

MODEL 428E

CLIP-ON AC/DC MILLIAMMETER

FEATURES

- Measures currents from 20 μ A to 10 A without circuit interruption
- AC and DC modes
- Precision offset capability
- Optional magnetometer probes

APPLICATIONS

- Measurement of current in high-voltage applications
- Measurement of small AC or DC current changes superimposed on a steady current up to 10 A
- Measurement of power supply current and ripple
- Measurement of magnetic fields from 1 μ G to 10 G (with optional magnetometer probe)

The Model 428E Clip-on AC/DC Milliammeter measures current without the need for breaking the circuit. The probe can be clipped onto wires up to 0.160" diameter; system accuracy is not affected by wire size. Three full-scale pushbutton selectable ranges are available:

- 100 mA
- 1 Amp
- 10 Amp

On the most sensitive range, currents down to 20 μ A can be measured. A precision full-scale DC offset capability is included, enabling the measurement of small AC or DC current changes in the presence of a DC current up to 10A.

The system analog output is available at a front panel BNC connector, which enables measurement of signals over a wide bandwidth of 0 to 600 HZ in the DC mode and 20 to 600 Hz in the AC mode.

The Model 428E console features a bright 4 1/2 digit LED display and is compatible with Hewlett Packard 428 style clip-on current probes and magnetometer probes.



FRONT PANEL



REAR PANEL

Magnetometer Probes

Two magnetic field measuring probes are available as system options:

- One probe enables transverse field measurement
- One probe enable axial field measurements

When using these probes, the three fullscale ranges correspond to 100 mG, 1 G and 10 G. The system noise level with the magnetometer probes is 10^{-4} G rms/Hz 1/2.

PERFORMANCE

Offset	Coarse: ± 10 Amp Fine: ± 1 Amp Zero: ± 100 mA
Full Scale Ranges Current Probe	DC: 10A, 1A, 100mA, and 10mA, all full-scale pushbutton selectable AC: 7.07A, 0.707A, 70.7mA, and 7.07mA, all RMS full-scale selectable
Full Scale Ranges Magnetometer Probe	DC: 10G, 1G, 100mG, and 10mG, all full-scale pushbutton selectable AC: 7.07G, 0.707G, 70.7mG, and 7.07mG, all full-scale pushbutton selectable
DC Accuracy	$\pm 1\%$ of reading ± 4 counts
AC Accuracy	$\pm 1\%$ of reading @ 60 Hz for all ranges except 10 mA $\pm 5\%$ of reading @ 60 Hz for 10 mA range

ELECTRICAL

Power (selectable)	110-120V, 60Hz, 1 Amp or 208-220V, 50-60Hz, 1 Amp
Analog Output	Front panel BNC connector ± 10 V for full-scale reading; BNC output impedance = 2K ohm
Digital Output	Serial USB
Frequency Response Range	10 Amp: DC to 500 Hz @ -3dB 1 Amp: DC to 500Hz @ -3dB 100 mAmp: DC to 500 Hz @ -3dB

PHYSICAL

Width	8.5" (215.9 mm)
Length	15" (381 mm)
Height	4" (101.6 mm)
Weight	8.5 lbs (3.856 kg)
Display	4 1/2 digit LED, single indicator LEDs for function selected

Specifications are subject to change without notice.