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# HD110C


## Heavy-Duty Digital Multimeter

**Rugged and reliable in harsh environments**

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.

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

### HD110C SPECIFICATIONS

Specifications	HD110C
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
Power	1.5 volt battery x2, R03/SIZE AAA. Isolated battery compartment
Battery life	150 hours typical with carbon-zinc. 300 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)
Safety	Meets EN 61010-1 CAT IV 1000 V (1500 V DC max) Class II, EN 60529:IP67
EMC	Meets EN 61326-1
Case material	Flame retardant, high-impact thermoplastic
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

For more detailed specifications see users manual.

## HD110C ELECTRICAL SPECIFICATIONS

DC Volts	
Ranges	200 mV, 2 V, 20 V, 200 V, 1500 V
Resolution	0.1 mV
Accuracy	±(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 μs/50 μs) 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 μs/50 μs) 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 μA
Accuracy	200 μA to 20 mA ±(0.5 % rdg+2 dgts) 200 mA to 2 A ±(1.0 % rdg+2 dgts)

DC Current (cont.)	
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 μA
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

## ACD-23SW ELECTRICAL SPECIFICATIONS

Resistance	
<b>Ranges</b>	200 $\Omega$ , 2 k $\Omega$ , 20 k $\Omega$ , 200 k $\Omega$ , 2 M $\Omega$ , 20 M $\Omega$
<b>Resolution</b>	0.1 $\Omega$
<b>Accuracy</b>	200 $\Omega$ $\pm$ (0.5 % rdg+4 dgts) 2 k $\Omega$ to 200 k $\Omega$ $\pm$ (0.3 %rdg+2 dgts) 2 M $\Omega$ $\pm$ (1.0 % rdg+4 dgts) 20 M $\Omega$ $\pm$ (2.0 %rdg+4 dgts)
<b>OL Protection</b>	1500 V dc/1000 V ac rms
<b>Open Circuit Voltage</b>	200 $\Omega$ range 3.0 V dc typical all other ranges 0.3 V dc typical.

Diode/Continuity Test	
<b>Test Current</b>	1m A dc typical
<b>Test/Open Circuit Voltage</b>	3.0 V dc Typical
<b>Diode Accuracy</b>	$\pm$ (1.5 % rdg+2 dgts)
<b>Continuity Audible Threshold</b>	<50 $\Omega$ $\pm$ 25 $\Omega$
<b>Response Time</b>	<100 msec
<b>OL Protection</b>	1500 V dc/1000 V ac rms

For complete specifications please download the product datasheet and the users manual on [www.beha-amprobe.com](http://www.beha-amprobe.com).