English

User Manual

PCE-IR 80 Infrared Thermometer

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Last change: 19 September 2019
v1.0

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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.
- Turn off the meter when not in use.

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.

1.1 Delivery contents

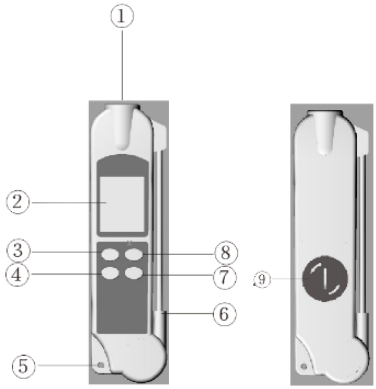
1 x PCE-IR 80 pyrometer
1 x user manual

2 Technical specifications

Measurement type infrared	
Measuring range	-35 ... 330°C / -31 ... 626°F
Resolution	0.1°C / 0.18°F
Accuracy	-35 ... 0°C / -31 ... 32°F : ± 4°C / 7.2°F >0°C / 32°F : ± 2% of rdg. ± 2°C / 3.6°F
Measurement type penetration sensor	
Measuring range	-20 ... 260°C / -4 ... 500°F
Resolution	0.1°C / 0.18°F
Accuracy	± 1% of rdg. ± 1.5°C / 2.7°F
Optical resolution	4: 1
Emissivity	Adjustable 0.1 ... 1.0
Response time	10 ms
Spectral	8 ... 14 µm
Power supply	3.0V CR2032 battery
Operating conditions	0 ... 50°C / 32 ... 122°F, max. 80% RH
Weight	About 100 g / < 1 lb
Dimensions	151 x 41 x 20 mm / 6 x 1.6 x 0.8 in

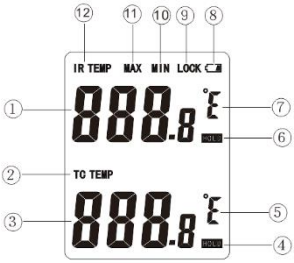
3 Device description

1. Infrared sensor
2. LCD
3. SET key
4. TC key
5. Strap holder
6. Penetration sensor
7. IR key
8. MODE key
9. Battery compartment



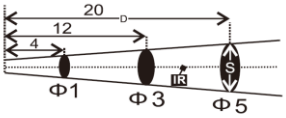
3.1 Display description

1. Infrared reading
2. TC temperature icon
3. Temperature reading of penetration sensor
4. TC Hold icon
5. Temperature unit
6. IR Hold icon
7. Temperature unit
8. Battery level indicator
9. Continuous IR measurement
10. MIN icon
11. MAX icon
12. Infrared icon



4 Distance-to-target ratio

The distance-to-target ratio of the meter is 4:1. This means that the distance is 4 times wider than the diameter of the measuring spot itself. Example: If your measuring distance is 8 m, the measuring spot will have a diameter of 2 metres.



Distance(D) to Spot Size(S)
D:S=4:1

5 Measurement

5.1 Infrared measurement

Power on the meter by pressing the TC or IR key. Press and hold the IR key to make a non-contact temperature measurement via infrared. The non-contact measurement is completed when the IR key is released. The Hold icon will appear below the temperature unit.

5.2 Contact measurement with penetration sensor

Power on the meter by pressing the TC or IR key. Short-press the TC key to make a measurement with the penetration sensor. As long as a measurement is made with the penetration sensor, no Hold icon will be displayed below the temperature unit.

Note: Making a measurement via infrared and with the contact sensor at the same time is not possible.

6 Turn off meter

To turn off the meter, press and hold the MODE key until the meter turns off.

7 Settings

7.1 Changing the unit

You can set the unit during a measurement by pressing the SET key. You can select °C or °F.

7.2 Max, Min, Lock mode / setting the emissivity

Enter the menu by pressing the MODE key. To select other menu items, press the MODE key again. The menu is arranged as follows:

Function	Description
MAX	As long as “MAX“ is displayed, only the highest value will be shown
MIN	As long as “MIN“ is displayed, only the lowest value will be shown
LOCK	As long as “LOCK“ is displayed, the infrared measurement is continuous
Emissivity	Here you can set the emissivity value with the SET key
To leave the menu, press the MODE key again.	

Important:
The menu only applies to the infrared measurement. There is no separate menu for the penetration sensor.

8 Battery

When the battery level indicator is displayed, this means that the battery voltage is no longer sufficient for further operation. Therefore, the battery must be replaced. The battery compartment can be found at the rear side of the meter.

9 Auto Power Off

The meter turns off automatically after 3 minutes. It will not turn off during a measurement.

10 Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

11 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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