContiVision™ visible continuity beeper	•	•	·
VoltSeek™ non contact voltage detection	•	•	•
EasyStick™ holster with built in magnetic sticker	•	•	·
Peak Hold	•	•	•
Relative Function	•	•	•
High Energy Fuse	N/A	N/A	•
Shock proof from 4 feet drops	•	•	•
Holster with Probe Holder, Tilt Stand and Magnetic sticker	•	•	•

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

SPECIFICATIONS	::(All at 23°C±5°C, ≦ 80% R.H.)			
DCV:	Ranges	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	600.0mV, 6.000V, 60.00V, 600.0V, 1000V
	Resolution	0.1mV	0.1mV	0.1mV
	Basic Accuracy	±(0.5%+2d)	±(0.5%+2d)	±(0.5%+2d)
	Input Impedance:10MΩ	1(0.370.20)	1(0.378.20)	1(0.378.20)
	Overload Protection: 1000V rms	•	•	•
		600.0mV, 6.000V, 60.00V, 600.0V,	600.0mV, 6.000V, 60.00V, 600.0V,	600.0mV, 6.000V, 60.00V, 600.0V,
ACV:	Ranges	1000V	1000V	1000V
	Resolution	0.1mV	0.1mV	0.1mV
	Basic Accuracy: at 45Hz~500Hz	±(1.0%+3d)	±(1.0%+3d)	±(1.0%+3d)
	Input Impedance: 10MΩ//<100pF	±(1.0 %+3d)	±(10%+30)	±(10/8+30)
	Overload Protection: 1000V rms	•	•	•
Auto-V LoZ:	Ranges	600.0V, 1000V	600.0V, 1000V	600.0V, 1000V
	Resolution	0.1V	0.1V	0.1V
	Basic Accuracy: at 45Hz~500Hz	±(2.0%+3d)	±(2.0%+3d)	±(2.0%+3d)
	Input Impedance: <3K Ω			-
	Overload Protection: 1000V rms	· · · · · · · · · · · · · · · · · · ·		
DCµA:	Ranges		600.0µA	
	Resolution		0.1µA	
	Basic Accuracy		±(2.0%+3d)	
	Overload Protection: 1000V rms		•	
ACµA:	Ranges		600.0µA	
	Resolution		0.1µA	
	Basic Accuracy: at 45Hz~500Hz		±(1.5%+3d)	
	Overload Protection: 1000V rms		•	
DCA:	Ranges			6.000A, 10.00A
	Resolution			0.001A
	Basic Accuracy			±(1.0%+3d)
	Overload Protection: 11A			
ACA:	Ranges			6.000A, 10.00A
	Resolution			0.001A
	Basic Accuracy: at 45Hz~500Hz			±(1.5%+3d)
	Overload Protection: 11A			(1.0 % · 00)
OHM:	Ranges	600.0 Ω~40.00M Ω	600.0 Ω~40.00M Ω	600.0 Ω~40.00M Ω
OHM.	Resolution	0.1Ω	0.1Ω	0.1 Ω
	Basic Accuracy: 600.0 Ω	±(0.9%+5d)	±(0.9%+5d)	±(0.9%+5d)
	6.000KΩ, 60.00KΩ, 600.0KΩ, 6.000MΩ	±(0.9%+30) ±(0.9%+2d)	±(0.9%+3d) ±(0.9%+2d)	±(0.9%+3d) ±(0.9%+2d)
	40.00M Ω			
	Overload Protection: 1000V rms	±(1.5%+5d)	±(1.5%+5d)	±(1.5%+5d)
	Overload Protection: 10000 mis	100 C OKUE tags human	100 O OKU In tana human	100 O OKU ta ta a human
Continuity Beeper:	-	<20 \Overlaghtarrow 20 \Overlagh	<20 Q, 2KHz tone buzzer	<20 Q, 2KHz tone buzzer
Diode Test:	Ranges	1.500V	1.500V	1.500V
	Resolution	0.001V	0.001V	0.001V
	Basic Accuracy:	±(0.9%+2d)	±(0.9%+2d)	±(0.9%+2d)
	Open circuit voltage	1.8V max	1.8V max	1.8V max
	Overload Protection: 1000V rms		•	•
Frequency Counter:	Ranges	100.00Hz~100.00KHz	100.00Hz~100.00KHz	100.00Hz~100.00KHz
	Resolution	0.01Hz	0.01Hz	0.01Hz
	Basic Accuracy:	±(0.1%+2d)	±(0.1%+2d)	±(0.1%+2d)
	Sensitivity: >5V, >20V, >0.6A	•	•	•
	Overload Protection: 1000V rms or 11A			
Capacitance:	Ranges	1.000µF~10.00mF	1.000µF~10.00mF	1.000µF~10.00mF
	Resolution	0.1µF	0.1µF	0.1µF
	Basic Accuracy	±(1.9%+2d)	±(1.9%+2d)	±(1.9%+2d)
	Overload Protection: 1000V rms	· · ·	•	· · ·
Temperature:	Ranges		-40°C~400°C -40°F~752°F	
	Resolution		0.1°C 0.1°F	
	Basic Accuracy		$\pm(1\%+20d)$ $\pm(1\%+36d)$	
	Overload Protection: 1000V rms			
GENERAL:				
Sampling Rate: 3time	00/000	·		
		-	-	•
Overload Indication:				
Low Battery Indicatio		Ō	Ö	
Auto Power Off: App				·
	<b>Ire: -</b> 10°C~50°C, ≦80% RH		•	
Storage Temperature	e: - 20°C ~ 60°C	•	•	·

Operating Temperature: -10°C~50°C, ≦80% RH		•	·
Storage Temperature: - 20°C ~ 60°C	•	•	·
Temperature Coefficient: 0.1(Spec. Acc)/°C, <18°C or>28°C	•	•	•
Safety: IEC 61010 and designed to meet UL61010 specifications	CAT IV 600V/CAT III 1000V	CAT IV 600V/CAT III 1000V	CAT IV 600V/CAT III 1000V
Power Requirement: Single 9V battery (NEDA 1604A or IEC 6LF22)	•	·	·
Battery Life: In hours (No backlit, Alkaline battery)	300	300	300
Size: 74mm(W) x 156mm (L) x 44mm(H)	•	·	•
Weight: In grams (with battery)	250	250	250
Included with instrument: Test Leads, Protective holster		(also including Temperature Probe)	
ZnC battery (installed) and manual		(also including temperature Probe)	



## APPA SFLEX-D/T Flexible Current Probe Meter





#### NEW APPA SFLEX-18T APPA SFLEX-10T

3000A AC current measurement Slide switch to change range Voltage output to universal voltage meters 10/18inch head cable length 7.5mm coil diameter for tight space measurement 2 meter extension cable Low Batt. LED indicator Ergonomically designed one hand operation CAT IV 600V/ CAT III 1000V safety standard



#### NEW

APPA SFLEX-18D APPA SFLEX-10D

3000A AC current measurement 3000 count large scale LCD display with backlit Auto Ranging Data Hold 10/18inch head cable length 7.5mm coil diameter for tight space measurement Low Batt. Segment indicator Ergonomically designed one hand operation CAT IV 600V/ CAT III 1000V safety standard



APPA 130F series intergated with APPA SFLEX-T expanding the current range to 3000 ACA, providing increased display flexibility, making electrical measurement easier and safer.

Flexible Current Probe Meter	APPA	APPA
FEATURES:	SFLEX-10D/18D	SFLEX-10T/18T
Display	3000 count	N/A
AC Current	0.01A~3000A	0.01A~3000A
Basic Accuracy: at 45 - 500Hz	±(3.0%+5d)	±3% of full scale
Auto Ranging	•	N/A
Measuring Method	TRUE RMS	TRUE RMS
Display Hold	HOLD	N/A
Backlit	•	N/A
Head Cable Length	10/18 inch	10/18 inch
Extension Cable Length	N/A	2 meter
Hand Guard Designed		•

#### GENERAL:

"OL"	N/A
Ú	LED
	N/A
	•
•	•
	•
CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V
10" coil/ 18" coil size	10" coil/ 18" coil size
7.5mm	7.5mm
•	•
200	160
170/200	170/200
•	•



## APPA Voltest-B and Voltest-S Voltage Tester Safer and Easier of use







#### **APPA Voltest-B**

2 pole tester with LED indication 12 to 750V AC/DC Voltage indication range Integrated single pole test for phase detection Rotary field indication Continuity Beeper Ultra bright white LED Torch. Self Test IP65-water-jet and dust-tight protection for outdoor use Compact design with convenient battery door CAT. IV 600V /CAT. III 750V Safety Standard



#### **APPA Voltest-S**

2 pole tester with 2,000 count digital display Auto Sensing of ACV, DCV,  $\Omega$ , Continuity and Diode Integrated single pole test for phase detection Rotary field indication Dual display for ACV measuring with Frequency AC/DC 750 Volts capability 2K Ohms Resistance range 1K Hz Frequency Counter Continuity Beeper Ultra bright white LED Torch. Self Test Battery capacity indication IP65-water-jet and dust-tight protection for outdoor use Compact design with convenient battery door

CAT. IV 600V /CAT. III 750V Safety Standard

#### APPA VOLTEST-B AND VOLTEST-S VOLTAGE TESTERS

FEATURES:	Voltest-B	Voltest-S
Digital display	N/A	2,000 count
AC/DC 750 Volts capability	12 to 750V AC/DC LED indication	•
Auto Sensing of ACV, DCV, $\Omega$ , Continuity and Diode	N/A	•
Integrated single pole test for phase detection	•	•
Rotary field indication	•	•
Dual display for ACV measuring with Frequency	N/A	•
2kOhms Resistance range	N/A	•
1kHz Frequency Counter	N/A	•
Continuity Beeper	•	•
Ultra bright white LED Torch	•	•
Selft Test	•	•
Battery Capacity Indication	•	•
IP 65 water-jet and dust-tight protection for outdoor use	•	•
Compact design with convenient battery door	•	•
CAT.IV 600V/ CAT.III 750V Safety Standard	•	•

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

DCV:	Ranges:	12,24,50,120,230,400,750V	2V~750V/-1V~-750V
	Resolution:	N/A	1V
	Basic Accuracy:	N/A	±(1.0%+2d)
	Overload Protection: 750V AC/DC	•	•
ACV:	Ranges:	12,24,50,120,230,400,750V	1V~750V
	Resolution:	N/A	1V
	Basic Accuracy: 50Hz~500Hz	N/A	±(1.3%+5d)
	Overload Protection: 750V AC/DC	•	•
OHM:	Ranges:		<b>0</b> Ω~2000Ω
	Resolution:		1Ω
	Basic Accuracy:	N/A	±(2%+2d)
	Overload Protection: 750V AC/DC		•
Continuity Beeper:	Threshold:	<600K Ω	< <b>200</b> Ω
Diode Test:	Ranges:	N/A	0.3V~0.9V
	Basic Accuracy:		±(0.9%+2d)
Auto Power On:	>12V AC/DC	•	•
Hz:	Ranges:		1Hz~999Hz
	Resolution:	N/A	1Hz
	Basic Accuracy:		±(0.3%+5d)
	Overload Protection: 750V AC/DC		•
Single Phase Test:	Voltage Ranges:	100~750V AC	100~750V AC
	Frequency Ranges:	45~65Hz	45~65Hz
Rotary Field Indication:	Voltage Ranges:	100~750V AC	100~750V AC
	Frequency Ranges:	50~60Hz	50~60Hz

#### GENERAL:

Sampling Rate:	10times/sec	10times/sec
Overload Indication: "OL" or "-OL"	N/A	•
Low Battery Indication	N/A	Û
Auto Power Off:	N/A	20 sec.
Operating Temperature: 0°C ~ 50°C, ≦80% RH	•	•
Storage Temperature: - 20°C ~ 60°C	•	•
Temperature Coefficient: 0.15 (Spec. Acc) / 'C, < 18'C or >28'C	•	•
Safety: EN 61010-1, EN61243-3, EN61557, and EN60529 regulation	CAT. IV. 600V, CAT. III 750V	CAT. IV. 600V, CAT. III 750V
Power Requirement: AAA size 1.5V x 2 batteries (IEC LR03)	•	•
Battery Life: In hours (Alkaline battery)	200	200
Size: 68mm(W) x 239mm (L) x 29 mm(H)	•	•
Weight: In grams (with holster)	220	220
Accessories: ZnC batteries (installed) and Manual	•	•



# **APPA VP-1 VOLTPEN**

**Compact and Rugged designed Voltage Detector** 

1 VOLTPEN





### NEW APPA VP-1 VoltPen

Expand range: 90V~1000V AC or 200V to 1000V AC depend on NA or EU models Flashing and beeping once a live cable was detected Phase finding on socket outlets Unique variable beeping according to AC signal amplitude Ergonomically designed soft grip for better holding when detecting Industrial rugged design for heavy duty use Compact design with convenient battery cap CAT. IV 1000V Safety Standard

Specification:(All at  $23^{\circ}C \pm 5^{\circ}C < 80\%$ RH) Voltage sensing ranges: 90V AC to 1000VAC or 200VAC to 1000V AC depend on NA or EU models Detection tip style: Blade or round, depend on models Light Source: One high intensity red LED Operating Temperature:  $0^{\circ}C \sim 50^{\circ}C$ Storage Temperature:  $-20^{\circ}C \sim 60^{\circ}C$ Safety: Designed to meet IEC 61010 & UL61010, CAT. IV 1000V Safety Standard Power Requirement: IEC LR03, AM4 or AAA size 1.5V x 2 Dimensions: 18mm(W) x 151mm(L) x 22mm(D) Weight: Approx. 120g



# **APPA VP-2 VOLTPEN**

**Phase Sequence and Voltage Detector** 

#### An MGL Brand





#### NEW

APPA VP-2 VOLTPEN Expand range: 100V~1000V AC Phase sequence indication and conformity phase test AC Voltage detection on conductive and insulated parts Ergonomically designed soft grip for better holding when detecting Compact design with convenient battery cap Visible LED and acoustic buzzer indications Auto Power OFF CAT IV 600V /CAT III 1000V Safety Standard

Specifications:(All at 23°C ± 5°C < 80%RH) Voltage range: 100V~1000VAC Detection tip style: Blade or round depend on models Frequency: 45 ~ 65 Hz Protection category: IP 53 Auto Power Off: Approx. 5 min. Power supply: IEC LR03 AM4 or AAAsize1.5Vx2pcs Dimensions:0.8in(W) x 5.94in(L) x 0.99in(D) /20.6mm(W) x 151mm(L) x 25.2mm(D) Weight: 40g (with batteries)



## **APPA** Accessories

#### AH-300 APPA 300 Series Holster (Yellow)



Easy-to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position. AH-300 for 300 series DMM

#### AH-90/100 APPA90/100 Series Holster (Yellow, Grey)



AH-100

Easy-to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position. AH-90 for 90 series DMM AH-100 for 100 series DMM

#### AH-109 APPA 107/109 Holster (Grey)



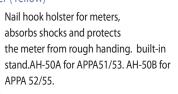
Easy-to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position. AH-109 for 107/109 DMM

#### AH-70 APPA 70 series holsters (Light Grey)



Easy to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position.

### AH-50A/50B APPA 50 Series Holster (Yellow)



#### AH-80 APPA 80 series holsters (Light Grey)



Easy to Clean, holster absorbs shocks and protects meter. Lead and probestorage on back.



AH-50A AH-50B

#### AH-60A/60B APPA 60 Series Holster (Grey)



AH60-A AH-60B

Easy-to-Clean, nail hook holster absorbs shocks and protects meter, built-in stand and holder. Lean or stand for best viewing position. Lead/probe storage on sid. AH-60 for APPA63/65. AH60B for APPA67.69

#### AH-99II APPA 90II series holsters (Light Grey)



Easy to Clean, nail hook holster absorbs shocks and protects meter. Lead and probe storage on back, lean or stand in best viewing position.





#### LP-17R Red Long Tip Probe



Replacement test probe with 65mm insulated tip for APPA 17 pen-type multimeter. Also designed to protect against accidental contacts, 1000V, 10A.

#### ATL-4 Test Lead Set



Replacement test lead for APPA A7D, A7A, A5, and A9. Hard tips Comfortgrip, safety-shrouded, right-angle plug, 48 (1.2m),1000V, 10A, CAT. IV 600V/ CAT. III 1000V.

#### ATL-1 Test Lead Set



Hard alloy tips for long life. Comfortgrip, safety-shrouded, INSULATED right-angle plug, 48"(1.2m), UL listed lead wire, 1000V, 10A, CAT III.



ATL-5 Test Lead Set

#### ATL-6 Test Lead Set

Extra strong 4mm banana tips for long life for APPA A7D, A7A, A5, and A9. Hard tips Comfort-grip, safety-shrouded, right-angle plug, 48 (1.2m), 1000V, 10A, CAT. IV 600V/CAT. III 1000V.

#### ATL-2 Test Lead Set



Extra strong 4mm banana tips for long life. Comfort-grip, safetyshrouded, INSULATED right-angle plug, 48"(1.2m), UL listed lead wire,1000V, 10A, CAT III.

Replacement test lead for APPA new 60 series multimeters. Hard tips Comfortgrip, safety shrouded, right-angle plug, 48 (1.2m), 1000V, 10A, CAT. III 600V/ CAT. II 1000V.

#### ATL-3 Test Lead Set



Replacement test lead for APPA30/60/90/100/200 series, Hard tips Comfort-grip, safety-shrouded, right-angle plug, 48"(1.2m), 1000V, 10A, CAT III.

Specifications subject to change without notice.

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### An MGL Brand

#### AC-31/32 Carrying Case



Soft sided.zippered. Nylon fabric carrying case for APPA 31/32 current transducer or APPA 17+15, Inside pocktes are designed to carry test leads and manual, built-in belt loop.

#### AC-17 Carrying Pouch



Vinyl carrying case.Designed to carry a meter.test leads set. For APPA 17.

#### AC-35 Carrying Case



Soft sided, zippered, Vinyl carrying case for APPA 35N/30 clamp meter. Inside pockets are designed to carry test lead, and manual, built-in belt loop.

#### AC-M1 Carrying Case



Tough, double wall woven fabric, two way zipper carrying case for APPA 80, 90, 90ll, 100 series, 76 and 25 multimeters. Inside pockets are designed to carry test lead, and manual. Convenient 5.3 (135mm) belt loop accommodates tool belts

#### AC-33 Carrying Case



Soft sided,zippered, Nylon fabric carrying case for APPA 33/37 clamp meter. Inside pockets are designed to carry test lead, and manual, built-in belt loop.

#### AC-M2 Carrying Case



Tough, double wall woven fabric, two way zipper carrying case for APPA 50, 60, 70 series multimeters. Inside pockets are designed to carry test lead, and manual. Convenient 5.3 (135mm) belt loop accommodates tool belts

#### AC-300 Carrying Case



Tough, double wall woven fabric, two way zipper carrying case for APPA 300 series multimeter. Inside pockets are designed to carry test lead, temp. adaptor, bead probe, RS 232 cable and manual.

#### AC-C1 Carrying Case



Tough, double wall woven fabric, two way zipper carrying case for APPA 39AC, 39AR, 39MR, A15/A15R, A16/A16R, and A16H/A16HR. Inside pockets are designed to carry test lead, and manual, built-in belt loop.





#### AC-C2 Carrying Case



Tough, double wall woven fabric, one way zipper carrying case for APPA A 39T, A11/A11R, A12 /A12R, and A18plus. Inside pockets are designed to carry test lead, and manual, built-in belt loop.

#### TL-10S Test Lead Interface



Connect 4mm banana plugs to standard input jacks of a multimeter. Coiled cable for convinent use, extend up to

60 (1.5m), 1000V, 10A rating.

#### AC-C3 Carrying Case



Tough, double wall woven fabric, one way zipper carrying case for APPA 35, 30, 31, 36, 33ll, 36ll, A10plus, A6, A8, A9, A7, A7D, A5, A2, and A3. Inside pockets are designed to carry test lead, and manual,built-in belt loop.

#### TL-70 Clip Test Lead Set



For APPA 76 component tester or other meters, spring-loaded clips with serrated teeth, safety-shrouded, rightangle input, 10"(25cm), 250V, 10A. one red, one black.

#### AC-10S Superior Carrying Case



Tough, double wall woven fabric, two way zipper carrying case for APPA 10 series meters. Three seperate holders to carry an APPA 17 and two transducers, indise pocket is designed to

carry test leads, bead probe and manual.

This deluxe carrying case is also versatile to carry APPA 60 series multimeter, APPA 50 series thermometer ..... etc.

#### TL-10 Safety Test Lead Set



Replacement test lead for APPA 17. Include one TC-10B, SP-17R, LP-17R and ATL-3B.

#### TC-10 Alligator Clip Set



Slip-on insulated alligator clips for use with test leads probe 1000V, 10A rating. one red, one black.

#### SP-17R Red Standard Probe



Replacement test probe for APPA 17 pen-type multimeter. Also designed to protect against accidental contacts, 1000V, 10A.



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