



User Manual

PCE-DC 10 Clamp Meter



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: www.pce-instruments.com

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1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.










- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, ...) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

2 Safety Symbols

	Note-Important safety information; refer to the instruction manual.
	Application around uninsulated live conductors is hazardous and not permitted.
	Caution, possibility of electric shock
	Equipment protected throughout by double insulation or reinforced insulation.
	CONFORMS TO UL STD 61010-1, 61010-2-032 and 61010-2-033; CERTIFIED TO CSA STD C22.2 NO. 61010-1, 61010-2-032, 61010-2-033
	Complies with European (EU) safety standards
	Earth (ground) TERMINAL
	AC voltage/current
	DC voltage

3 Specifications

AC power measuring range	Resolution	Accuracy
2 A	0.01 A	± (2.5 % + 8 digits)
20 A	0.01 A	± (2.5 % + 8 digits)
200 A	0.1 A	± (2.5 % + 8 digits)
600 A	1 A	± (3.0 % + 10 digits)
Frequency range: .45 ... 65 Hz		
The frequency is only displayed from a current of 0.2 A.		
Maximum input current: up to 600 A for no more than 60 seconds.		
Accuracy refers to RMS sine waves.		
AC voltage measuring range	Resolution	Accuracy
6 V	0.01 V	±(0.8 % + 5 digits)
60 V	0.1 V	
600 V	1 V	
Input impedance: 10 MΩ		
Overvoltage protection 600V AC / DC rms		
Smallest measurable voltage: 1V AC / DC		
Frequency range: 45 ... 65 Hz		
Accuracy refers to RMS sine waves		
If a current is detected during the voltage measurement, "Err" appears on the display		

DC voltage measuring range	Resolution	Accuracy
6 V	0.01 V	±(0.5 % + 3 digits)
60 V	0.1 V	
600 V	1 V	
Input impedance: 10 MΩ		
Overvoltage protection 600V AC / DC rms		
Smallest measurable voltage: 1V AC / DC		
Resistance measuring range	Resolution	Accuracy
2 kΩ	0.001 kΩ	± (0.8 % + 3 digits)
20 kΩ	0.01 kΩ	± (0.8 % + 3 digits)
200 kΩ	0.1 kΩ	± (0.8 % + 3 digits)
2 MΩ	0.001 MΩ	± (0.8 % + 3 digits)
10 MΩ	0.01 MΩ	± (1 % + 5 digits)
Measuring voltage in open circuit: approx. 0.4 V		
Overvoltage protection: 250V AC / DC rms		
Continuity test		
Beep at <40 Ω		
Measuring voltage in open circuit: approx. 0.4 V		
Overvoltage protection: 250V AC / DC rms		
Frequency measuring range	Resolution	Accuracy
60 Hz	0.1 Hz	±(1 % + 5 digits)
600 Hz	1 Hz	
3 kHz	10 Hz	
Total measuring range: 40 ... 3 kHz		
Minimum voltage: >1 AC RMS (The measurement frequency will increase with the voltage)		
Overvoltage protection: 600V AC / DC rms		

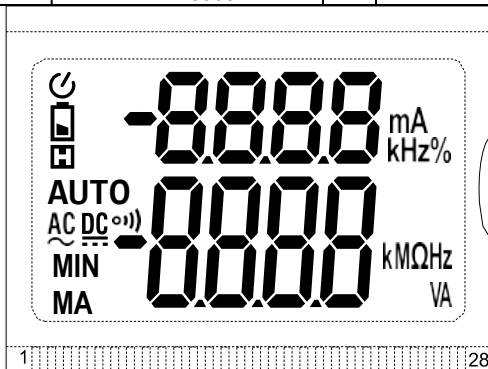
Duty cycle measuring range	Resolution	Accuracy
10 ... 90 %	1 %	±2 %
Maximum current clamp opening	26 mm	
Insulation	CAT III 600V	
Measuring rate	About 3 measurements per second	
Display	3 5/6 digit LCD	
Display area	5999, 1999 for resistance measurement	
Measurement outside the measuring range	"OL" display	
Automatic shutdown	After 15 minutes, can be deactivated	
Coefficients	0.1 x accuracy x °C / °F*	
Power supply	3 x 1.5V AAA batteries	
Operating conditions	0 ... 40 °C / 32 ... 104 °F, <80 % RH	
Storage conditions	-10 ... 60 °C / 14 ... 140 °F, <70 % RH (without batteries)	
Maximum working height	2000 m / 6561 ft.	
Dimensions	204 x 78 x 43 mm / 8 x 3.1 x 1.7 in	
Weight	About 195 g / <1 lb	
<p>Accuracies are given at ambient conditions of 18 ... 28 °C, 65 ... 83 °F. *The temperature is the difference between the temperature of the operating conditions and the current ambient temperature.</p>		
Example:		
<p>If current ambient temperature is greater than the temperature of the operating conditions (50 °C / 122 °F (current ambient temperature)) - (40 °C / 104 °F (operating temperature)) = 10°C / 50°F</p> <p>If the current ambient temperature less than the temperature of the operating conditions (0 °C / 32 °F (operating temperature)) - (-5 °C / °F (current ambient temperature)) = 5 °C / 41 °F</p>		

4 Device Overview



1	Current Clamp: For measuring current	7	Input Jack: Live (red) test lead input
2	Safety Barrier: Protection from conductors	8	COM Jack: Common (black) test lead input
3	Rotary Switch: Function select	9	A-Hold Button: Pauses measurement on screen
4	MAX/MIN Button: Press to show the max, then min measuring value Press again to return to measuring	10	Clamp Trigger: Opens the current clamp
5	Backlight Button: Screen backlight.	11	Flashlight: On the backside of the meter On during current measurement

	Turns flashlight on, when in current measurement		
6	Display: LCD screen shows up to a value of 5999		



AUTO	Auto range	V	Volt (voltage)
~	AC voltage/current	A	Amp (current)
⎓	DC voltage	Ω, kΩ, MΩ	Ohm (resistance)
🔋	Low battery	o))	Continuity
%	Percentage (duty cycle)	□	Display hold
Hz	Hertz (frequency)	◀	Polarity indicator (negative)

5 Operating Procedures

5.1 SMART Measurement

- Select the SMART measurement option with the rotary switch.
- Connect the test leads as required.
- AC current, AC voltage, DC voltage, resistance or continuity will be measured automatically.
- When measuring AC current, the meter can simultaneously display the measurement results for DCV or ACV, for example.

5.2 A-HOLD

- Press the A-HOLD button to pause the measurement on screen.
- Press the button again to resume measurement.

5.3 Auto Power-Off

- The meter shuts down automatically after 15min of inactivity,
- Press the A-HOLD button to wake the meter up.

5.4 DC Voltage

- Select the DC voltage measurement option (V_{DC}) with the rotary switch.
- Connect the test leads as required to begin measurement.

⚠ CAUTION
Use extra caution when measuring high voltages to avoid electric shock or damage.

⚠ WARNING
Do not attempt to measure voltages above 600V DC to prevent injury or damage to the meter.

5.5 AC Voltage

- Select the AC voltage measurement option (V_{AC}) with the rotary switch.
- Connect the test leads as required to begin measurement.

⚠ CAUTION
Use extra caution when measuring high voltages to avoid electric shock or damage.

⚠ WARNING
Do not attempt to measure voltages above 600V AC to prevent injury or damage to the meter.

5.6 AC Current

- Select the AC current measurement option (I_{AC}) with the rotary switch.
- Insert only one conductor inside the current clamp to begin measuring (Multiple conductors with different current directions will cancel the measurement out).

5.7 Resistance


- Turn off all power and discharge the capacitors of the circuit to be tested.
- Select the resistance measurement option (Ω) with the rotary switch.
- Connect the test leads as required to begin measurement.
- Measuring tips:
 - Sometimes the resistor value and measured resistance differ. This is due to the meter's output test current going through all possible paths between leads.
 - For low resistance measurements, shorten the test leads and record the resistance displayed. Then connect to the circuit and subtract the recorded resistance from the measured value for the most accurate results.
 - When the leads are disconnected or the measurement is out of range, "OL" will be shown on the display.

⚠ WARNING
To avoid injury or damage to the meter, make sure to turn off all power and discharge all capacitors before measuring resistance.



5.8 Continuity

- Turn off all power and discharge the capacitors of the circuit to be tested.
- Select the resistance measurement option (Ω) with the rotary switch.
- Connect the test leads as required to begin measurement. If the resistance is less than 40Ω , the buzzer will sound.

 **WARNING**
To avoid injury or damage to the meter, make sure to turn off all power and discharge all capacitors before measuring resistance.

5.9 Frequency/Duty Cycle

- Select the resistance measurement option (Hz%) with the rotary switch.
- Connect the test leads as required to begin measurement.

6 Maintenance


6.1 Cleaning


Use a damp cloth and a small amount of detergent to clean the meter regularly. Do not use abrasives or chemical solvents. Dirty or wet input jacks can affect readings.

Cleaning the input jacks:

- Shut meter down and remove the test leads.
- Wipe any debris off the input jacks.
- Clean the inside of the input jacks with a cotton swab and an alcohol cleaner or lubricant (eg.: WD-40).
- Use a clean swab for each jack to avoid cross contamination.

6.2 Battery Replacement

 **WARNING**
Remove the test leads from before opening the battery cover to avoid damage or personal injury.

To avoid false readings, damage to the meter or personal injury, replace the batteries when the battery low icon  is displayed.

To replace the batteries:

- Shut the meter down and remove all test leads.
- Unscrew the battery cover and remove the used batteries.
- Replace the batteries (AAA 1.5V, Alkaline)
- Reinstall the battery cover and tighten the screws.

7 Warranty

You can read our warranty terms in our General Business Terms which you can find here: <https://www.pce-instruments.com/english/terms>.

8 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.





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