SNOOPER mini

SEWERIN

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Operating Instructions SNOOPER mini

Warranty

To ensure reliable operation and safety, it is required to pay attention to the following notes.
Hermann Sewerin GmbH is not liable for damage caused by failure to comply with these notes. The guarantee and liability conditions of the sales and delivery conditions of Hermann Sewerin GmbH are not extended by the following notes.

- The product may only be taken into operation after reading thoroughly the accompanying operating instructions.
- The product may only be used for intended applications.
- The product is destined for industrial and commercial applications.
- Repairs may only be performed by the manufacturer or appropriately trained staff.
- The manufacturer is not liable for damage resulting from arbitrary modifications of the product.
- Only spare parts may be used which are approved by Hermann Sewerin GmbH.
- Only approved battery types may be used.

Technical changes within the scope of further development reserved.

1 Intended use

SNOOPER mini is a gas detector for plumbers and service technicians for detecting leaks at free laid gas pipes.

Fields of application (for example):

- Detection of gas leaks by directly inspecting joints of: pipes, fittings, flanges, threaded connections, pressure reducers, etc.
- Leak detection at openly routed natural gas pipelines in buildings
- Inspection of covered gas pipelines at the gas discharge locations
- Inspection at the house service fitting

CAUTION! Danger of life!
SNOOPER mini must not be used as a gas warning instrument.
It is not suitable for checking whether the ambient air or the air inside pits and sewers is approaching the lower explosion level (LEL).

2 Device variants

The device is available in two different versions:

- with flexible swan neck
- with hand sensor (spiral cable, handle, flexible swan neck)

Both device variants are operated the same way.

The device is available for the following types of gas:

- Methane CH_4
- Propane C_3H_8
- Hydrogen H_2

Note:
The type of gas is indicated on the rear of the device. It is not possible to change it.

3 Safety instructions

- Never open the housing (only exception: the battery compartment). Otherwise, all warranty claims expire.
- The swan neck cannot be disassembled. It must not be bent in a sharp angle. The maximum permissible angle is 90 degrees.
- Never carry the device at the swan neck and/or the hand sensor!
- Prevent that the swan neck comes into contact with water. Water destroys the sensor!

4 Useful information about the device

4.1 Structure – device and display

Sensor cap with filter

- for protecting the gas-sensitive sensor

Swan neck

Display

Loudspeaker key

- for switching on/off the audible signal

ON/OFF key

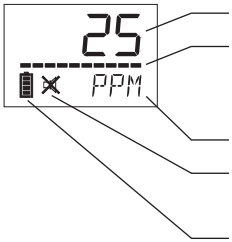
- for switching on/off the device
- for setting the zero point

Bar

- for attaching the carrying loop

Hand sensor

Display



Measured value or type of gas

Time bar

- indicates the remaining time, e. g. of the heating period

Unit or status message

Loudspeaker icon (crossed out)

- audible signal is switched off

Battery icon

- currently available capacity of the batteries (disposable or rechargeable); the number of bars indicates the capacity level

Abbreviations:

ADJ Adjust
APF Automatic power-off
BAT Battery
CAL Calibrate
CWT Calibration waiting time
ERR Error
HT Heating-up
PPM Unit of measurement (ppm)
VOL Unit of measurement (vol. %)
ZRO Setting the zero point

4.2 Operating modes

The device can be used in two different modes:

- **Measurement** > see chapter 5
- **Adjustment** > see chapter 6

4.3 Measuring range

The device operates with a single measuring range, but two different units of measurement (parts per million [ppm], percent by volume [vol.%]). The device automatically switches between the different units of measurement.

Conversion: 10,000 ppm = 1 vol.%

Indication of measurement values in	Limits		Resolution
ppm	0 – 100 ppm		5 ppm
ppm	> 100 – 2,000 ppm		50 ppm
percent by volume	CH_4, C_3H_8:	> 2,000 – 22,000 ppm (0.2 – 2.2 vol.%)	0.2 vol.%
	H_2:	> 2,000 – 10,000 ppm (0.2 – 1.0 vol.%)	

4.4 Automatic power-off

SNOOPER mini switches itself off automatically,

- **as soon as the battery charge is no longer sufficient**. (**BAT** will be indicated briefly on the display.) The automatic power-off may also occur immediately after switching on the device! Exchange or recharge batteries (see chapter 7.4).
- if the device is not operated for **20 minutes** (i. e. no key is pressed) or if the display is not changing. (**APF** will be indicated briefly on the display.)

4.5 Display illumination

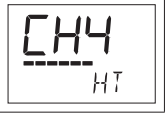
The device automatically switches on the display illumination:

- if a **key is pressed** (duration of illumination 20 s),
- if the **gas concentration is higher than 25 ppm**.

5 Measurement mode

5.1 How to start the measurement mode

Note:
The device must always be switched on in an unpolluted environment (e. g. in the fresh air).

What to do?		What happens?	Why?	Indication on the display
1.	press for approx. 2 s	Device is switched on, audible signal sounds		
2.	wait	Display flashes, time bar runs out	Heating period, approx. 20 s	

3.		Device ready for measuring		

Note:
After switching on, the device needs one minute to recognise whether it is operated with disposable or rechargeable batteries. After this check, the battery icon is indicated.

5.2 Increased gas concentration

An automatic audio signal makes the user always aware of an increased gas concentration.

Audible signal of the device (loudspeaker key)

- **switched on:** the interval signal gradually changes to a steady tone
- **switched off:** steady tone sounds as soon as the device measures a value higher than 1 vol.%

5.3 Setting the zero point – when and how?

When working with the **SNOOPER mini**, the zero point may start to drift (e. g. if the device is ready for measuring and put aside for some time). In this case, the display indicates a value deviating from zero.

- Press **briefly** on the ON/OFF key. **ZRO** is indicated on the display. The device is ready to reset the zero point.
- Re-press **briefly** on the ON/OFF key **within 5 seconds**. The zero point is reset.

5.4 Verifying the indication accuracy – when and how?

According to DVGW regulations (DVGW: German technical and scientific association for gas and water), it is required to check the indication accuracy in intervals ranging from every week to every six months – depending on the frequency of usage and experience.

Gas type of the device	Test gas	Permissible range
Methane	1 vol.% CH_4	0.8 – 1.4 vol.%
Propane	1 vol.% C_3H_8	
Hydrogen	1,000 ppm H_2	800 – 1,400 ppm

- The device must be ready for measuring (see chapter 5.1).
- Apply test gas with the help of a suitable test set (e. g. SPE-Y).
- Compare the deviations indicated by the device with the permissible values in the table. If the values are outside the permissible range, you need to perform an adjustment (see chapter 6).

6 Adjustment

The device must be adjusted if the deviation of the indication accuracy is outside the permissible range (see chapter 5.4).

6.1 Tools and requirements

Required tools:

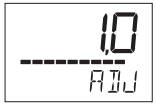
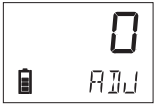
- Suitable test set (e. g. SPE HG, SPE-Y)
- Test head
- Test gas, depending on the type of gas of the relevant device (see table in chapter 5.4)

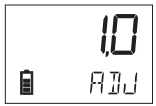
You can find all information on how to connect the test set to the device in the operating instructions of the test set.

Requirements for a proper adjustment:

- Device is switched off
- Test head is not yet attached
- Atmosphere of the environment is not polluted (e. g. fresh air)

6.2 How to perform the adjustment

What to do?		What happens?	Why?	Indication on the display
Prepare adjustment				
1.	 keep pressed and press **at the same time** 	Device is switched on, audible signal sounds		
2.	wait	Time bar runs out	Heating period, approx. 60 s	
3.		Device is ready for adjustment		
4.	apply test gas			

What to do?		What happens?	Why?	Indication on the display
Start adjustment				
5.	press briefly			
6.	wait	Time bar runs out	Calibration waiting time	
7.		Adjustment starts automatically		
8.		Brief audible signal sounds	Adjustment completed	

What to do?		What happens?	Why?	Indication on the display
Adjustment error				
		Briefly: audible signal (amplitude variation) and error indicated on the display		 followed by: **ADJ**
Quit adjustment mode (two options)				
A)	 press for approx. 2 s	Device is switched off		
B)	 press briefly	Device in measurement mode		

6.3 Adjustment error – what to do?

If error **001 ERR** occurs (refer to description in chapter 6.2), the device was not able to perform a proper adjustment.

- Repeat the adjustment.
- If the error is indicated again, get in touch with the SEWERIN Service.

7 Maintenance and cleaning

7.1 Overview

Maintenance and cleaning of the **SNOOPER mini** should cover the following points:

What?	How?	Who is responsible?	How often?
Maintenance	---	authorized company	Once a year
Checking the indication accuracy	see chapter 5.4	user	every week to every six months (acc. to DVGW)
Adjustment	see chapter 6	user	if the deviation of the indication accuracy is no longer within the permissible range
Cleaning	wipe with damp cloth	user	when required
Sensor cap	see chapter 7.2	user	when required
Filter replacement	see chapter 7.3	user	when required
Changing the battery/accu	see chapter 7.4	user	when required

7.2 Sensor cap

The sensor cap is detachable. The sensor housing can be seen after removing the cap.

CAUTION! Sensitive sensor!
Avoid touching the sensor. Never try to remove the sensor. The sensor must never come into contact with water!

If the sensor cap is soiled, you must replace or clean the cap.

Cleaning

- Unscrew the sensor cap and remove the filter (see chapter 7.3).
- Clean the sensor cap thoroughly with a commercially available detergent.
- Dry the cap until any residual moisture is removed.
- Place a new filter loosely into the sensor cap.
- Screw the sensor cap on the swan neck. The filter will be pressed into the correct position.

7.3 Replacing the filter

The sensor cap contains a filter. The filter must be exchanged, if you detect any soil.

- Unscrew the sensor cap.
- Push the soiled filter from above out of the sensor cap, using a suitable tool (e. g. a small screwdriver).
- Place a new filter loosely into the sensor cap.
- Screw the sensor cap on the swan neck. The filter will be pressed into the correct position.

7.4 Changing the battery

The battery compartment is locked by a quick-release lock (1/4 of a turn). It can be opened with the help of a suitable tool (e. g. a coin or screwdriver).

CAUTION!
Pay attention to the correct polarity when inserting the two batteries.

8 Appendix

8.1 Technical data

Operating time:	min. 8 h
Power supply:	2 rechargeable NiMH accumulators (each with min. 1600 mAh) or 2 alkaline AA batteries
Protection:	IP54
Operating temperature:	-10 °C – +60 °C
Storage temperature:	-25 °C – +70 °C
Air pressure:	950 hPa – 1100 hPa
Humidity:	15 % r.h. – 90 % r.h. (non-condensing)
Dimensions:	50 × 150 × 30 mm (W × H × D)
Weight:	approx. 130 g

8.2 Error messages

ERR	Significance	Corrective action
001	Adjustment error	see Section 6.3
002 003	Software error	If the errors occur repeatedly or constantly, the device must be returned to SEWERIN Service along with the error number.
004 005	Hardware error	
006 008	Sensor error	
007	Sensor sensitivity	

8.3 Disposal and recycling instructions

The disposal of instruments and accessories is governed by the European Waste Catalogue (EWC).

Type of Waste	Corresponding EWC Code
Instrument	16 02 13
Test gas can	16 05 05
Battery, Accu	16 06 05

Old Instruments

Old instruments can be returned to Hermann Sewerin GmbH. We will arrange the qualified disposal free of charge through certified specialists.

8.4 Used symbols

CAUTION!
This symbol is used to indicate dangers which may either result in hazards for the operators or in severe damage – or even destruction – of the product.

Note:
This symbol is used to call attention to information and tips which may be helpful and which are exceeding the basic operating procedures.

8.5 EU declaration of conformity

Hermann Sewerin GmbH hereby declares that the **SNOOPER mini** system fulfils the requirements of the following guidelines:

- 2014/30/EU

The complete declaration of conformity can be found online.

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