

# OSCILLOSCOPE

PCE-OC 50



- » **2-channel oscilloscope**
- » **bandwidth: 10 MHz, sampling rate: 50 MS/s**
- » **multimeter functions**
- » **voltage, current, resistance**
- » **capacitance, non-contact voltage detection**
- » **signal generator: 1 Hz ... 2 MHz**

This innovative 3-in-1 oscilloscope is the perfect combination of a powerful oscilloscope, a versatile multimeter and a signal generator. It has been specially developed for electronics technicians, engineers and hobby users who are looking for a compact, versatile and user-friendly device to carry out their measurement tasks efficiently.

The 2-channel oscilloscope offers a bandwidth of 10 MHz and a sampling rate of 50 MS/s, which enables signals to be reliably recorded and analysed. Whether troubleshooting circuits, observing waveforms or analysing transients, this oscilloscope delivers clear and precise results. Thanks to its high resolution and simple operation, even complex signal curves can be easily visualised. The oscilloscope image can be saved to the internal memory as a screenshot and transferred to a computer via the USB-C interface.

The device also has extensive multimeter functions that cover a wide range of measurements. These include voltage measurements (DC and AC voltage), current measurements (DC and AC current), resistance measurements, capacitance measurements and diode test. Another practical feature is the integrated non-contact voltage detection, which allows you to reliably detect live wires.

The signal generator ideally complements the device by generating signals within a range of 1 Hz to 2 MHz. It supports various signal shapes such as sine, square, triangle, half wave, full wave, noise and DC signals.

## Specification

### Direct voltage DC

Measurement range up to 0 ... 9,999 V

Resolution 0,001 V

Accuracy  $\pm 0.5\%$  of Rd + 3 digits

### Direct voltage DC

Measurement range up to 10 ... 99,99 V

Resolution 0,01 V

Accuracy  $\pm 0.5\%$  of Rd + 3 digits

### Direct voltage DC

Measurement range up to 100 ... 999,9 V

Resolution 0,1 V

Accuracy  $\pm 0.5\%$  of Rd + 3 digits

### Direct current DC

Measurement range up to 0 ... 9999  $\mu$ A

Resolution 1  $\mu$ A

Accuracy  $\pm 1.2\%$  of Rd + 3 digits

### Direct current DC

Measurement range up to 10 ... 99,99 mA

Resolution 0,01 mA

Accuracy  $\pm 1.2\%$  of Rd + 3 digits

### Direct current DC

Measurement range up to 100 ... 999,9 mA

Resolution 0,1 mA

Accuracy  $\pm 1.2\%$  of Rd + 3 digits

### Direct current DC

Measurement range up to 1 ... 9,999 A

Resolution 0,001 A

Accuracy  $\pm 1.2\%$  of Rd + 3 digits

### Capacity

Measurement range up to 0 ... 9,999 nF

Resolution 0,001 nF

Accuracy  $\pm 2\%$  of Rd + 5 digits

### Capacity

Measurement range up to 10 ... 99,99 nF

Resolution 0,01 nF

Accuracy  $\pm 2\%$  of Rd + 5 digits

### Capacity

Measurement range up to 100 ... 999,9 nF

### General technical data

Measuring functions Diode test, Continuity, non-contact voltage detection

Display type LC colour display

Display size 2,8 Inch

Display resolution 320x240

Storage medium Internal memory

Storage capacity 8 MB

Memory information oscilloscope image saved as a BMP file

Interface USB-C, BNC

Operating time 6 h

Automatic power-off from...to 5 ... 30 min.

Automatic power-off can be deactivated Yes

Safety standard CAT III 1000V, CAT IV 600 V

Fuse(s) 10 A

Trigger input Mode: auto, normal, single  
Edge: rising, falling

Menu language English (GB), English, Portuguese, German, Russian, Japanese

Protection class (device) IP20

Power supply 5 VDC / 1 A

(Rechargeable) battery 1 x 3,7 V internal, Lithium-ion polymer battery

Capacity 3000 mAh

Operating conditions 0 ... 50 °C, 0 ... 90 % RH

Storage conditions 0 ... 50 °C, 0 ... 90 % RH

Dimensions ( L x W x H ) 170 x 90 x 35 mm

Weight 300 g

Resolution	0,1 nF
Accuracy	±2 % of Rd + 5 digits
<b>Capacity</b>	
Measurement range up to	1 ... 9,999 µF
Resolution	0,001 µF
Accuracy	±2 % of Rd + 5 digits
<b>Capacity</b>	
Measurement range up to	10 ... 99,99 µF
Resolution	0,01 µF
Accuracy	±2 % of Rd + 5 digits
<b>Capacity</b>	
Measurement range up to	100 ... 999,9 µF
Resolution	0,1 µF
Accuracy	±2 % of Rd + 5 digits
<b>Capacity</b>	
Measurement range up to	1 ... 9,999 mF
Resolution	0,001 mF
Accuracy	±2 % of Rd + 20 digits
<b>Capacity</b>	
Measurement range up to	10 ... 99,99 mF
Resolution	0,01 mF
Accuracy	±2 % of Rd + 20 digits
<b>AC voltage</b>	
Measurement range up to	0 ... 9,999 V
Resolution	0,001 V
Accuracy	±1 % of Rd + 3 digits
<b>AC voltage</b>	
Measurement range up to	10 ... 99,99 V
Resolution	0,01 V
Accuracy	±1 % of Rd + 3 digits
<b>AC voltage</b>	
Measurement range up to	100 ... 750 V
Resolution	0,1 V
Accuracy	±1 % of Rd + 3 digits
<b>Alternating current AC</b>	
Measurement range up to	0 ... 9999 µA
Resolution	1 µA
Accuracy	±1,5 % of Rd. + 3 digits
<b>Alternating current AC</b>	

Measurement range up to 10 ... 99,99 mA

Resolution 0,01 mA

Accuracy  $\pm 1,5\%$  of Rd. + 3 digits

#### Alternating current AC

Measurement range up to 100 ... 999,9 mA

Resolution 0,1 mA

Accuracy  $\pm 1,5\%$  of Rd. + 3 digits

#### Alternating current AC

Measurement range up to 1 ... 9,999 A

Resolution 0,001 A

Accuracy  $\pm 1,5\%$  of Rd. + 3 digits

#### Resistance

Measurement range up to 0 ... 999,9  $\Omega$

Resolution 0,1  $\Omega$

Accuracy  $\pm 0,5\%$  of Rd + 3 digits

#### Resistance

Measurement range up to 1 ... 9,999 k $\Omega$

Resolution 0,001 k $\Omega$

Accuracy  $\pm 0,5\%$  of Rd + 3 digits

#### Resistance

Measurement range up to 10 ... 99,99 k $\Omega$

Resolution 0,01 k $\Omega$

Accuracy  $\pm 0,5\%$  of Rd + 3 digits

#### Resistance

Measurement range up to 100 ... 999,9 k $\Omega$

Resolution 0,1 k $\Omega$

Accuracy  $\pm 0,5\%$  of Rd + 3 digits

#### Resistance

Measurement range up to 1 ... 9,999 M  $\Omega$

Resolution 0,001 M  $\Omega$

Accuracy  $\pm 0,5\%$  of Rd + 3 digits

#### Resistance

Measurement range up to 10 ... 99,99 M  $\Omega$

Resolution 0,01 M  $\Omega$

Accuracy  $\pm 1,5\%$  of Rd. + 3 digits

#### Temperature sensor

Measurement range up to -55 ... +1300  $^{\circ}\text{C}$

Resolution 0,1  $^{\circ}\text{C}$

Accuracy  $\pm 2,5\%$  of Rd + 5 digits

**Oscilloscope specifications**

Number of channels	2
Bandwidth	10 MHz
Sampling rate	50 MSa/s

Memory depth	32 kpts
Input impedance	10 M $\Omega$

Probe factors	1-fold, 10-fold
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Max. input voltage	400 V
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Vertical sensitivity	20 mV/div - 10 V/div
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**Function generator**

Bandwidth	1 ... 2000000 Hz
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Resolution	1 Hz
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Channels	1
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Amplitude	0.1 ... 3.3 Vpp
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Waveform length	16 kpts
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Functions	Sine, Rectangle, Triangle, Half wave, Whole wave, Noise, DC
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