

Digital Multimeter PCE-DC 50



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Clamp meter with true rms measurement / AC current measurement / Voltage measurement / Temperature measurement / Bluetooth interface / Rubberized housing / Display hold / Automatic switch-off / Test lead max. 48 mm / Many measuring functions

The clamp meter PCE-DC 50 is a measuring device for measuring currents of up to 1000 A AC / DC. In addition to current measurement, the clamp can also measure and test voltage, frequency, duty cycle, resistance, continuity test, capacitors and diodes. The enclosure diameter of the clamp is 48 mm. Thus, you can also perform measurements on cables with a large cross-section. Thanks to the NCVD function, it is possible to use the measuring clamp to check contactlessly whether a voltage is applied to a cable.

This clamp has an integrated Bluetooth interface. Via this Bluetooth interface a connection to the PC or the smartphone can be established with the measuring pliers. This allows the measured data of the measuring clamp to be stored and analyzed. If the PC does not have a Bluetooth interface to connect the measuring pliers, a suitable Bluetooth adapter is included in the delivery.

Another special feature of the measuring clamp is the measurement of temperatures. Two type-K thermocouples can be connected to the measuring clamp and read out at the same time. Here, temperatures of up to 1000°C / 1832°F can be measured. The housing of the measuring pliers consists of a robust plastic, which is additionally coated with a rubber coating. Thanks to the additional rubber coating, the measuring pliers can easily withstand impacts.

- ▶ Sample rate 2 Hz
- ▶ Cover on the test sockets
- ▶ AC A and AC V measurement
- ▶ Bluetooth interface
- ▶ Cable diameter max. 48 mm
- ▶ Temperature measurement via 2 thermocouples
- ▶ Automatic shutdown
- ▶ Non-contact voltage detection

Specifications

Current measurement DC A

Measuring range	Resolution	Accuracy (by Mw.)
	n	
500 μ A	0.01 μ A	\pm (1% + 6 digits)
5000 μ A	0.1 μ A	\pm (1% + 6 digits)
50 A	0.01A	\pm (2.5% + 5 digits)
1000 A	0.1 A	\pm (2.5% + 30 digits)

Current measurement AC A

Measuring range	Resolution	Accuracy (by Mw.)
	n	
500 μ A	0.01 μ A	\pm (1.5% + 30 digits)
5000 μ A	0.1 μ A	\pm (1.5% + 30 digits)
50 A	0.01A	\pm (2.5% + 30 digits)
1000 A	0.1 A	\pm (2.8% + 30 digits)

Note: For AC A measurements, the specification of accuracy refers to the range of 5% to 100% of the measuring range

Resistivity

Measuring range	Resolution	Accuracy (by Mw.)
	n	
500 Ω	0.01	\pm (1% + 9 digits)
5 k Ω	0.0001	\pm (1% + 5 digits)
50 k Ω	0.001	\pm (1% + 5 digits)
500 k Ω	0.01	\pm (1% + 5 digits)
5 M Ω	0.0001	\pm (3% + 10 digits)
50 M Ω	0.001	\pm (3.5% + 10 digits)

Voltage measurement DC V

Measuring range	Resolution	Accuracy (by Mw.)
	n	
500 mV	0.01 mV	\pm (0.1% + 8 digits)
5V	0.0001V	\pm (0.1% + 4 digits)
50V	0.001 V	\pm (0.1% + 4 digits)
500V	0.01V	\pm (0.1% + 4 digits)
600V	0.1V	\pm (0.5% + 4 digits)

Voltage measurement AC V (50 Hz

... 1000 Hz)

measuring range	Resolution	Accuracy (by Mw.)
	n	
500 mV	0.01 mV	\pm (0.8% + 9 digits) (at 50 Hz / 60 Hz)
5V	0.0001V	\pm (1% + 30 digits)
50V	0.001 V	\pm (1% + 30 digits)
500V	0.01V	\pm (1% + 30 digits)

Subject to change



Note: The accuracy specification for AC V measurements refers to the range of 5% to 100% of the measuring range

Capacitance measurement

Measuring range	Resolutio Accuracy (by Mw.)
	n
500 nF	0.01 ± (3.5% + 40 digits)
5000 nF	0.1 ± (3.5% + 10 digits)
50 µF	0.001 ± (3.5% + 10 digits)
500 µF	0.01 ± (3.5% + 10 digits)
5mF	0.0001 ± (5% + 10 digits)

Frequency measurement

Measuring range	Resolutio Accuracy (by Mw.)
	n
50 Hz	0.001 ± (0.3% + 2 digits)
500 Hz	0.01 ± (0.3% + 2 digits)
5 kHz	0.0001 ± (0.3% + 2 digits)
50 khz	0.001 ± (0.3% + 2 digits)
500 kHz	0.01 ± (0.3% + 2 digits)
5 Mhz	0.0001 ± (0.3% + 2 digits)
10 MHz	0.001 ± (0.3% + 2 digits)

Duty cycle

Measuring range	Resolutio Accuracy (by Mw.)
	n
5% ... 95%	0.1 ± (1% + 2 digits) (from the measured value)

Pulse width: 100 µs ... 100 ms

Frequency: 10 Hz ... 10 kHz

Temperature

Measuring range	Resolutio Accuracy (by Mw.)
	n
-100°C ... 1000°C / -148 ... 1832°F	0.1 ± (1% + 2.5°C / 4.5°F)

General technical data

Conductor diameter	Max. 48 mm
Display	Two lines 50,000 digits
Continuity test	50 ohms / < 50-mA
Diode test	0.3-mA / 2.8V DC
Battery indicator	Battery icon when battery low
Overrange	OL, if measuring range exceeded
Sample rate	2 Hz
Interface	Bluetooth
Peak detection	> 1 ms
Thermocouple	Type K
Fuse	500-mA ceramic quick-acting
AC bandwidth (AC A / AC V)	50 Hz ... 400 Hz
AC measurement	True RMS

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Operating conditions	5°C ... 40°C / 41 ... 104°F, max. 80% RH at 31°C
Storage conditions	-20°C ... 60°C / -4 ... 140°F, max. 80% rh
Power supply	9V block battery
Automatic shutdown	After about 30 minutes
Dimensions (W x H x D)	230 x 76 x 40 mm / 9 x 3 x 1.6 in
Weight	315 g / < 1 lb
Security	IEC 1010-1 (2001): EN 61010-1 (2001) CAT III 600V CAT II 1000V Degree of pollution 2

Subject to change

