

# AS AN AUTO/MANUAL RANGING DC VOLTMETER

RANGE	MAXIMUM READING	ACCURACY ±(% of rdg + digits)		TEMPERATURE COEFFICIENT 0°-18°C & 28°-50°C ±(% of rdg + digits)/°C	INPUT RESISTANCE	MAXIMUM ALLOWABLE CONTINUOUS INPUT
		(24 hr., 23" ±1°C)	(6 MO., 18°-28°C)			
3mV*	2.9999	0.015% + 2d**	0.02% + 2d**	0.002% + 0.1d**	10 <sup>9</sup> Ω	250V peak
30mV*	29.999	0.012% + 1d**	0.017% + 1d**	0.002% + 0.1d**	10 <sup>9</sup> Ω	250V peak
300mV	299.99	0.01% + 1d	0.013% + 1d	0.001% + 0.1d	10 <sup>9</sup> Ω	1200V peak
3V	2.9999	0.01% + 1d	0.013% + 1d	0.001% + 0.1d	10 <sup>9</sup> Ω	1200V peak
30V	29.999	0.01% + 1d	0.013% + 1d	0.0015% + 0.1d	10 <sup>9</sup> Ω	1200V peak
300V	299.99	0.01% + 1d	0.013% + 1d	0.0015% + 0.1d	10 <sup>9</sup> Ω	1200V peak
1000V	1200.0	0.01% + 1d	0.013% + 1d	0.0035% + 0.1d	10 <sup>9</sup> Ω	1200V peak

\*Manual or remote ranges only. Analog output on these two ranges, gain of 100.

\*\*When properly zeroed with front panel control; see zero stability.

**NORMAL MODE REJECTION RATIO:** Greater than 100dB on 3mV range, greater than 80dB on 30mV range and higher ranges at line frequency.

**COMMON MODE REJECTION RATIO (1kΩ unbalance):** Greater than 120dB at DC and line frequency on 3mV and 30mV ranges. Greater than 100dB on higher ranges, except 80dB on 1000V range.

## AUTO/MANUAL RANGING OHMMETER OPTION 1744

RANGE	MAXIMUM READING	ACCURACY (6 MO., 18°-28°C)		MAXIMUM VOLTAGE ACROSS UNKNOWN ON RANGE*		TEMPERATURE COEFFICIENT (0°-18°C & 28°-50°C)	
		±(% of rdg + digits) HI - MODE - LO	±(% of rdg + digits) HI - MODE - LO	HI - MODE - LO	HI - MODE - LO	±(% of rdg + digits)/°C HI - MODE - LO	±(% of rdg + digits)/°C HI - MODE - LO
300Ω	299.99	-	0.035% + 2d	-	0.3V	-	0.003% + 0.1d
3kΩ	2.9999	0.035% + 1d	0.035% + 1d	3V	0.3V	0.003% + 0.1d	0.003% + 0.1d
30kΩ	29.999	0.035% + 1d	0.035% + 1d	3V	0.3V	0.003% + 0.1d	0.003% + 0.1d
300kΩ	299.99	0.035% + 1d	0.05% + 1d	3V	0.3V	0.003% + 0.1d	0.004% + 0.1d
3MΩ	2.9999	0.05% + 1d	0.2% + 1d	3V	0.3V	0.004% + 0.1d	0.02% + 0.1d
30MΩ	29.999	0.2% + 1d	1.0% + 1d	3V	0.3V	0.02% + 0.1d	0.15% + 0.1d
300MΩ	299.99	1.7% + 1d	-	3V	-	0.15% + 0.1d	-

\*Maximum open-circuit voltage. 5V.

**MAXIMUM ALLOWABLE INPUT:** 350V peak, 240V rms, line frequency or DC.

## DC AMMETER OPTION 1745

RANGE	READING	ACCURACY (6 MO., 18°-28°C)	TEMPERATURE COEFFICIENT (0°-18° & 28°-50°C)	INPUT VOLTAGE DROP (at full range)	MAXIMUM ALLOWABLE INPUT
3μA	2.9999	0.06% + 10d	0.003% + 0.6d	0.3V	2.5mA
30μA	29.999	0.05% + 2.5d	0.003% + 0.4d	0.3V	25mA
300μA	299.99	0.05% + 2.5d	0.003% + 0.4d	0.3V	4A*
3mA	2.9999	0.05% + 2d	0.003% + 0.4d	0.3V	4A*
30mA	29.999	0.05% + 2d	0.003% + 0.4d	0.3V	4A*
300mA	299.99	0.06% + 2d	0.003% + 0.4d	0.35V	4A*
3A	2.9999	0.08% + 2.5d	0.007% + 0.3d	0.7V	4A*

\*Internally fused at 4A, 250V.

## AUTO/MANUAL RANGING AC VOLTMETER OPTION 1740

RANGE	MAXIMUM READING	ACCURACY (6 MO., 18°-28°C)
300mV	299.99	0.2% + 6d*
3V	2.9999	0.2% + 6d
30V	29.999	0.2% + 6d
300V	299.99	0.2% + 6d
1000V	1000.0	0.2% + 6d

\*Average responding calibrated in rms of a sine wave.

For readings below 1% of range, add 0.15mV.

**MAXIMUM ALLOWABLE CONTINUOUS INPUT:** 1000V rms sine or DC, or 10<sup>7</sup>V•Hz.

**FREQUENCY RANGE:** 50Hz to 20kHz.

**TEMPERATURE COEFFICIENT (0°-18°C & 28°-50°C):** ±(0.025% of reading + 0.5d)/°C.

**INPUT IMPEDANCE:** 2MΩ shunted by less than 100pF.

## AC AMMETER OPTIONS 1740 AND 1745

RANGE	MAXIMUM READING	ACCURACY (6 MO., 18°-28°C)	INPUT VOLTAGE DROP (at full range)	MAXIMUM ALLOWABLE INPUT
3μA	2.9999	0.6% + 60d	0.3V	2.5mA
30μA	29.999	0.6% + 30d	0.3V	25mA
300μA	299.99	0.5% + 20d	0.3V	4A*
3mA	2.9999	0.35% + 20d	0.3V	4A*
30mA	29.999	0.35% + 20d	0.3V	4A*
300mA	299.99	0.35% + 20d	0.35V	4A*
3A	2.9999	0.5% + 20d	0.7V	4A*

\*Internally fused at 4A.

**FREQUENCY RANGE:** 50Hz to 5kHz except 500Hz on 3μA range.

**TEMPERATURE COEFFICIENT (0°-18°C and 28°-50°C):** (0.03% of reading + 2 digits)/°C.

## GENERAL

**ZERO STABILITY:** Autozeroed to within specified accuracy and temperature coefficient. 0°-50°C on 300mV to 1000V ranges. Less than 0.15μV/°C on 3mV and 30mV ranges.

**DISPLAY:** Five .43" LED digits, appropriate decimal position, function and polarity indication.

**CONVERSION PERIOD:** 320msec.

**OVERLOAD INDICATION:** Blinks above ±1200V DC, 1000V AC. Blanks above 29999 counts on all other ranges.

**RANGE SELECTION:** Automatic and manual on Volts and Ohms. Manual only on Amperes. Voltage and resistance ranges can be selected remotely when the 1722 or 1723 Digital Interface is installed. Upranges at 30000, downranges at 02599 when autoranging.

**ISOLATION:** Input LO to power line ground, greater than 10<sup>9</sup>Ω shunted by less than 0.01μF. Maximum safe input between LO and power line ground, 1000V peak.

**WARM-UP:** One hour to rated accuracy.

**ENVIRONMENTAL LIMITS:**

Operating: 0°C to 50°C. 0% to 70% relative humidity up to 30°C. Storage: -25°C to +65°C.

**CONNECTORS:** Input: Banana Jacks; Analog Output: Amphenol 80PC2F.

**DIMENSIONS, WEIGHT:** Style M, 90mm (3½ in.) half-rack, overall bench size 100mm high × 217mm wide × 385mm deep (4 in. × 8½ in. × 15¼ in.). Net weight 4.5 kg (10 lbs.).

**POWER:** 90-110, 105-125, 195-235 and 210-250V (switch selected), 50-60Hz, 45V•A max.

**ACCESSORY SUPPLIED:** Mating output connector.