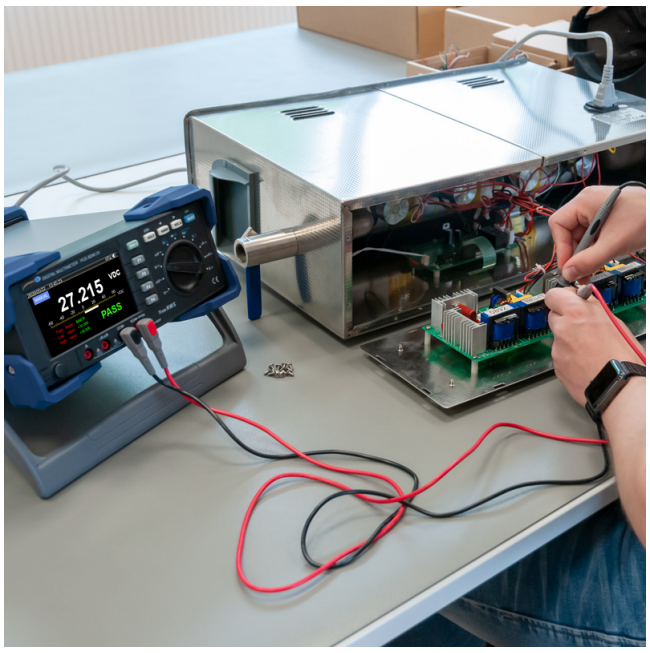
# Digital Multimeter PCE-BDM 20


**Digital Multimeter PCE-BDM 20**

**Digital multimeter for the stationary workplace / Various measurement functions / High measuring ranges / PASS / FAIL function for component testing / HOLD function /Connection of two thermocouples simultaneously / Software / USB interface**

The digital multimeter is a multimeter for a stationary workplace. In addition to measuring current, voltage and resistance, the digital multimeter can also use two thermocouples to measure the temperature and also determine the conductivity. So the digital multimeter can perform a variety of different measurement tasks. A direct connection to a PC can be established via the USB interface on the back of the digital multimeter. The software from the digital multimeter can then be used to carry out live analyzes using graphics and tables.

Another special feature of the digital multimeter is the PASS / FAIL function. With this function, target ranges for the measured values can be set for each measuring function. Depending on the actual measured value, a "PASS" (passed) or a "FAIL" (failed) is then shown on the display by the digital multimeter. The digital multimeter is therefore used, for example, in quality control. With the help of the adjustable handle, the digital multimeter can be adjusted for ergonomic use by the operator. The handle of the digital multimeter can also be used to change the workplace. The housing of the digital multimeter has a rubberized edge protection, which prevents damage.

- Table multimeter with reinforced housing
- USB interface for PC connection
- PASS / FAIL function for quality control
- extensive measuring functions
- Relate the measured value
- Measured value with bar graph display

Subject to change

# Specifications

**AC voltage**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 60 mV | 0.001 mV | ± (0.6% 60 digits) @ 45 Hz ... 1 kHz |
| 600 mV | 0.01 mV | ± (0.3% 30 digits) @ 45 Hz ... 1 kHz |
| 6V | 0.0001V | ± (0.3% 30 digits) @ 45 Hz ... 1 kHz |
| 60V | 0.001V | ± (0.3% 30 digits) @ 45 Hz ... 1 kHz |
| 600V | 0.01V | ± (0.4% 30 digits) @ 45 Hz ... 1 kHz |
| 1000V | 0.1V | ± (0.6% 30 digits) @ 45 Hz ... 1 kHz |

Input impedance:> 10MΩ

Surge protection: 1000V

Display: True RMS in the measuring range of 10 ... 100% of the respective measuring range

**DC voltage**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 60 mV | 0.001 mV | ± (0.025% + 20 digits) |
| 600 mV | 0.01 mV | ± (0.025% + 5 digits) |
| 6V | 0.0001V | ± (0.025% + 5 digits) |
| 60V | 0.001V | ± (0.025% + 5 digits) |
| 600V | 0.01V | ± (0.003% + 5 digits) |
| 1000V | 0.1V | ± (0.003% + 5 digits) |

Input impedance:> 10MΩ

Surge protection: 1000V

**AC voltage + DC voltage**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 60 mV | 0.001 mV | ± (1% + 80 digits) @ 50 Hz ... 1 kHz |
| 600 mV | 0.01 mV | ± (1% + 80 digits) @ 50 Hz ... 1 kHz |
| 6V | 0.0001V | ± (1% + 80 digits) @ 50 Hz ... 1 kHz |
| 60V | 0.001V | ± (1% + 80 digits) @ 50 Hz ... 1 kHz |
| 600V | 0.01V | ± (1% + 80 digits) @ 50 Hz ... 1 kHz |
| 1000V | 0.1V | ± (1.2% + 80 digits) @ 50 Hz ... 1 kHz |

Input impedance:> 10MΩ

Surge protection: 1000V

Display: True RMS in the measuring range of 10 ... 100% of the respective measuring range

**Alternating current**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 600 µA | 0.01 µA | ± (0.6% + 40 digits) @ 45 Hz ... 1 kHz |
| 6000 µA | 0.1 µA | ± (0.6% + 20 digits) @ 45 Hz ... 1 kHz |
| 60-mA | 0.001-mA | ± (0.6% + 40 digits) @ 45 Hz ... 1 kHz |
| 600-mA | 0.01-mA | ± (0.6% + 20 digits) @ 45 Hz ... 1 kHz |
| 10 A | 0.001 A | ± (1% + 20 digits) @ 45 Hz ... 1 kHz |

Display: True RMS in the measuring range of 10 ... 100% of the respective measuring range

Overload protection: µA and mA Measurement: Fuse F 0.6 A 1000V Ø6 x 32 mm

10 A measurement: F 11 A 1000V Ø 10 x 38 mm

# More information

**More product info**

**Similar products**

Subject to change

When measuring almost 20 A, the measurement time should not be longer than 30 seconds.

After the measurement, the measuring device must rest for approx. 10 minutes.

**Direct current**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 600 µA | 0.01 µA | ± (0.8% + 20 digits) |
| 6000 µA | 0.1 µA | ± (0.8% + 10 digits) |
| 60-mA | 0.001-mA | ± (0.8% + 20 digits) |
| 600-mA | 0.01-mA | ± (0.15% + 10 digits) |
| 10 A | 0.001 A | ± (0.5% + 10 digits) |

Overload protection: µA and mA Measurement: Fuse F 0.6 A 1000V Ø6 x 32 mm

10 A measurement: F 11 A 1000V Ø10 x 38 mm

A measurement of almost 20 A should not take longer than 30 seconds.

After the measurement, the measuring device must rest for approx. 10 minutes.

**AC + DC**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 600 µA | 0.01 µA | ± (0.8% + 40 digits) @ 50 Hz ... 1 kHz |
| 6000 µA | 0.1 µA | ± (0.8% + 20 digits) @ 50 Hz ... 1 kHz |
| 60-mA | 0.001-mA | ± (0.8% + 40 digits) @ 50 Hz ... 1 kHz |
| 600-mA | 0.01-mA | ± (0.8% + 20 digits) @ 50 Hz ... 1 kHz |
| 10 A | 0.001 A | ± (1.2% + 20 digits) @ 50 Hz ... 1 kHz |

Display: True RMS in the measuring range of 10 ... 100% of the respective measuring range

Overload protection: µA and mA Measurement: Fuse F 0.6 A 1000V Ø6 x 32 mm

10 A measurement: F 11 A 1000V Ø10 x 38 mm

A measurement of almost 20 A should not take longer than 30 seconds.

After the measurement, the measuring device must rest for approx. 10 minutes.

**Resistance**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 600 Ω | 0.01Ω | In REL mode: ± (0.05% + 10 digits) |
| 6 kΩ | 0.0001 kΩ | ± (0.05% + 2 digits) |
| 60 kΩ | 0.001 kΩ | ± (0.05% + 2 digits) |
| 600 kΩ | 0.01 kΩ | ± (0.05% + 2 digits) |
| 6 MΩ | 0.0001 MΩ | ± (0.3% + 10 digits) |
| 60 MΩ | 0.001 MΩ | ± (2% +10 digits) |

Surge protection: 1000 V

With a measuring range of 60 MΩ the ambient humidity should be < 50%.

**Conductivity**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 60 nS | 0.01 nS | ± (2% + 10 digits) |

Surge protection: 1000V

The ambient humidity for the measuring range should be < 50%.

**Capacity measurement**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 6 nF | 0.001 nF | ± (3% + 10 digits) |
| 60 nF | 0.01 nF | ± (2.5% + 5 digits) |
| 600 nF | 0.1 nF | ± (2% + 5 digits) |
| 6 µF | 0.001 µF | ± (2% + 5 digits) |
| 60 µF | 0.01 µF | ± (2% + 5 digits) |
| 600 µF | 0.1 µF | ± (2% + 5 digits) |
| 6 mF | 1 µF | ± (5% + 5 digits) |
| 60 mF | 10 µF | for reference only |

Surge protection: 1000 V

**Temperature**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| -40 ... 40°C | 1°C | ± (2.0% + 30 digits) |
| 40 ... 400°C | 1°C | ± (1.0% + 30 digits) |
| 100 ... 1000°C | 1°C | ± 2.5% |
| -40 ... 104°F | 1.8°F | ± (2.5% + 50 digits) |
| 104 ... 752°F | 1.8°F | ± (1.5% + 50 digits) |
| 752 ... 1832°F | 1.8°F | ± 2.5% |

Surge protection: 1000V

Two-channel temperature measurement

Temperature sensor: Type K only applies to the measurement of temperatures below 230°C / 446°F

**Frequency measurement**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 60 Hz | 0.001 Hz | ± (0.02% + 8 digits) |
| 600 Hz | 0.01 Hz | ± (0.01% + 5 digits) |
| 6 kHz | 0.0001 kHz | ± (0.01% + 5 digits) |
| 60 kHz | 0.00 1kHz | ± (0.01% + 5 digits) |
| 600 kHz | 0.01 kHz | ± (0.01% + 5 digits) |
| 6 MHz | 0.0001 MHz | ± (0.01% + 5 digits) |
| 60 MHz | 0.00 1MHz | ± (0.01% + 5 digits) |

Surge protection: 1000V

Input amplitude: 10 Hz ... 30 MHz: 600 mV <a <30 Vrm,> 30 MHz: not specified

**Duty cycle**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 10 ... 90% @ | 0.01% | ± (1.2% + 30 digits) |
| (10Hz ... 2kHz) | | |

Surge protection: 1000V

Rise time: <1 µs, the signal is centered on the trigger level

**Pulse width**

| Measuring range | Resolution | Accuracy |
|---|---|---|
| 250 mS | 0.001 ... 0.1 mS | ± (1.2% + 30 digits) |

Surge protection: 1000V

Rise time: < 1 µs, the signal is centered on the trigger level

10 Hz ... 200 kHz: pulse width > 2 µs

The pulse range is limited by the frequency of the signal

Subject to change

**Continuity test**

| Resolution | Functional description |
|---|---|
| 0.01 Ω | Short circuit alarm: from < 10 Ω, alarm switches off from > 50 Ω |

Surge protection: 1000V

**Diode test**

| | |
|---|---|
| 0.0001V | The open circuit voltage is approx. 3V and the measurable voltage drop of the PN transition is < 3V A continuous beep indicates the short circuit of the PN junction. The typical tension of the silicon PN junction is between 0.5 ... 0.8V. |

Surge protection: 1000V

Further specifications on accuracy can be found in the operating instructions

**Further specification**

| | |
|---|---|
| Interface | USB interface |
| Supply voltage | 100 ... 240V adjustable |
| Environmental conditions | 23°C / 73.4°F ± 5°C / 41°F, < 75% RH |
| Dimensions | 310 x 240 x 120 mm / 12.2 x 9.4 x 4.7 in |
| Weight | Approx. 3713 g / 8.2 lbs |