

Digital Multimeter

Educational Training Equipment for the 21st Century

Bulletin 425C

HBT-460D Digital Multimeter

Purpose

To provide students with a high quality, high impedance fully protected instrument for the measurement of voltage, current and resistance.

DC-AC Voltage:

DC Voltage Ranges: 200mV; 2V; 20V; 200V; 1000V
(Auto-Ranging)
Accuracy: $\pm 0.05\%$ of range ± 3 digits
(Auto-Ranging)
AC Voltage Ranges: 2V; 20V; 200V; 1000V
Accuracy: 45Hz - 2KHz $\pm 0.5\%$ rdg. ± 10 digits
2KHz - 10KHz $\pm 1.0\%$ rdg. ± 10 digits
10KHz - 20 KHz $\pm 2.0\%$ rdg. 15 digits
20KHz - 40KHz $\pm 4.0\%$ rdg. ± 20 digits
Max. Resolution 10mV at 200mV Range
100mV at 2V Range
1mV at 20V Range
10mV at 200V Range
100mV at 1KV Range

DC-AC Current:

DC & AC Ranges: 200mA; 10A (100% Over Range)
DC Accuracy: $\pm 0.5\%$ ± 2 digits for all ranges except
20A $\pm 0.35\%$ ± 2 digits
AC Accuracy: 200mA; 2mA; 200mA
45Hz - 2KHz $\pm 1\%$ rdg. ± 15 digits
2KHz - 10KHz $\pm 1.5\%$ rdg. ± 15 digits
10KHz - 20KHz $\pm 2\%$ rdg. ± 15 digits

Resistance:

Resistance Ranges: 2K ohms; 20K ohms; 200K ohms;
2M ohms; 20M ohms
2K ohms; 20K ohms; 200K ohms;
2M ohms (Auto Ranging)
 $\pm 0.1\%$ rdg. ± 2 digits; 20M

General

Display: 4-1/2 digit LCD 20,000 count .5" display
Input: 120/240V, 50/60Hz (Internal Select)
Operating Temp.: 0-50°C (32-122°F)
Size: 9-1/2"W x 7"H x 7-1/2"D or
18-3/4"W x 6-3/4"H x 5"D
(Flush HBT-460D)
9-3/4"W x 7-1/2"H x 9"D
(Portable HBT-460D-P)
Construction: Panel - #12 gauge steel, finished in Light Blue-Gray
enamel with black silk-screened nomenclature
Case - #14 gauge steel, finished in Dark Gray
Texture (portable model (only))

Accessories:

One set of test leads and instruction manual

Specify Model: **HBT-460D** Flush Model
HBT-460D-P Portable Model



MODEL HBT-460D-P
Digital multimeter in portable case

All Hampden units are available for operation at any voltage or frequency

Hampden
ENGINEERING CORPORATION

Diode-Protected Instrument Turret

Educational Training Equipment for the 21st Century

Bulletin 425-1C

HBT-4MCB-A Instrument Panel

Purpose

The Hampden **MODEL HBT-4MCB-A** provides four fully protected meters in a convenient turret housing for use in electrical or electronics laboratories. Each instrument (AC ammeter; AC voltmeter; DC ammeter; DC voltmeter) is multi-range to fulfill the wide range of student metering requirements.

Description

The Hampden Instrument Turret has been mechanically and electrically designed to meet the rigors of student use. The common problems of breakage and tampering are combated by rear mounting the meter and panel components, and by the rugged captive-head binding post terminals. Burnout or damage due to momentary or sustained electrical overloads are eliminated. An example of the degree of overload protection achieved is that any range of any meter or affecting its accuracy. Each of the four meters is a completely self-contained instrument, requiring no external shunts or multipliers. Each meter has two 5-way binding posts which accept the popular stackable banana plugs. All ranges are switch-selectable - an excellent feature on ammeters since the current is not interrupted during range changes.

The meters employ taut bond movements and mirror scales providing accuracy, readability, and high sensitivity. All meters feature printed circuit construction with all ranges calibrated by trimmers. Internal circuits are indicated schematically by silk-screened legends on the panel.

Mounting

The **MODEL HBT-4MCB-A** is designed for mounting in a standard Hampden turret, single or double faced, low-profile or elevated.

Metering

AC AMMETER

Ranges: 0 to 0.1 amps
0 to 0.5 amps
0 to 1.0 amps
0 to 5.0 amps
0 to 10.0 amps
Accuracy: $\pm 2\%$ FSD

AC VOLTMETER

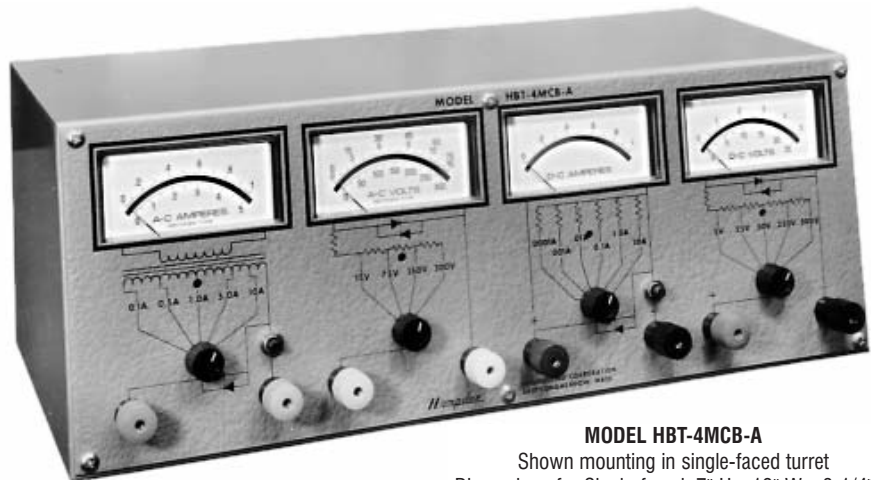
Ranges: 0 to 15 volts
0 to 75 volts
0 to 150 volts
0 to 300 volts
Accuracy: $\pm 3\%$ FSD
Sensitivity: 1,000 ohms/volt

DC AMMETER

Ranges: 0 to 0.0001 amps
0 to 0.001 amps
0 to 0.01 amps
0 to 0.1 amps
0 to 1.0 amps
0 to 10.0 amps
Accuracy: $\pm 2\%$ FSD

DC VOLTMETER

Ranges: 0 to 5 volts
0 to 25 volts
0 to 50 volts
0 to 250 volts
0 to 500 volts
Accuracy: 2% FSD
Sensitivity: 10,000 ohms/volt



MODEL HBT-4MCB-A

Shown mounting in single-faced turret
Dimensions for Single-faced: 7" H x 19" W x 8-1/4" D
Dimensions for Double-faced: 7" H x 19" W x 14" D
Shipping weight: 15 lbs.

All Hampden units are available for operation at any voltage or frequency

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