



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## AM-160-A Precision TRMS Digital Multimeters with PC Connection

These TRMS Commercial grade digital multimeters offer more features, better accuracy at a great price. TRMS, accuracy to 0.02%, frequency, capacitance, duty cycle, temperature, analog bar graph, PC interface and large backlit displays are just a handful of features that are available on these meters.

- True RMS (TRMS)
- Precision accuracy to 0.02%
- Measurements: Voltage up to 1000V AC/DC, Resistance, AC/DC Current, Frequency, Capacitance, Duty Cycle
- Dual Temperature
- Optical isolated PC interface capability
- Crest (Peak hold), MAX, MIN MAX-MIN recording
- Auto and manual ranging
- Intelligent auto power off
- Data hold
- Relative zero mode
- Audible and visual warning against improper plug-in
- DC Loop Current 4-20mA
- dBm reading with 20 selectable impedance values
- Backlight display
- Large, easy to read large LCD display
- High speed analog bar graph
- Diode Test
- 4-20mA DC loop current
- Audible continuity
- Safety CAT IV 600V, CAT III 1000V

### No hassle warranty

*No waiting.*

*No shipping charges.*



Our commitment to high-quality products and customer service is demonstrated by our industry exclusive "No Hassle" warranty. In the unlikely event that an Amprobe Test Tool requires warranty service, any of our local dealers are authorized to replace it, on the spot.

(note: \$500 MSLP limit)





## AM-160-A Precision TRMS Digital Multimeters with PC Connection

## Data Sheet

### General Specifications

Display	4-4/5 digits 50,000 counts. Selectable stable mode 5-4/5 digits 500,000 counts for DC voltage, & 6 digits 999,999 counts for HZ
Polarity	Automatic
Update Rate	4-4/5 digits fast mode: 5 per second nominal; 5-4/5 digits stable mode: 1.25 Per second nominal;
42 Segments Bar Graph	60 per second max
Operating Temperature	0°C to 45°C (32°F to 113°F)
Relative Humidity	Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 45°C
Pollution Degree	2
Storage Temperature	-20°C to 60°C (-4°F to 140°F), < 80% R.H.(With battery removed)
Altitude	Operating below 2000m
Temperature Coefficient Sensing	Nominal 0.1 X (specified accuracy)/ °C @ (0°C -18°C or 28°C -- 0°C/32°F- 104°F), or otherwise specified
Safety	Double insulation per IEC61010-1 2nd ed., EN61010-1 2nd ed., UL61010-1 2nd ed. & Can/CSA C22.2 No. 61010.1-0.92 To category III 1000V AC & DC and category IV 600V AC & DC
Am-160-a Terminals (to COM) Measurement Category	V / A / mA $\mu$ A: Category III 1000 VAC & VDC and category IV 600 VAC & VDC.
Overload Protections	$\mu$ A & mA: 0.44A/1000V, IR 10kA or better, F fuse A: 11A/1000V, IR 20kA or better, F fuse V, mV, e, & others: 1050VRMS, 1450VPEAK
Transient Protection	8kV (1.2/50 $\mu$ S SURGE)
E.M.C.	Meets EN61326-1:2006 (EN55022, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11)
In an RF field of 3V/m	Capacitance function is not specified
Other Function Ranges	Total accuracy = specified accuracy + 100 digits. Performance above 3V/m is not specified
Power Supply	Single alkaline 9V battery; NEDA1604a, JIS6AM6 or IEC6LF22
Power Consumption	6mA typical
Low Battery	Below approx. 7V
Apo Timing	Idle for 17 minutes
Apo Consumption	5 $\mu$ A typical for am-140-a; 30 $\mu$ A typical for am-160-a
Dimension	L317.6 x W177.8 x H76.2mm (12.5 x 7 x 3in) with clamshell
Weight	635g (1.4lb) with clamshell

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### Electrical Specification

	Range	Accuracy
AC Voltage	500.00 mV 5.0000 / 50.000 / 500.00 / 1000.0 V	+/- (0.08% Rdg + 20 LSD) @ 45 to 300 Hz**
DC Voltage	500.00 mV 5.0000 / 50.000 / 500.00 / 1000.0 V	+/- (0.02% Rdg + 2 LSD) @ 0 to 50V**
Resistance	500.00 Ohms 5.0000 / 50.000 / 500.00 kOhms 5.0000 / 50.00 0MOhms	+/- (0.07% Rdg + 2 LSD) @ 500 Ohms to 500 kOhms ranges **
AC Current	500.00 / 5000.0 uA 50.000 / 500.00 mA 5.0000 / 10.000 A	+/- (0.5% Rdg + 50 LSD) @ 50 and 60 Hz**
DC Current	500.00 / 5000.0 uA 50.000 / 500.00 mA 5.0000 / 10.000 A	+/- (0.5% Rdg + 20 LSD)
Frequency	5.0000 Hz to 200.000kHz	+/- (0.002% Rdg + 4 LSD)
Capacitance	50.00 / 500.0 nF 5.000 / 50.00 / 500.0 / 9999uF	+/- (2.0% Rdg + 3 LSD) @ 50 nF to 50uF ranges**
Temperature	Dual thermocouple -58 F to 1832 F -50 C to 1000 C	+/- (0.3% Rdg + 2 F) +/- (0.3% Rdg + 1 C)
Duty Cycle	0.1% to 99.99%	+/- (3 LSD / kHz + 3 LSD)
<b>→ Diode Tester</b>		
Range	5.0000V	
Accuracy	1%+1D	
Test Current (Typical)	0.4mA	
Open Circuit Voltage	<3.5VDC	
<b>Optional Accessories</b>		
PC Interface Kit (PC connection cable with software)		Part Number USB-KIT3
Software		www.amprobe.com
Carrying Case		CC-ACDC
<b>Replacement Parts (supplied with product)</b>		
Thermocouple		Part Number TPK-59
Test Leads With Set Of Alligator Clips (alligator clips are not supplied with product)		MTL-90B
Instruction Manual		www.amprobe.com

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### **Amprobe® Test Tools**

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