

# **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 ± 5 °C, <75 % RH non-condensing, guaranteed for one year.)

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Function	Range	Accuracy	
DC Volts			
Ranges	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 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.		
AC Volts (45 Hz to 2 kHz)			
Ranges	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 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.		
DC Current	·		
Ranges	200 μA, 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)**

**Data Sheet** 

Function	Range	Accuracy	
DC Current (cont.)			
Voltage Burden	250 mV max. (1 mV/1 $\mu$ A on 200 $\mu$ A 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 $\Omega$		
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)	
	<b>20 M</b> Ω	±(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 $\Omega$ ± 25 $\Omega$		
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 Leads with Alligator Clips

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

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