



testo 316-2 Leakage detector for gas

Instruction manual



Safety and environment

On this document

- > Read this document through carefully, and familiarize yourself with the product before you put it to use. Keep this documentation close to hand in order to be able to consult it if required. Pass this documentation on to later users of the product.
- > Pay particular attention to information which is marked with the following symbols:



- With the signal word **Warning!**: Warns of dangers which can lead to serious injury if the prescribed safety measures are not taken.



- With the signal word **Attention!**: Warns of dangers which can lead to light injuries or material damage if the prescribed safety measures are not taken.

-  Important information

Avoiding personal injury/material damage

- > Use the measuring instrument only for the purpose for which it is intended, and within the parameters stated in the technical data. Do not use force.
- > If damage, malfunction or incorrect display occur, have the instrument checked. Do not use faulty instruments.
- > Do not carry out measurements with the product on or near live parts.
- > Never store the product together with solvents, acids or other corrosive substances.
- > Carry out only repair and maintenance work described in the instruction manual. Observe the prescribed handling steps. Use only original spare parts from Testo.

Protecting the environment

- > Dispose of faulty rechargeable batteries/empty batteries at the proper collection points.
- > Send the product back to Testo at the end of its life. We will ensure that it is disposed of in an environmentally friendly manner.

Specifications

Functions and application

The testo 316-2 is a gas leak detector for the fast and reliable detection of leakages on gas pipes.

i The testo 316-2 is not an item of safety equipment! Do not use the testo 316-2 as a monitoring instrument for your personal safety



The sensor head cannot be removed!

Do not use on live parts!

Do not use the instruments in environments with over 80 %RH (condensive).

Observe permitted storage and transport temperature as well as the permitted operating temperature (e. g. protect measuring instrument from direct sunlight)!

Do not use testo 316-2 in closed rooms in which gases have collected into an explosive mixture.

Ensure that the gas concentration does not exceed 20 % LFL (Lower flammability limit).

Always carry out a functionality test before gas detection.

Setting the sensitivity of the sensor in gas-contaminated surroundings lowers the alarm thresholds.

The warranty becomes void if the instrument is not used as intended or if force is applied!

Do not allow the sensor to come into contact with moisture or acids, as it will react cross-sensitively.

Technical data

Technical measuring data

- Sensor: Gas-sensitive semi-conductor
- Reaction threshold: 10 ppm bei C3H8, CH4 und H2
- Reactions time: <2s
- Alarm thresholds

- Battery life: approx. 6h (at 22°C / 72°F)
- Charging time: approx. 8h
- Dimensions: 57 x 190 x 42mm
- Weight: 348g

Further instrument data

Operating conditions: -5 to 50°C / 23 to 122°F / 20 to 80%RH, with limited functionality (only audible indication, reduced accuracy, reduced operating time) can also be used in the range -20°C to -5°C / -4 to 23°F

- Storage/transp. conditions: -25...60°C / -13...140°F/ 20...80%rF
- Minimum bend radius gooseneck: 40 mm
- Current supply: Rech. battery pack NiMH

Guidelines, norms and tests

- Instrument complies with worksheet DVGW G465-4

Sensor data

Meas. parameter	Measuring range	Bar display	Reaction time
CH4	10 ppm to 4.0 Vol. %	1 - 18 bars	< 2 sec. with pump
C3H8	10 ppm to 1.9 Vol. %	1 - 18 bars	< 2 sec. with pump
H2	10 ppm to 4.0 Vol. %	1 - 18 bars	< 2 sec. with pump

Alarm thresholds

Meas. parameter	1. Alarm threshold (12 bars)	1. Alarm Accuracy	2. Alarm threshold (17 bars)	2. Alarm Accuracy
CH4	200 ppm	±2 bars	10.000 ppm	±2 bars
C3H8	100 ppm	±2 bars	5.000 ppm	±2 bars
H2	200 ppm	±2 bars	10.000 ppm	±2 bars

Product description



- ① Sensor head with gas sensor.
- ② Flexible probe shaft.
- ③ Top: earplug socket, mains unit socket.
- ④ Display.
- ⑤ Operating buttons.

Display and operating elements

Display	Meaning
Colour of the display illumination	
green	No gas detected.
red	Gas detected.
Symbols	
	Gas concentration trend display: No gas detected / Gas detected.
	Gas concentration trend display: First alarm threshold / Second alarm threshold.
	Gas concentration maximum value display : Maximum gas concentration detected since the last reset of the maximum display or since the last time the instrument was switched on.
	Type of gas to be detected.
	Suppress background concentration
	Battery capacity: Battery full / battery partly discharged / remaining capacity < 15min.
	Audible signal: on / off.
Buttons	
	Instrument: on / off.
	Type of gas to be detected: Select.
	Audible signal: on / off.
	Trend display is reset
	one-off suppression of the background concentration (1. alarm threshold only), cancel suppression

Audible notification

The audible notification takes place with a signal tone whose interval frequency increases with increasing gas concentrations. A continuous signal sounds when the second alarm threshold is passed.

First steps

> Charging battery:





i Use only the original mains unit 0554 1093!

The rechargeable battery can only be charged at an ambient temperature of 0 to 45°C (32 to 113°F).

If the rechargeable battery is completely discharged, charging takes approx. 8h.

In order to ensure as long a battery life as possible, the battery should always be completely discharged and recharged.

The instrument can continue to be used during charging.

- 1 Plug the mains plug into the country-specific adapter and then plug into the mains socket.
- 2 Plug the instrument plug into the mains unit socket of the instrument.
 - Charging begins: ,  and  light up alternately.
 - Charging stops automatically when the rechargeable battery is full:  lights up.

> Using the earplug:


i Use only the original earplug 0554 5001!

The instrument loudspeaker is deactivated when the earplug is plugged in!

- > Plug the connection plug of the earplug into the earplug socket of the instrument.

Using the product

> Switching on the instrument:

- 1 Press  .
 - All display segments light up (duration: 3 sec), the suction pump starts (ventilator noise).
 - The initialization phase is carried out (heating, auto-test). The remaining duration is displayed.
 - After the end of the initialization phase: OK lights up (duration: 2 sec).








Attention! Danger of burning from the hot sensor head after prolonged use!

- > Before touching the sensor head or packing up the instrument, switch off and allow to cool.

> Selecting gas to be detected:

- > Press  several times, until the arrow lights up under the desired gas type.

> Suppress background concentration




- > Press  .
 -  lights up. The background concentration is suppressed.
-  Only possible if the gas concentration is below the first alarm threshold..
- > Press  again.
 -  goes out. Background suppression is removed. The current gas concentration is displayed.

- Carrying out gas detection:



Attention! Destruction of the sensor by non-desorbant substances (e.g. oils)

> Do not use the instrument in dirty surroundings.

- > Move the sensor head as close as possible, and slowly (3 to 5 cm per second) over the parts which are to be examined for leaks.
- Resetting maximum value display:
 - > Press  and  simultaneously.
- Switching instrument off:
 - > Press and hold  until the display switches off.

Maintaining the product

➤ Charging the rechargeable battery:

See chapter “First steps”

➤ Cleaning the sensor:

Tobacco smoke, dirty air, oils, grease, silicones and evaporating liquids or gases can lead to deposits on the surface of the sensor. This can result in reduced sensitivity and falsified display of concentrations. If necessary clean the sensor.

> Switch on the instrument, wait until the end of the initialization phase and switch off again. Repeat this procedure several times.

➤ Clean the sensor head from the outside

> If dirty, clean the sensor head with a soft dry cloth.

➤ Cleaning the housing:

> If dirty, clean the housing with a damp cloth (soap solution). Do not use aggressive cleaning products or solvents!

➤ Switching on regularly

If the instrument is used infrequently, deposits may build up on the sensor.

Switching the instrument on prevents deposits building up on the sensor. Testo recommends switching the instrument on regularly to avoid deposits building up on the sensor.

➤ Storage & transportation

To avoid contamination of the sensor, the instrument should not be stored or transported in an environment where there is tobacco smoke, foul air, oils, greases, silicones or evaporating liquids or gases. Any sensor that is contaminated as a result of storage or transportation must be cleaned before use, see Cleaning the sensor.

➤ Regular servicing:

Testo recommends yearly servicing of the gas detector by an authorized service centre.

Tips and assistance

Questions and answers

Question	Possible causes / solutions
"Error 01"	· Instrument error: please contact your dealer or Testo customer service.
"Error 02"	· Sensor defective (wire breakage): please contact your dealer or Testo customer service.
"Error 03"	· Sensor connection faulty: Steckverbindung des Sensorkopfes prüfen Please contact your dealer or Testo customer service
"Sensor" blinkt	· Sensor dirty: clean sensor, see chapter "Maintaining product".

If we were not able to answer your question, please contact your dealer or Testo customer service. For contact data, see back of this document or web page www.testo.com/service-contact.

Accessories and spare parts

Description	Part no.
Earplug	0554 5001
Mains unit	0554 1093
testo 316-2	0632 3162