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PCE Instruments PCE-GA 12 Leak Detector User Manual

Contents

PCE Instruments PCE-GA 12 Leak Detector

Product Information

The PCE-GA 12 Leak Detector is a device designed to detect flammable gases. It features an automatic calibration function and has a measurement range of up to 10000 ppm. The detector emits a vibration alarm when gases are detected and has an audible alarm with a volume of 85 dB. The sensor is exchangeable and has a shelf life of approximately 5 years. The device is powered by a rechargeable battery, allowing for mobile use.

Product Usage Instructions

1. **Safety Precautions:** Before using the device, carefully read and understand the user manual. Only qualified personnel should operate the device, and any repairs should be done by PCE Instruments personnel. Failure to follow the manual may result in damage or injuries not covered by the warranty.

2. **Features:** The detector can detect various flammable gases, including ammonia, benzene, ethanol, propane, hydrogen sulfide, and more. It has an audible alarm with a volume of 85 dB and an adjustable sensitivity. The sensor has a long shelf life of approximately 5 years.

3. **Technical Specifications:** The measurement range for low concentration is 0 to 1000 ppm, and for high concentration (methane only), it is 0 to 10000 ppm. The audible alarm frequency varies depending on the gas concentration.

4. **Further Functions:** The device has several additional functions, including display backlight activation/deactivation, automatic zeroing activation/deactivation for improved sensitivity, auto power-off after 10 minutes of non-use (can be deactivated), sensitivity adjustment, and alarm toggling.

5. **Troubleshooting:** If the meter cannot be turnedon, check if the battery is flat and charge it if necessary. If the display flashes and there is a continuous signal tone, replace the sensor as it may be defective. If "CAL" is displayed, it means calibration is due, and you should contact PCE Instruments for calibration.

6. **Contact:** For any questions, suggestions, or technical problems, refer to the contact information provided at the end of the user manual.

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

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.
- The meter must not be used as a gas detector.
- 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.

Features

- Detection of flammable gases
- Vibration alarm when gases are detected
- Automatic calibration
- Measurement range up to 10000 ppm
- Audible alarm, 85 dB
- Sensor exchangeable

- Shelf life of the sensor approx. 5 years
- Rechargeable battery for mobile use

Detectable gases

- Ammonia
- Benzene
- Ethane
- Ethanol
- Ethylene
- Formaldehyde
- Hexane
- ISO-Butane
- Methane
- Propane
- P-Xylene
- Hydrogen sulfide
- Toluene
- Hydrogen
- and compounds in which these gases occur

Technical specifications

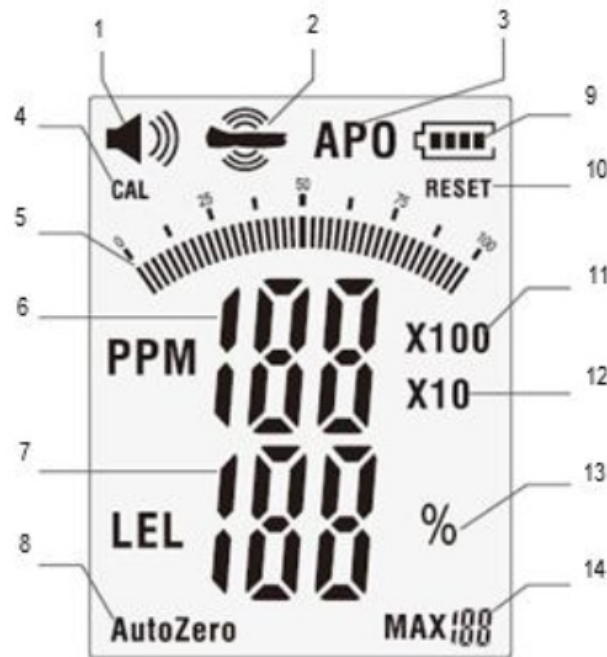|	
Measurement range	Low concentration: 0 … 1000 ppm, High concentration: 0 … 10000 ppm (methane only)
Audible alarm	Volume: 85 dB
Sensitivity	<10 ppm (methane)
Measuring interval	<2 seconds
Display	Flammable gas readings displayed on the LC display, bar graphs
Calibration	Automatic
Warm-up time	40 seconds
Battery	Polymer Li-Ion battery 18500 3.7 V 1400 mAh
Mains adaptor	Primary side: 100 … 240 V, 50/60 Hz, 0.2 A
	Secondary side: 5 V, 1 A
Auto Power Off	Turns off automatically when battery is low or after 10 minutes of inactivity
Sensor shelf life	approx. 5 years (sensor is exchangeable)
Probe	Semi-rigid, approx. 500 mm
Weight	Approx. 430 g

Delivery contents

- 1 x gas leak detector PCE-GA 12
- 1 x charger
- 1 x user manual

Device and display description

1. LC display
2. Auto Zero
3. Sensitivity high / low
4. Auto Power Off
5. Display backlight
6. Audible alarm on / off
7. Vibration alarm on / off
8. Meter on / off

1. Audible alarm
2. Vibration alarm
3. Automatic Power Off APO 4 – Calibration
4. Bar graph
5. Concentration display
6. LEL display
7. Automatic zero
8. Battery level
9. Factory settings
10. Sensitivity high
11. Sensitivity low
12. LEL reading
13. Maximum reading

Operation

Before first use

- Fully charge the battery before the first use. The charging socket is located on the right side above the sensor arm bracket.
- Switch on the meter using the "On / Off" key and leave the device switched on for about one hour for the sensor to acclimatise. Deactivate the automatic power-off function with the APO key.
- If you do not use the device for more than two months, repeat this procedure.

Before use

- Check the meter for mechanical damage.
- Only switch on the unit in an environment unpolluted by gas.

- Carry out a gas test with the appropriate test gas.
- **Attention**! When using a lighter, only move the sensor head very slowly towards the gas source. A 100 % concentration exposure can destroy the sensor.
- If the gas is not detected, the device is not ready for use.
- After the gas test, wait until the display shows "0".

Use

- Make sure the gas to be detected is listed above.
- Only turn on the meter in an environment unpolluted by gas.
  Press and hold the "On / Off" key for about 1 second. The meter will vibrate and a signal tone will sound.
- Let the meter warm up for 40 seconds. The remaining time will be displayed.
- Select the desired sensitivity with the "H/L" key.
- Clean the areas to be examined from oil and dust. Oil and dust can impair the detection.
- Slowly move the sensor head to the area to be examined.
- If there is a gas leak, the instrument will signal that gas escapes (see chart below), depending on the sensitivity setting. Keep in mind the reaction time of at least 2 seconds. Move the sensor head back a little to exactly locate the leak.
- Switch off the meter after the leak detection. To do this, press and hold the "On / Off" key for about 1 second.

Alarm chart related to methane CH4

Approx. reading in ppm		Audible alarm frequency x/s
Sensitivity		
high	low	
0	0	No alarm
0 … 100	0 … 1000	1
100 … 400	1000 … 4000	1.2
400 … 700	4000 … 7000	1.65
700 … 1000	7000 … 10000	3.25
>1000	>10000	6.25

Further functions

- **Display backlight**
  You can activate or deactivate the display backlight by pressing the "Display backlight" key (5).
- **Auto zero**
  The "Auto Zero" key is used to activate or deactivate automatic zeroing.
  Activating it improves sensitivity to the target gas and reduces the sensitivity to other existing gases which can influence the measurement.
- **Auto Power Off**

The automatic power-off function switches off the unit after approx. 10 minutes of non-use to conserve the battery. With the "APO" key, this function can be deactivated.

- **Sensitivity**

With the "H/L" key you can adjust the sensitivity according to your needs.

- **Alarms**

Use the key with the vibration icon or with the speaker icon to switch the corresponding alarm on or off.

Troubleshooting

Error	Possible cause	Solution
Meter cannot be turned on	Battery flat	Charge battery
Display flashes Continuous signal tone	Sensor defective	Replace sensor **ESS-PCE-GA 12**
CAL is displayed	Calibration is due	Contact PCE Instruments for calibration

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.

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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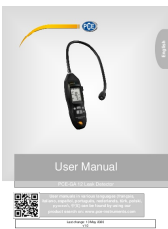**info@pce-italia.it**
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Documents / Resources

	PCE Instruments PCE-GA 12 Leak Detector [pdf] User Manual PCE-GA 12, PCE-GA 12 Leak Detector, Leak Detector, Detector

References

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