

# Digital Multimeter PCE-HDM 15



**Digital multimeter PCE-HDM 15**

**Digital multimeter with thermal imager / TRUE RMS / Resistance measurement / Current measurement / Voltage measurement / Rechargeable battery / TFT color display / Bluetooth interface / LED lamp**

The digital multimeter PCE-HDM 15 is a universal and robust measuring device. With this digital multimeter, voltages, currents, resistances and many other electrical quantities can be measured. As an additional function with the digital multimeter, a Bluetooth connection with a smartphone can be established. The digital multimeter automatically sends live all measured data to a smartphone. The smartphone itself becomes a data logger. From there, the data measured and sent by the digital multimeter can be analyzed and, for example, transmitted to a PC or sent.

Thanks to the built-in thermal imaging camera in the digital multimeter, temperatures of surfaces can also be measured. This allows temperature measurements from a distance with the digital multimeter. The sturdy rubber holster makes the digital multimeter robust in use in the workshop, on the construction site or in schools for training purposes.

- ▶ Multimeter with 11 measuring functions
- ▶ Thermal camera
- ▶ Bluetooth interface
- ▶ Rechargeable battery
- ▶ Color TFT display
- ▶ TRMS measurement

# Specifications

## Type of measurement

| AC voltage AC V TRMS | Measuring range | Resolution | Accuracy               |
|----------------------|-----------------|------------|------------------------|
|                      | 4,000V          | 0.001V     | ± 0.5% + 5 Dgt         |
|                      | 40.00V          | 0.01V      | <b>at 50 ... 60 Hz</b> |
|                      | 400.0V          | 0.1V       | ± 2.5% + 5 Dgt         |
|                      | 600V            | 1V         | <b>at 61 ... 1 kHz</b> |

Input resistance: > 9 MΩ, The accuracy refers to the measuring range between 10 ... 100% with a sine wave, accuracy of the PEAK function ± 10%, PEAK reaction time 1 ms, overvoltage protection; 600V AC / DC rms

| DC voltage DC V | Measuring range | Resolution | Accuracy       |
|-----------------|-----------------|------------|----------------|
|                 | 400.0 mV        | 0.1 mV     | ± 0.8% + 8 Dgt |
|                 | 4,000V          | 0.001V     | ± 0.5% + 5 Dgt |
|                 | 40.00V          | 0.01V      | ± 0.8% + 5 Dgt |
|                 | 400.0V          | 0.1V       | ± 0.8% + 5 Dgt |
|                 | 600V            | 1V         | ± 0.8% + 5 Dgt |

Input resistance: > 10 MΩ, overvoltage protection; 600V AC / DC rms

| AC and DC AC + DC TRMS | Measuring range | Resolution | Accuracy               |
|------------------------|-----------------|------------|------------------------|
|                        | 4,000V          | 0.001V     |                        |
|                        | 40.00V          | 0.01V      | ± 2.5% +20             |
|                        | 400.0V          | 0.1V       | Dgt                    |
|                        | 600V            | 1V         | <b>at 50 ... 1 kHz</b> |

Input resistance: > 10 MΩ, overvoltage protection; 600V AC / DC rms

| AC AC TRMS | Measuring range | Resolution | Accuracy       |
|------------|-----------------|------------|----------------|
|            | 200.0 μA        | 0.1 μA     | ± 2.0% + 5 Dgt |
|            | 4000-mA         | 1-mA       | ± 2.5% + 5 Dgt |
|            | 10.00 a         | 0.01-mA    | ± 2.5% + 5 Dgt |

The accuracy refers to the measuring range between 5 ... 100% with a sine wave and a frequency between 50 ... 1 kHz. Accuracy of the PEAK function: ± 10%

| AC and DC AC + DC TRMS | Measuring range | Resolution | Accuracy               |
|------------------------|-----------------|------------|------------------------|
|                        | 200.0 μA        | 0.1 μA     |                        |
|                        | 4000-mA         | 1-mA       | ± 3.0% +20             |
|                        | 10.00 a         | 0.01-mA    | Dgt                    |
|                        |                 |            | <b>at 50 ... 1 kHz</b> |

| DC DC A | Measuring range | Resolution | Accuracy       |
|---------|-----------------|------------|----------------|
|         | 200.0 μA        | 0.1 μA     | ± 1.5% + 5 Dgt |
|         | 4000-mA         | 1-mA       | ± 2.0% + 5 Dgt |
|         | 10.00 a         | 0.01-mA    | ± 2.0% + 5 Dgt |

# More information

## More product info



## Similar products



Subject to change

|                   |          |          |                |
|-------------------|----------|----------|----------------|
| <b>Resistance</b> | 400.0 Ω  | 0.1 Ω    | ± 1.0% + 10dgt |
|                   | 4,000 kΩ | 0.001 kΩ | ± 1.0% + 5 Dgt |
|                   | 40.00 kΩ | 0.01 kΩ  | ± 1.0% + 5 Dgt |
|                   | 400.0 kΩ | 0.1 kΩ   | ± 1.0% + 5 Dgt |
|                   | 4,000 MΩ | 0.001mΩ  | ± 1.0% + 5 Dgt |
|                   | 40.00 MΩ | 0.01 MΩ  | ± 2.5% + 10dgt |

Overvoltage protection; 600V AC / DC rms

| <b>Capacity</b> | <b>Measuring range</b> | <b>Resolutio n</b> | <b>Accuracy</b> |
|-----------------|------------------------|--------------------|-----------------|
|                 | 40.00 n                | 0.01 nF            | ± 3% + 20 Dgt   |
|                 | 400.0 nF               | 0.1 nF             | ± 3% + 8 Dgt    |
|                 | 4,000 μF               | 0.001 μF           | ± 3% + 8 Dgt    |
|                 | 40.00 μF               | 0.01 μF            | ± 3% + 8 Dgt    |
|                 | 400.0 μF               | 0.1 μF             | ± 3% + 8 Dgt    |
|                 | 4000 μF                | 1 μF               | ± 3% + 20 Dgt   |

Overvoltage protection; 600V AC / DC rms

| <b>Frequency</b> | <b>Measuring range</b> | <b>Resolutio n</b> | <b>Accuracy</b> |
|------------------|------------------------|--------------------|-----------------|
|                  | 40.00 Hz               | 0.01 Hz            |                 |
|                  | 400.0 Hz               | 0.1 Hz             |                 |
|                  | 4,000 kHz              | 0.001 kHz          |                 |
|                  | 40.00 kHz              | 0.01 kHz           | ± 0.2% 5 Dgt    |
|                  | 4,000 kHz              | 0.1 kHz            |                 |
|                  | 4,000 Mhz              | 0.001 MHz          |                 |
|                  | 10.00 MHz              | 0.01 Mhz           |                 |

Overvoltage protection; 600V AC / DC rms

Sensitivity: > 2 Vrms (at 20 ... 80% duty cycle and f < 100 kHz)  
> 5 Vrms (at 20 ... 80% duty cycle and f > 100 kHz)

| <b>Duty cycle (duty cycle)</b> | <b>Measuring range</b> | <b>Resolutio n</b> | <b>Accuracy</b> |
|--------------------------------|------------------------|--------------------|-----------------|
|                                | 10.0 ... 99.0%         | 0.1%               | ± 1.2% + 2 Dgt  |

Measurement at a frequency between 40 Hz ... 10 kHz, amplitude ± 5V (100 μs ... 100 ms)

Diode test < 1.5-mA / 3.3V DC  
Continuity test Signal tone at > 50 Ω, test current < 0.35-mA

**Specifications for the thermal imager**

Field of view (FOV) 21° x 21°  
Smallest focus distance 0.5 m / 1.6 ft

Subject to change

|                                    |   |
|------------------------------------|---|
| Spatial resolution (IFOV)          | 4,53 mrad   |
| IR resolution                      | 80 x 80 pixels  |
| Temperature sensitivity            | < 0.1°C / 0.18°F at 30°C (86°F)   |
| NETD                               | 100 mK  |
| Image frequency                    | 50 Hz   |
| Focus                              | Focus free  |
| Focal length                       | 7.5 mm  |
| Sensor type                        | Uncooled microbolometer   |
| Spectral                           | 8 ... 14 μm   |
| Measuring range object temperature | -20 ... 260°C / -4 ... 500°F  |
| Measurement accuracy               | ± 3°C / 5.4°F, or 3% of the measured value,<br>at 10 ... 35°C / 50 ... 95°F ambient<br>temperature<br>and > 0°C / 32°F object temperature |

#### **Other specifications**

|                         |  |
|-------------------------|--|
| Display                 | 4000 digits with bar graph, color TFT  |
| Measuring rate          | Three measurements per second  |
| Automatic shutdown      | 15 ... 60 minutes (adjustable and<br>deactivatable)  |
| Power supply battery    | 3.7V, 1400-mAh Li-ion battery, installed   |
| Power supply micro USB  | 5V / 1A  |
| Fuses                   | FF 10 A / 600V   |
| Operating conditions    | 5 ... 40°C / 41 ... 104°F<br>< 80% rh  |
| Storage conditions      | - 20°C ... 60°C / -4 ... 140°F<br>< 80% rh   |
| Reference temperature   | 18 ... 28°C, 64 ... 82°F   |
| Dimensions              | 175 x 85 x 55 mm / 7 x 3 x 2 in  |
| Weight                  | 540 g / 1.2 lbs  |
| Max. operating altitude | 2000 m / 6561 ft above sea level   |
| Electric security       | Double insulation according to EN61010-1<br>EMC: IEC / EN 61326-1<br>CAT III 600V / CAT IV 3000V<br>Pollution degree 2 |

Subject to change