

Operating instructions (Translated)

**Gas detection device with vibration
alarm**

TONI GasTest CH4 [EN]

version 02/2025 as of sw-version 10

item no.: 303001



Translated: 03/2025



Technology with a passion.

Success for your business with quality products from

Esders

We thank you for choosing an Esders GmbH product.

You are always assured an outstanding, thoroughly tested device with products from our comprehensive range. Our devices comply with laws and regulations applicable in Germany and thus guarantee an extremely high standard of safety. We also offer an annual service for all our devices.

This operating instruction will help you to start using the device quickly and effectively. Take a few minutes to read them through, so you can operate the device safely and are able to use all the functions.

You can contact our expert team at any time with any queries or suggestions you may have.

Best regards

Bernhard Esders
Managing Director

Martin Esders
Managing Director

Stefan Esders
Managing Director

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Safety aspects and notes on using the device

In order to ensure maximum safety and prevent malfunctions, you should be absolutely certain to

FOLLOW the operating instructions!

Symbols used in these operating instructions



Caution: Individual situation-related and work-related safety instructions for the safe use of the device.



Note: Notes contain useful additional information and application tips that must be observed for safe use of the device.

1. Safety and operating personnel

1.1 Where may the device be used?

The **TONI GasTest** is a portable, highly sensitive measurement device and is used for the quick detection of the smallest leaks in the gas installation. The device also reacts differently to flammable gases and moisture.

For this device the following safety instructions and requirements to the area of use shall apply:



The **TONI GasTest** CH4 0 - 10.000 ppm measurement device is only calibrated for methane and only provides correct display data for this gas.

The use is limited to the detection of gas leaks and the qualified categorisation of leaks.

The device is designed for use in gas installations.

- This device is not approved for usage in in Ex-Zones.
- This device is not for usage with explosive substances or mixtures.

Ensure you keep within the specified measurement range limits. Please shield protect the device against sensor poisons (alkaline, halogenated, sulphurous or acidic compounds, silicone spray, aviation fuel and cyanides).

1.2 Requirements to be met by the personnel

All work on gas pipelines may only be carried out by specialist expertise, professional instructed and skilled personnel. Therefore, the requirements for specialised personnel and experts are professional training and sufficient practical experience as well as relevant expertise:

- in the German TRGI G-600 regulations or equivalent,
- in measurement technology and the safety and occupational safety regulations
- as well as certificates of regularly attended training courses / seminars.
- Special expertise professionals must also be verified in text form by the entrepreneur / service provider.

1.3 Protection category IP 64

The **TONI GasTest** is dustproof and protected against splashing water from all sides.

If the device has been exposed to the conditions of this protection class, it can lead to incorrect measurements. We therefore recommend drying the device, replacing the filter and carrying out a calibration and adjustment. If necessary, the device must be sent to the factory for further inspection.

The sensor head is excluded from protection category IP 64.

2. Device picture with connections and control elements



No.	Description
1	Sensor head
2	Display (lighted Display)
3	Function keys F1 key and F2 key
4	Enter key (On / Off) and ESC key (Back)

3. Operation

3.1 Initial commissioning/ recommissioning

The device will be delivered fully calibrated ex works. No special measures are required for initial commissioning. After switching on the device using the **Enter key** (On/Off), data/information about the device and a note about the device registration in **Esders Connect** appear once on the display.

For information and advantages of the device registration, please refer to chapter 3.7 Registration.

Please note the following when using the probe:

- No contamination, no mechanical damage to the probe head
- Goose neck:
 - Do not overbend the goose neck with a radius < 40 mm
 - Do not bend the probe with tools, e.g. pliers
 - Protect the probe from drops and moisture
 - Do not expose the probe to lighter gas etc.
- Do not carry the device by the probe head or goose neck

Attention!

The battery should be fully charged if the device is not used for a long time after delivery or if it is not used for a long time. Before use, the device should be left to run in fresh air for some time. The measurement device should be calibrated/adjusted at regular intervals. At least once a year (see chapter 3.4 Calibration/Adjustment).



3.2 Main menu

The main menu allows you to select the individual menu items. Use the **F1 key** and the **F2 key** to select the desired menu item by scrolling up or down. The menu item is highlighted. You can access the corresponding menu item by pressing the **Enter key**.



3.3 Info menu

Here you can use the **F1 key** to carry out an alarm test to check the visual and acoustic signal transmitters and read out general information about the operating status of the device. To return to the main menu, press the **ESC key**.



3.4 Calibration/ Adjustment

The measurement device can be calibrated and, if necessary, adjusted in the 'Calibration/Adjustment' menu. The calibration is possible in the specified operating temperature range, but any necessary adjustment is only possible in a limited temperature range (12 Technical data). The device may display a corresponding warning message when the menu item is started.

The sensor will be pressurised with the correct test gas during calibration. Calibration can be carried out without entering the password. The adjustment is password-protected.

The Calibration must be carried out in an environment with clean air, i.e. h. the air must be free of hydrocarbons and toxic gases.

After selecting this menu item, a corresponding message flashes on the display during the sensor initialisation phase.



In addition, the display will jump back and forth between the last two indications.

The zero point appears after the sensor initialisation phase. The **F1 key** can be used to set the zero point manually in the event of deviations. Press **F2 key** to save the zero point and start calibration.



With the diffusion device, the set gas can be fed from the corresponding test gas can using a suitable test device (online shop <https://www.esders.de>).

As soon as the test gas (1000 ppm methane, rest synthetic air) is added to the device, it is recognised after a short time and the values



on the display increase. As soon as the software recognises **stable values** (max. 10% deviation from 1000ppm), the process can be continued with the **F2 key**.

If the **F2 key** was pressed, a message appears indicating that the test gas can be removed. After removing the test gas, the values in the display decrease.



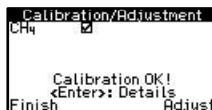
Attention!

Removing the test gas too early during calibration may result in an invalid calibration or adjustment! Please wait for sufficiently stable values!

Pressing the **F2 key** again takes you to the display of the results or the evaluation of the calibration. The values do not have to be completely down to zero for this.

Calibration can be ended with the **F1 key** and the result display is listed. A hook next to the corresponding test gas means that the calibration was performed successfully. An X or an empty box in the gas/measurement range means that the calibration has failed. Possible causes for this can be an incorrect test gas or too much or too little test gas during the calibration process. In this case, the calibration can be repeated with the correct test gas (1000ppm methane, rest synthetic air). Other causes may be a defective sensor or too short a sensor initialisation phase in clean air.

The **F2 key** can be used to perform an adjustment if required. An adjustment is only possible if an empty box or a box with a hook is displayed in the gas/measuring range. Both are shown with a corresponding message on the display.



After pressing the **F2 key**, the main password must be entered first. To enter the password, see chapter 3.6 Settings.

After successfully entering the password, an additional security query appears.



Attention!

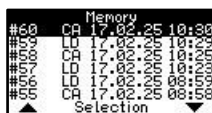
As soon as the security query has been confirmed, all gas/measurement ranges tested during the **previous calibration are readjusted irrevocably!**

3.5 Memory

In the 'Memory' menu item, it is possible to display completed measurements. Furthermore, individual measurements or the entire data memory can be deleted. The respective measurements can be printed out individually via the thermal printer P3 (printouts fade with the time) or transferred collectively to **Esders Connect**.



The stored measurements are arranged chronologically. By holding down the **F1 key** or **F2 key** the data memory can be scrolled through more quickly. The measurements are labelled with a number, an abbreviation (LD = leak detection and CA = Calibration/Adjustment) for the type of measurement, the date of the measurement and the time. Press the **ESC key** to return to the main menu.



3.6 Settings

Individual adjustments can be made to the measurement device in the 'Settings' menu item.



To do this, the main password must be entered first. Use the **F1 key (+)** to change the displayed digit (0-9) and use the **F2 key (")** to select the next digit. The password is confirmed by pressing the **Enter key**. The main password is set to '1000' by default and can only be changed via the Esders service. After changing the passwords, they must be checked on the device.

Depending on the device configuration, the following settings are possible.

Settings	General	Language	Autom. off	Backlight	Direct start
	Service/ Calibration date	Service	Locking	Cal. 1	
				Cal.1 interv.	
				Cal.1 block	
	Leak detection	Alarm	Units	Show menu	
	Printer selection	Find printer			
Date/Time	DD.MM.YY	Hour.Min.Sec.			

3.6.1 General

In this setting menu item, the following can be set:

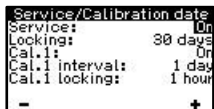


- **Language:** In addition to the standard languages German and English, further languages can be selected here, as available.
- **Auto off:** Setting the automatic switch-off of the device when inactive
- **Backlight:** The backlighting is set to be permanently on or off, or to switch off automatically after a set time of inactivity.
- **Direct start:** Here you can select that the measurement device should start the leak detection (LD) automatically. This is only possible if the measurement device has been registered in advance in **Esders Connect**. For information on device registration, please refer to chapter 3.7 Registration.

Use the **Enter key** to navigate through the respective items. Back to the overview of the settings menu with the **ESC key**.

3.6.2 Service /Calibration date

In this settings menu item, the service date can be activated or deactivated and different Calibration intervals can be set.



These intervals serve as a reminder to carry out the next Service or Calibration due. The service concerns the entire device and is carried out by the manufacturer. For Calibration specific menu items see chapter 3.4 Calibration/ Adjustment.

The device can be set so that it is completely locked or that certain menu items are locked if a service, calibration is not carried out by the due date.

- **Service:** The date of the next service due can be displayed when the device is started. In addition, information on the time remaining until the next service can be displayed from 90 days before the due date.
- **Block:** If the due date is exceeded, the device locks automatically if the corresponding setting is made. After this period has expired, unlocking is only possible temporarily until the next time the device is started. A message is displayed in the main menu.
- **Cal.1:** The device has a calibration date. When activated, it serves as a reminder for the next calibration due (and adjustment if necessary).
- **Cal. 1 interval:** After activating the **Cal. 1** setting, different calibration intervals can be defined for the device at which the measurement device needs to be calibrated.
- **Cal. 1 Block:** If the due calibration (and adjustment if necessary) of the device is exceeded, it will be automatically blocked. The device is blocked either immediately or after a defined interval and can be cancelled by performing a new calibration.

3.6.3 Leak detection

- **Show menu:** If 'Yes', the menu item is displayed in the main menu. If 'No', it is hidden in the main menu.
- **Alarm:** An alarm threshold can be set in the device, which triggers an alarm if the set gas concentration is exceeded. The alarm is displayed acoustically, visually and as a vibration alarm.
- **Units:** Displays the possible measuring ranges/display ranges. These can be selected according to the following table.



Unit settings					
Set	ppm		Vol. %		
	Max.	Resolution	Min.	Resolution	Max.
1	1.000	1 ppm	0,1 %	0,01%	2,2 %
2	1.000	5 ppm	0,1 %	0,01%	2,2 %
3	10.000	10 ppm	1%	0,01%	2,2 %
4	22.000	5 ppm			

3.6.4 Printer selection

The currently selected P3 thermal printer is displayed in this settings menu. In addition, the **F2 key** can be used to search for another P3 thermal printer. Only the P3 thermal printer distributed by **Esders GmbH** can be used.



3.6.5 Date/Time

The date and time can be set or changed in this menu setting. Switch on with **Enter key**. Cancel with **ESC key**.



3.7 Registration

After the **TONI GasTest** has been switched on, a QR code for registering the device in **Esders Connect** will appear at the beginning. Scanning the QR code takes you to the instructions for registering the measurement device. As soon as the device registration is complete, the display in the measurement device automatically switches to the main menu and you receive a confirmation email to the email address which is registered in **Esders Connect**.



If the measurement device should not be registered in **Esders Connect**, the registration can be skipped with the **F2 key**. The device can also be registered at a later time via the menu item 'Registration'.



Note: If the measurement device is not registered in **Esders Connect**, the following functions are not available:

- Direct start of the set menu item after starting the device
- Sending/transmitting the measurement data in **Esders Connect**

3.8 Overview of measurement ranges & display ranges

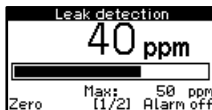
Menu item	Gas	Sensor	Measurement range (M) Display range (D)
Leak detection	CH4 methane	SC-Sensor	0 to 10.000 ppm
			1 Vol. % to 2.2 %Vol (D)

4. Leak detection

The 'Leak detection' menu item allows the quick and effective detection of leaks on installation lines and connection points. After selecting the menu item, the sensor initialisation phase begins. This must take place in fresh ambient air! The sensor initialisation phase is the period of time that the sensor and the device need to be reliably operational.

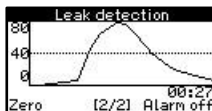


As soon as the Save-symbol appears in the first line of the display, the current measurement data is displayed and saved.

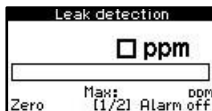
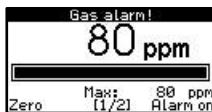


The **F1 key** can be used to perform a zero point correction within certain limits.

With the **Enter key** you can switch the display in the menu item, whereby a ppm graph display appears in which the course of the measured concentration is documented. If the measured value of the gas reaches or exceeds the set alarm threshold, an audible, visual and vibration alarm is triggered. In addition, 'Gas alarm!' is displayed alternately with the measured value in the second line of the display by flashing in inversion. The test is ended with the **ESC key**. With configured MDE data, you can access the measurement summary and then return to the main menu by pressing the **ESC key**.



If the box shown in the figure is displayed when performing the leak detection, a calibration must be performed in accordance with chapter 3.4 Calibration/ Adjustment.



5. Power supply

The **TONI GasTest** is powered by an internal rechargeable battery. The current battery charge level is always shown on the top line of the display. The charge level display can only show trends and is therefore visualised using five different displays.

	Description	Charge level
1	Frame and 3 bars	approx. 67% ... 100%
2	Frame and 2 bars	approx.. 34% ... 66%
3	Frame and 1 bar	approx.. 10% ... 33%
4	Flashing frame	approx.. 6 %... 9%
5	Flashing frame + "Battery empty" in the top line	approx.. 1% ... 5%

Furthermore, the current battery level is also shown in the info menu as a percentage. If the display shows 'Battery empty', the **TONI GasTest** should be recharged. Only the **Esders GmbH** charging cable provided for this purpose should be used to charge the measuring device.

6. Scope of delivery

The device will be delivered to you fully packed. Do not use any sharp objects to open it. Dispose of the packaging material in an environmentally friendly manner in accordance with the relevant statutory provisions and local regulations. Check that the delivery is complete.

Check the scope of delivery for completeness immediately upon receipt. The delivery should contain the following components:

- **TONI GasTest**



7. Firmware updates (firmware, menu items, functions)

You can use the **Esders Connect** app to update the device's firmware without sending it in. Firmware updates are required, for example, if regulations and therefore test procedures change (update).

We, **Esders GmbH**, continuously update the test procedures in the event of changes (to standards). Firmware updates are also required if you purchase additional menu items (upgrade). If you need help with an update, please contact Esders Service department.



Prerequisite:

- **Esders Connect** app and smartphone/tablet with a good internet connection
- Esders device

Use the Esders Connect app



Do not switch off the device during the process. The app and wireless data transfer should also not be switched off.

1. Switch on the device.
2. Open the app on the smartphone/tablet.
3. Follow the further instructions in the app.

Info: The app connects to the device. The device switches to 'Data mode'. You will see 'Data mode' on the device display.

8. Error message/ codes

If the measuring device displays an error message or error codes, please observe the following steps:

- Switch the device off and on again
- make sure that the battery is fully charged.

If the errors appear again after a restart, the device should first be connected to the **Esders Connect** app and the configurations and/or firmware should be updated. If the error persists afterwards, please contact Esders Service.

9. Maintenance and service

We recommend that the device, including sensors, be fully serviced by Esders GmbH in accordance with DIN 31051 once a year:

Maintenance	Servicing, inspection, repairs, improvements
Servicing	Measures to maintain the target condition
Inspection	Measures for determining and Assessment of the current condition
Repairs	Measures to re-establish the target condition
Improvements	Subsequent improvements (such as software updates)

In addition, the time of the next inspection is shown on the display when the device is started (if previously set in the settings), as well as in the **Esders Connect** app or when the **ESC key** is pressed and held while the device is switched off. Only original **Esders** spare parts may be used.

10. Warranty conditions

Thank you for choosing for the Esders device. All devices are inspected thoroughly by our technicians before leaving our factory.

We provide a 12 month warranty for all devices assuming they are used as intended.

Our liability is limited to the repair or adjustment of the device, which shall be returned to the factory for this purpose.

Wear parts such as power packs are explicitly excluded from this warranty. Damages to the sensor which are caused by improper handling are also excluded.

Repairs will be billed for in cases of malfunctions caused by improper handling or abnormal operating conditions. In such cases, you will be informed of the expected costs before repairs are commenced.

11. Disposal

The device and its accessories must be disposed of in accordance with the statutory provisions. Please ensure that the waste is separated appropriately before disposal. We will gladly take your device back and arrange for it to be disposed of by a qualified processing company.

Old batteries do not belong in household waste. As a consumer, you are legally obliged to return used batteries. You can return your used batteries to the public collection points in your municipality or wherever batteries of this type are sold. Send devices / accessories labelled Disposal to the following address:

Esders GmbH
Key word: Disposal
Hammer-Tannen-Str. 26-30
D - 49740 Haselünne

12. Technical data

Description	TONI GasTest CH4	
Dimensions without gooseneck	13 cm x 6,5 cm x 3,5 cm	
Dimensions without gooseneck	35 cm x 6,5 cm x 3,5 cm	
Weight	265 g	
Display	LCD graphic display with 128 x 64 pixels + special characters, can be illuminated	
Power supply	Long-lasting lithium-ion battery, rechargeable via USB-C	
Operating time	Display lighting off	approx. 31 hours
	Display lighting on	approx. 20 hours
Operating conditions	Temperature	-20°C to + 50°C
	Calibration/Adjustment	10°C to +40°C
	Air humidity	0 - 95% relative humidity (non-condensating)
	Ambient pressure	800 - 1100 hPa
Storage conditions	Gas inlet	max. 60 hPa inlet pressure
	Temperature	20°C to +60°C
	Air humidity	0 - 95% relative humidity (non-condensating)
Protection	Ambient pressure	800 - 1200 hPa
	IP 64	
Measuring range	Methane 0 - 10.000 ppm	
Printout (optional)	Thermal printer	
Cloud memory	Including after Esders Connect device registration	
Alarm notifications	Optical, acoustic and vibration	
Alarm level	>95 dB (A)	

13. Appendix

13.1 Licence conditions for the operating system

Reference to firmware (open source software)

The firmware is based on open source software. The source code is provided according to the licence conditions for this open source software (GPL / LGPL). **Esders GmbH** points out that it is not responsible for the source code, which is not part of the services due.

The source code is available upon request for sale at cost at [https://info@esders.de](mailto:info@esders.de). The complete licence conditions can be found on the internet at: <https://www.esders.de/Lizenzen/>

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Keep the operating instructions in a safe place so that you can access them at any time if necessary. All illustrations in this document serve to clearly illustrate the technical context or explain the operating procedures. Only the facts described in the text apply to the warranted scope of performance. Unless otherwise stated in the text, the statements in this document take precedence over any other statements in the appendices or illustrations.

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All data, specifications and information in this operating manual have been compiled with care and to the best of our knowledge. If you have any questions or would like to give feedback on the operating instructions, please contact your contact person at Esders.

Contact person

Your sales representative or e-mail to <https://info@esders.com>

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Manufacturer

Esders

Esders GmbH, Hammer-Tannen-Str. 26-30,
49740 Haselünne, Germany

Locations/Sales/Importers

Esders GmbH, Hammer-Tannen-Str. 26-30,
49740 Haselünne, Germany

