



# User Manual

PCE-HLD 10 Hydrogen Detector



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](http://www.pce-instruments.com)

Last change: 7 January 2022  
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.

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.



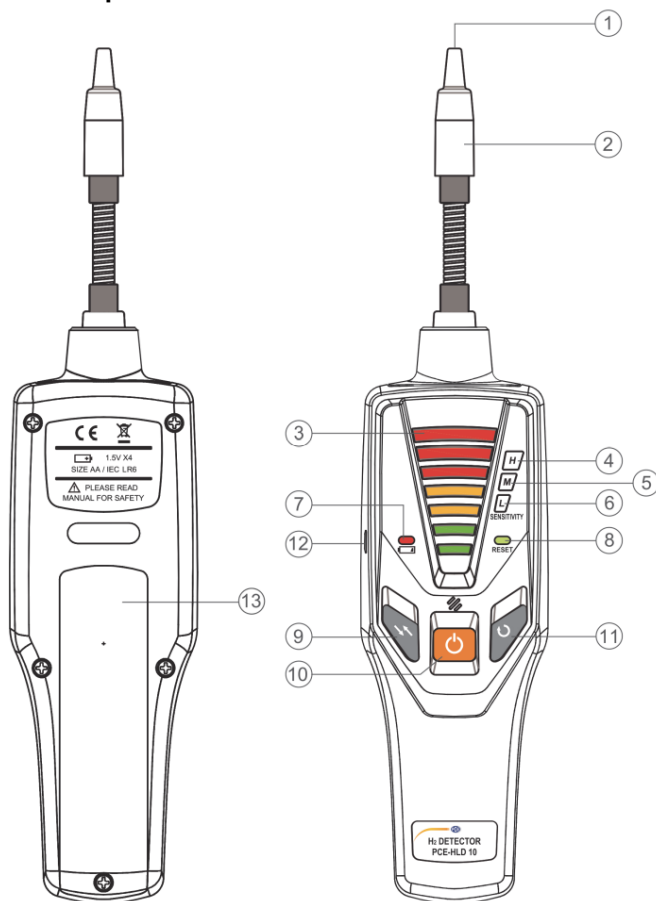
## 2 Specifications

|                                                                                               |                                                            |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------|
| High sensitivity                                                                              | >2 g (0.07 oz)/year                                        |
| Medium sensitivity                                                                            | >15 g (0.53 oz)/year                                       |
| Low sensitivity                                                                               | >30 g (1.05 oz)/year                                       |
| The sensitivity refers to 5 % hydrogen (H <sub>2</sub> ) and 95 % nitrogen (N <sub>2</sub> ). |                                                            |
| Alarm                                                                                         | audible and visible                                        |
| Warm-up time                                                                                  | 45 s                                                       |
| Battery life                                                                                  | approx. 12 h                                               |
| Power supply                                                                                  | 4 x 1.5 V AA battery                                       |
| Automatic power off                                                                           | 10 min                                                     |
| Maximum height                                                                                | 2000 m / 6561 ft above sea level                           |
| Operating conditions                                                                          | 0 ... 40 °C / 32 ... 104 °F,<br><80 % RH, non-condensing   |
| Storage conditions                                                                            | -10 ... 60 °C / 14 ... 140 °F,<br><70 % RH, non-condensing |
| Hose length                                                                                   | 40 cm / 15.7"                                              |
| Dimensions                                                                                    | 213 x 65.5 x 53.5 mm / 83.8 x 25.7 x 21.0"                 |
| Weight                                                                                        | 400 g / 14.1 oz                                            |

## 3 Delivery scope

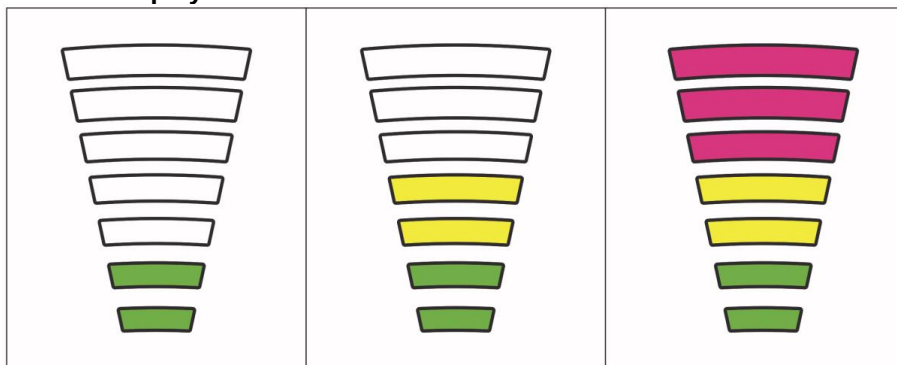
1 x hydrogen detector PCE-HLD 10  
1 x carrying case  
4 x 1.5 V AA battery  
1 x user manual

## 4 Device description



| No. | Description                                      |
|-----|--------------------------------------------------|
| 1   | Sensor                                           |
| 2   | Sensor protection cap                            |
| 3   | Hydrogen concentration display                   |
| 4   | Selection with high sensitivity                  |
| 5   | Selection with medium sensitivity                |
| 6   | Selection with low sensitivity                   |
| 7   | Battery status display                           |
| 8   | Reset indicator                                  |
| 9   | Sensitivity setting                              |
| 10  | On / off key                                     |
| 11  | Reset key                                        |
| 12  | Micro-USB interface for alternative power supply |
| 13  | Battery compartment cover                        |

## 5 Bar display



Low concentration

Medium concentration

High concentration

Depending on the sensitivity setting, the concentration range also changes.

## 6 Power supply

The PCE-HLD 10 can be powered either by 4 1,5V AA batteries or via the 5 V DC USB interface.

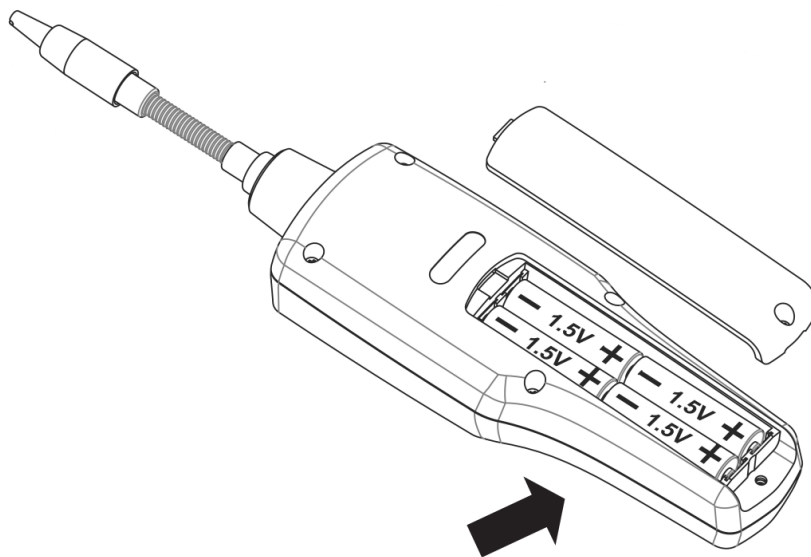
### 6.1 Power supply via the micro-USB interface

The PCE-HLD 10 can be supplied with a 5 V DC, 1 A fixed voltage source via the micro-USB interface.

#### Note:

This interface is not a data interface. The inserted batteries can also not be recharged via this interface.

## 6.2 Power supply via batteries



To supply power from batteries, open the battery compartment on the back. Then insert four 1.5 V AA batteries. Ensure correct polarity when inserting them. After inserting the batteries, close the battery compartment.

As soon as the batteries are discharged, this is signalled by the battery status indicator lighting up. As soon as this indicator lights up, the batteries must be replaced with new ones to ensure proper functioning.

## 7 Switching the meter on/off

To switch the meter on or off, press and hold the on / off key for at least 2 seconds. After switching on, the meter requires a warm-up time of 45 s until it is ready for operation. The warm-up time is signalled by all LEDs flashing. As soon as the flashing stops, the meter is ready for measurement.

### Note:

Zeroing is carried out during the warm-up period. Therefore, make sure that the meter is switched on in fresh air. If the meter is zeroed when hydrogen is present, this hydrogen content is ignored in subsequent measurements until a new zeroing is performed.

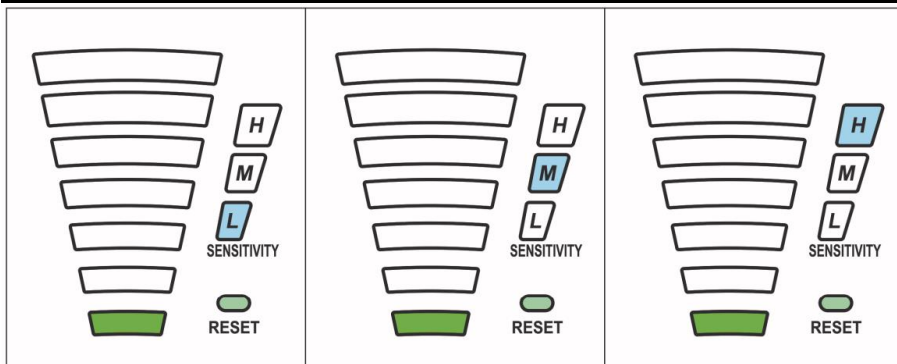
### 7.1 Automatic power off

If no key is pressed for 10 minutes, the meter turns off. To disable this function, press and hold the  key when turning on the meter. After switching on, you can release the keys. The meter will now no longer switch off automatically. The automatic power off function will be active again after manual switch-off.

## 8 Sensitivity setting

To set the sensitivity, press the  key repeatedly until you have reached your desired sensitivity. The smaller the sensitivity has been selected, the larger the measurement range on the bar graph. As a result, the meter may not display anything for small amounts of hydrogen. With a high sensitivity, the measurement range of the bar graph will be exhausted quickly. Set the sensitivity according to your application.

| Display | Meaning            |
|---------|--------------------|
| L       | Low sensitivity    |
| M       | Medium sensitivity |
| H       | High sensitivity   |



## 9 Zeroing

When the meter is switched on, it is zeroed automatically.

Only switch on the meter in a non-polluted environment. Switching it on in a polluted environment will cause incorrect measurements and any H<sub>2</sub> leakage will not be detected.

During operation, the sensor is always adjusted to the set zero point in order to filter out any background gases that may occur.

To switch off this function, press and hold the  key for two seconds. To enable this function again, press and hold this key again for two seconds. The reset indicator shows whether the function is switched on. As soon as the control LED lights up, the function is activated.

### 9.1 Manual zeroing

To perform a manual zeroing, press the reset key once.

#### Note:

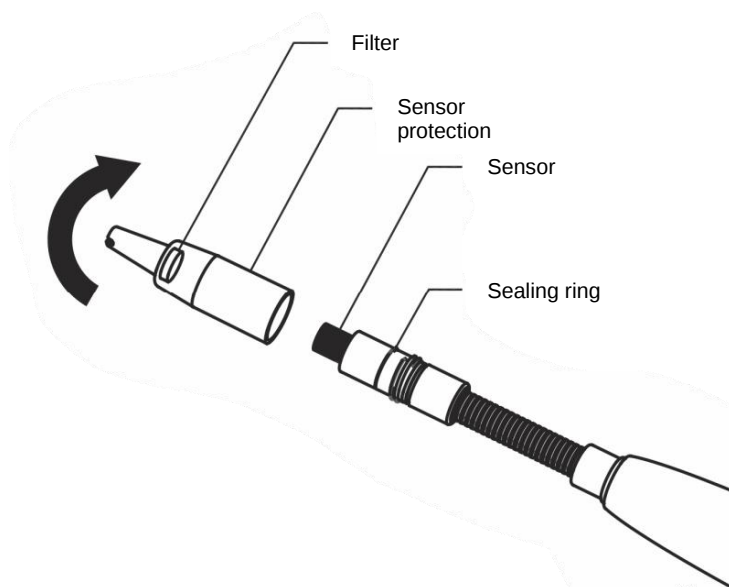
Make sure that the meter is zeroed in fresh air. If it is zeroed with hydrogen present, this hydrogen content will be ignored in subsequent measurements until a new zeroing is performed.

## 10 Replace sensor

The sensor has a lifetime of approx. 1 year. Obsolete sensors may cause faulty measurements or existing leaks may not be detected. High concentrations can reduce the lifetime of the sensor. Replacement sensors can be found directly on <https://www.pce-instruments.com>. To replace the sensor, first switch off the meter. Then loosen the sensor protection. Then pull off the sensor and replace it with a new one. Then check whether the filter inside the sensor protector is clean and whether there is any damage to the sealing ring. If there is damage or dirt, it must be eliminated.

### Note:

The sensor heats up during operation and could possibly cause burns. Therefore, let the sensor cool down for a short time.





## 11 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.

## 12 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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