

# **AMPROBE**®

**Data Sheet** 

## **HD110C Heavy-Duty Digital Multimeter**

### **Key features:**

- Measures 1500 VDC
- CAT IV 1000 V
- IP67 Rated
- Magne-Grip<sup>TM</sup> holster with magnetic hanging strap
- No hassle warranty

No waiting.



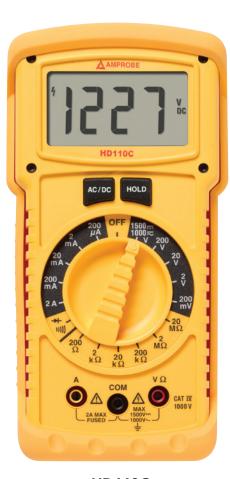
Our commitment to high-quality products and customer service is demonstrated by our industry exclusive "No Hassle" warranty. In the unlikely event that an Amprobe Test Tool requires warranty service, any of our local dealers are authorized to replace it, on the spot.

- Highest voltage capability, measuring to 1500 V dc and 1000 V ac
- CAT IV 1000 V rated
- Special sealing for environment and water resistance. IP67 rated
- Constructed with drop-resistant housing and PCB mounting
- Magne-Grip<sup>™</sup> holster, frees both hands for work
- Includes high voltage test leads with threaded alligator clips

The HD110C is designed for professional use in harsh environments. The meter is unusually rugged and reliable in everyday heavy use applications. The meter is made using waterproof construction to prevent dirt, grime and moisture from entering the case and causing inaccurate readings or damaging shorts.

**Built of tough, fire-retardant** thermoplastic resistant to grease and chemical spills, with all sensitive components shock-mounted for a drop resistant to at least eight feet.

HD110C has an extended voltage measurement capability of 1500 V dc and 1000 V ac, unmatched by any other line of digital multimeters. The extended voltage ranges can withstand transients up to 12 kV.



**HD110C** 













### **HD110C Technical Specifications**

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### **General Specifications**

Display	3-1/2 digit LCD, 1999 counts, with annunciators and menu features				
Polarity Indication	Automatic				
Input overload indication	1				
Low Battery Indication	ी; < 50 hours battery life remain, accuracy is no longer guaranteed				
Display Update Rate	2.5/sec, nominal				
Oper. Temp.	0 °C to +50 °C, (< 75 % R.H.)				
Storage Temp	-20 °C to 60 °C, 0 to 80 % RH, battery removed				
Temperature coefficient	0.1 x (spec. accuracy)/°C (0 ° to 18 °C and 28° to 50 °C) all functions and ranges except for mVDC				
	0.3 x (spec. accuracy)/°C (0 ° to 18 °C and 28° to 50 °C) for mVDC				
Altitude	Up to 2000 m — indoor use				
Fuse	F 2 A/1500 V fuse (8 mm x 65 mm), I.R. 30 kA – Amprobe® p/n FP700				
Power	Standard 9 V battery, NEDA 1604, JIS 006P,IEC 6F22				
Auto Power-Down	Meter powers down after approx. 30 min. of inactivity.				
Battery Life	250 hours typical with carbon-zinc, 500 hours typical with alkaline				
Dimensions, with holster (H x W x D)	200 x 102 x 59 mm (7.9 in x 4.0 in x 2.3 in)				
Weight (incl. battery)	642 g (20 oz)				
Accessories	Heavy Duty CAT IV 1000 V Test leads with threaded alligator clips (TL1500), battery (in instrument), hex wrench in holster, Magne-Grip flex strap and User Manual				
Case material	Flame retardant, high-impact thermoplastic				
Safety	Meets EN 61010-1 CAT IV 1000 V (1500 V DC max) Class II, EN 60529:IP67				
EMC	Meets EN 61326-1				

### **Electrical Specifications** (Accuracies at 23 °C $\pm$ 5 °C, <75 % RH non-condensing, guaranteed for one year.)

Function	Range	Accuracy				
DC Volts						
Ranges	200 mV, 2 V, 20 V, 200 V, 1500 V	200 mV, 2 V, 20 V, 200 V, 1500 V				
Resolution	0.1 mV					
Accuracy	All ranges	±(0.1 % rdg+2 dgts)				
Input Impedance	10 MΩ					
OL Protection	1500 V dc/1000 V ac rms					
Transient Protection	12 kV impulse (1.2 $\mu$ S/50 $\mu$ S) based on EN 61010-1:2001 impulse requirement for at CAT IV 1000 V product. This product should not be used in installations where transients exceed 12 kV.					
AC Volts (45 Hz to 2 kHz)						
Ranges	200 mV, 2 V, 20 V, 200 V, 1000 V	200 mV, 2 V, 20 V, 200 V, 1000 V				
Resolution	0.1 mV					
Accuracy	200 mV to 200 V (45-500 Hz)	±(0.8 % rdg+4 dgts)				
	200 mV to 200 V (500 Hz-2 kHz)	±(1.5 % rdg+5 dgts)				
	1000 V (50-60 Hz)	±(0.8 % rdg+4 dgts)				
	1000 V (60-500 Hz)	±(1.5 % rdg+5 dgts)				
Input Impedance	10 ΜΩ					
OL Protection	1500 V dc/1000 V ac rms					
Transient Protection	12 kV impulse (1.2 $\mu$ S/50 $\mu$ S) based on EN 61010-1:2001 impulse requirement for at CAT IV 1000 V product. This product should not be used in installations where transients exceed 12 kV.					
DC Current						
Ranges	200 $\mu$ A, 2 mA, 20 mA, 200 mA, 2 A					
Resolution	0.1 μΑ					
Accuracy	200 μA to 20 mA	±(0.5 % rdg+2 dgts)				
	200 mA to 2 A	±(1.0 % rdg+2 dgts)				



### **HD110C Technical Specifications (continued)**

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Function	Range	Accuracy				
DC Current (cont.)		<u> </u>				
Voltage Burden	250 mV max. (1 mV/1 μA on 200 μA Range)					
	(100 mV/1 mA on 2 mA Range)					
	(10 mV/1 mA on 20 mA Range)					
	(1.5 mV/1 mA on 200 mA Range)					
	(500 mV/1 A on 2 A Range)					
OL Protection	A Input (F 2 A/1500 V, size 8 x 65 mm IR fast blow ceramic) (FP 700)					
AC Current (45 Hz to 1 kHz)						
Ranges	200 μA, 2 mA, 20 mA, 200 mA, 2 A					
Resolution	0.1 μΑ					
Accuracy	200 μA to 20 mA	±(0.8 % rdg+4 dgts)				
	200 mA to 2 A	±(1.2 % rdg+4 dgts)				
Voltage Burden	250 mV max. (1 V on 2 A range)					
OL Protection	same as DC Current					
Resistance						
Ranges	200 $\Omega$ , 2 k $\Omega$ , 20 k $\Omega$ , 200 k $\Omega$ , 2 M $\Omega$ , 20 M $\Omega$	200 $\Omega$ , 2 k $\Omega$ , 20 k $\Omega$ , 200 k $\Omega$ , 2 M $\Omega$ , 20 M $\Omega$				
Resolution	0.1 Ω					
Accuracy	200 Ω	±(0.5 % rdg+4 dgts)				
	2 k $\Omega$ to 200 k $\Omega$	±(0.3 %rdg+2 dgts)				
	2 MΩ	±(1.0 % rdg+4 dgts)				
	20 ΜΩ	±(2.0 %rdg+4 dgts				
OL Protection	1500 V dc/1000 V ac rms					
Open Circuit Voltage	200 $\Omega$ range	3.0 V dc typical				
	all other ranges	0.3 V dc typical.				
Diode/Continuity Test						
Test Current	1m A dc typical					
Test/Open Circuit Voltage	3.0 V dc Typical					
Diode Accuracy	±(1.5 % rdg+2 dgts)					
Continuity Audible Threshold	<50 Ω ± 25 Ω					
Response Time	<100 msec					
OL Protection	1500 V dc/1000 V ac rms					



#### **Data Sheet**



#### **Included Accessories**

Heavy Duty CAT IV 1000 V Test leads with threaded alligator clips (TL1500), battery (in instrument), hex wrench in holster, Magne-Grip flex strap and User Manual

#### **Optional Accessories**

TL1500	Cat IV	1000 V	Test Lead	ls with	Alligator	Clips
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CT235A 1000 A ac/dc Clamp CT237A 200 A ac/dc Current Clamp

CT238A 20 A ac/dc Current Clamp
VC221B Padded Vinyl Case. Fits meter & holster.

**DC205C** Deluxe Hard-Shell Carry Case

**DC207C** Large Deluxe Hard-Shell Carry Case with extra

space for accessories

HV231-10A High Voltage Probe

FP700 Replacement Fuse, 2 A/1500 V, pack of two

#### **Amprobe® Test Tools**

website: www.Amprobe.com email: info@amprobe.com 6920 Seaway Blvd. Everett, WA 98203

tel: 877-AMPROBE

#### **Amprobe® Test Tools Europe**

P.O. Box 1186 5602 BD Eindhoven The Netherlands

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