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Technical Temperature Meter PCE-EM 886

PCE-EM 886 is a portable handheld multifunctional digital device used to measure sound, light, humidity, temperature, AC / DC current, electrical resistance, capacitance and frequency. This multipurpose, all-in-one measuring instrument has myriad applications in a plethora of industries and environments.

As a sound level meter, the measuring device uses a built-in electric condenser microphone to measure noise in factories, schools, offices, airports and more. It can also be used to check the acoustics of studios, auditoriums and sound system installations.

As a light meter, the device uses a built-in silicon diode to measure illuminance and is fully cosine corrected for the angular incidence of light.

For temperature measurement, the device uses an external semiconductor sensor with a type K thermocouple (included in delivery contents).

Humidity measurements are made via a built-in sensor designed for evaluating indoor environmental conditions.

As an electrical multimeter, the device performs AC / DC voltage, current, continuity and diode measurements and testing.

- Large, easy-to-read LCD display with backlight
- Hold, Hz%, range and relative measurement functions
- Low battery indication icon
- Compact, portable design
- Auto-ranging electrical multimeter
- Delivery contents include an external temperature sensor with type K thermocouple and a set of electrical test leads
- Optional external infrared temperature sensor available for purchase separately (see accessories for additional details)

Technical specifications

Sound

Measurement range	35 ... 100 dB
Resolution	0.1 dB
Frequency range	30 Hz ... 10 kHz
Frequency weighting	C
Time weighting	Fast
Accuracy	± 5 dB at 94 dB, 1 kHz sine wave
Microphone	Internal, electric condenser

Light

Measurement range	4,000 ... 40,000 lux (40,000 lux range reading x 10)
Overrate display	Highest digit of "OL"
Accuracy	± 5% measurement value + 10 digits (calibrated to standard incandescent lamp at color temperature 2856k)
Repeatability	± 2%
Temperature characteristic	± 0.1% / °C
Sensor	Internal, silicon photodiode with filter

Humidity

Measurement range	33 ... 99% relative humidity (RH)
Resolution	1% RH
Accuracy	± 3% measurement value + 5% RH

Temperature

Measurement range	Indoor: 0 ... 50°C / 32 ... 122°F Type K: -20 ... 1300°C / -4 ... 2372°F
Resolution	Indoor and Type K to 400°C / 752°F : 0.1° Type K to 1300°C / 2372°F : 1°
Accuracy	± 3% measurement value ± 3°C / ± 37.4°F

Electrical

AC / DC current (auto-ranging for μA and

mA)	400- μA / 4000- μA / 40-mA / 400-mA / 10 A
Measurement range	0.1- μA / 1- μA / 10- μA / 100- μA / 10-mA
Resolution	$\pm 1\%$ measurement value ± 2 digits (up to 40-mA DC)
Accuracy	$\pm 1.2\%$ value ± 2 digits (up to 400-mA DC / 40-mA AC) $\pm 1.5\%$ value ± 2 digits (up to 400-mA AC) $\pm 2\%$ value ± 5 digits (up to 10 A)

Resistance (auto-ranging)

Measurement range	400 Ω / 4 k Ω / 40 k Ω / 400 k Ω / 4 M Ω / 40 M Ω
Resolution	0.1 Ω / 1 Ω / 10 Ω / 100 Ω / 10 k Ω / 1 M Ω
Accuracy	$\pm 1.5\%$ value ± 4 digits (up to 400 Ω) $\pm 1.5\%$ value ± 2 digits (up to 400 k Ω) $\pm 2\%$ value ± 2 digits (up to 4 M Ω) $\pm 2.5\%$ value ± 2 digits (up to 40 M Ω)

Capacitance (auto-ranging)

Measurement range	50 nF / 500 nF / 5 μF / 50 μF / 100 μF
Resolution	10 pF / 0.1 nF / 1 nF / 10 nF / 0.1 μF
Accuracy	$\pm 5\%$ value ± 20 digits (up to 50 nF) $\pm 3\%$ value ± 5 digits (up to 50 μF) $\pm 4\%$ value ± 5 digits (up to 100 μF)

Frequency (auto-ranging)

Measurement range	5 Hz / 50 Hz / 500 Hz / 5 kHz / 50 kHz / 500 kHz / 10 MHz
Resolution	0.001 Hz / 0.01 Hz / 0.1 Hz / 1 Hz / 10 Hz / 100 Hz / 1 kHz
Accuracy	$\pm 1.2\%$ value ± 3 digits (up to 500 kHz) $\pm 1.5\%$ value ± 4 digits (up to 10 MHz)

General specifications

Display	LCD
Overrange indicator	"OL"
Measurement rate	3 times per second, nominal
Operating conditions	0 ... 40°C / 32 ... 104°F / < 70% RH
Storage conditions	-10 ... 60°C / 14 ... 140°F / < 80% RH
Power supply	1 x 9V battery
Meter dimensions	170 x 78 x 48 mm / 6.6 x 3 x 1.8 in
Weight	335 g / < 1 lb

Delivery contents:

- 1 x PCE-EM 886 multifunction light meter
- 1 x Temperature sensor with type K thermocouple
- 1 x Set of electrical test leads
- 1 x 9V battery
- 1 x User manual