Operating Instructions

SEWERIN
Protecting Water, Gas and Life.

ATS 503/501

Test set

01.09.2025 a – 108537 – en

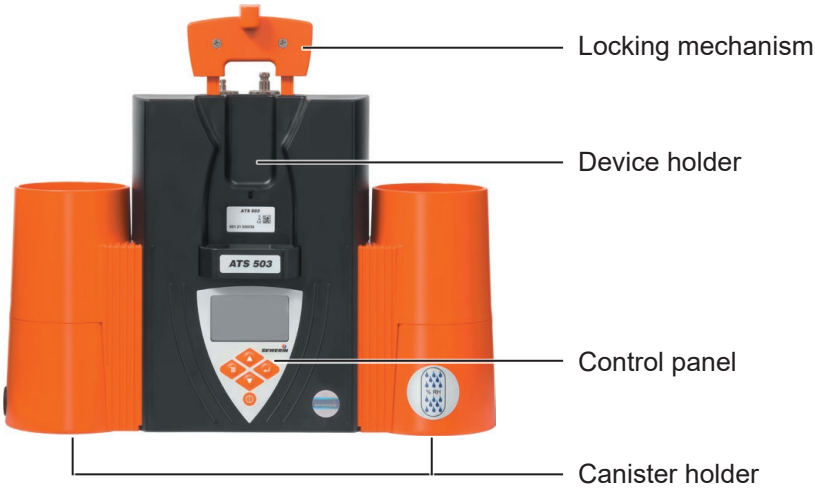

Fig. 1: **ATS 503** – front view

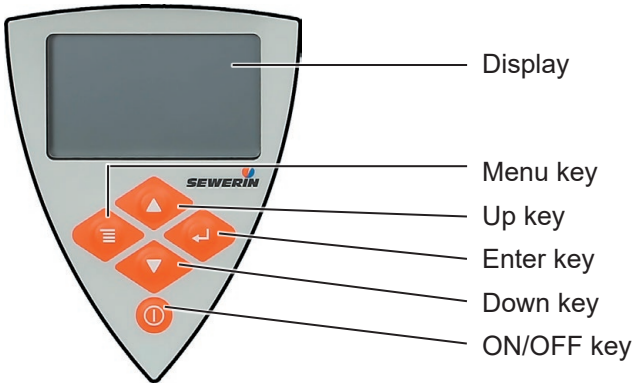

Fig. 2: **ATS 503/501** – control panel

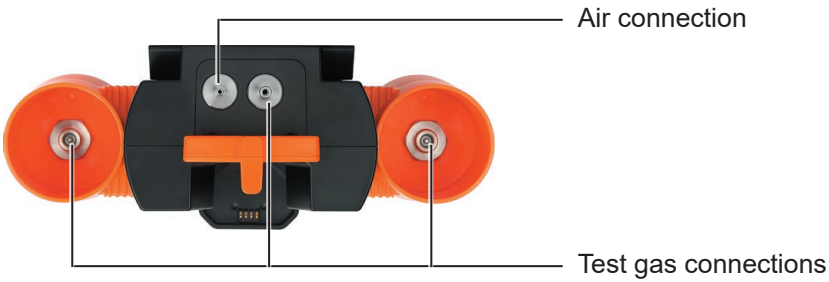

Fig. 3: **ATS 503** – view from above

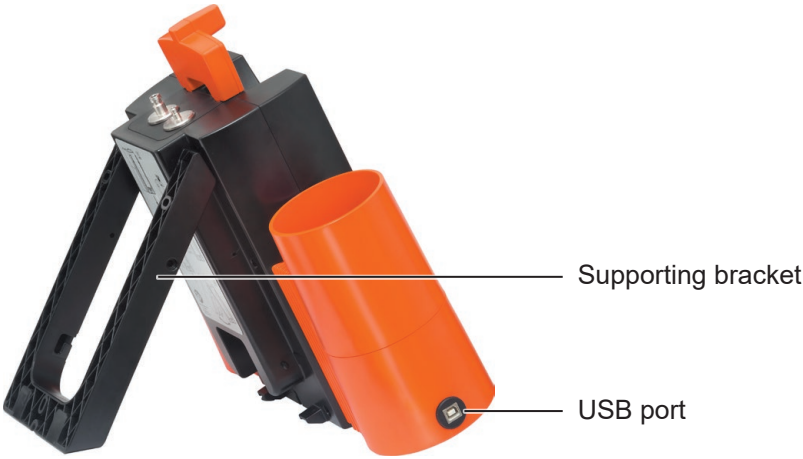

Fig. 4: **ATS 503** – tilted position

Fig. 5: **ATS 503/501** – rear view (section)

Illustration of warnings in this document

NOTICE!
Risk of damage to property.

1 Introduction

1.1 Information about this document

This document is a component part of the product.

- Read the document before putting the product into operation.
- Keep the document within easy reach.
- Pass this document on to any subsequent owners.
- Unless otherwise specified, the information in this document refers to the product as delivered (factory settings) and applies to all product variants.
- Note the following terminological specifications that apply to this document:

SEWERIN product name	Name in document
ATS 503/501	– Test set – Product
EX-TEC **PM 580/550/500/400**	– Device – Gas concentration measuring device

- The product is described with all device features. Not all of the functions described may be available on the product you are using. Please contact the SEWERIN Sales Department for further information.
- Contradictory national legal regulations take precedence over the information in this document.

Translations

Translations are produced to the best of our knowledge. The original German version is authoritative.

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1.2 Purpose

The **ATS 503** or **ATS 501** test set can be used to perform the following maintenance activities:

- Device inspection
- Adjustment

The test set is suitable for the following gas concentration measuring devices:

- **EX-TEC PM 580/550/500/400**
- **EX-TEC PM 580/550/500/400 CSA**

The test set can also be used:

- for charging the rechargeable batteries of devices
- for reading protocols from devices to a computer

1.3 Intended use

The product is suitable for the following uses:

- professional
- industrial
- commercial

The product must only be used for the applications specified in section 1.2.

1.4 General requirement for use

Only device inspections and adjustments that are technically possible can be performed using the test set.

Whether a device inspection/adjustment is technically possible depends on:

- Device: variant and features
- Test set: current gas assignment

The firmware of the test set and device as well as the **GasCom** software are synchronised. To ensure successful communication between the products, the following versions are required at minimum:

Product	Minimum firmware/software version *
ATS 503/501 test set	V1.100
EX-TEC PM 580/550/500/400 device	V1.100
GasCom software	V1.3.0

* Updated: 05/2024

If you have any questions about the requirements, please contact SEWERIN Sales Department.

1.5 Safety information

This product was manufactured in keeping with all binding legal and safety regulations.

The product is safe to operate when used in accordance with the instructions provided. However, when handling the product, there may be risks to persons and property. For this reason, observe the following safety information without fail.

- Observe all the applicable safety standards and accident prevention regulations.
- Use the product only as intended.
- Do not make any changes or modifications to the product unless these have been expressly approved by Hermann Sewerin GmbH.
- Only use accessories and consumables approved by Hermann Sewerin GmbH.
- Always observe the permitted operating and storage temperatures.
- Handle the product carefully and safely, both during transport and when working.
- Do not use the product if it is damaged or faulty.

- Protect the ports and sockets against dirt, and electrical ports in particular against moisture.
- Never carry the test set by the locking mechanism or the supporting bracket.
- Only operate the test set in well ventilated rooms.
- Do not operate the test set in potentially explosive or oxygen-enriched atmospheres.
- Do not install or operate the test set in vehicles.
- Handle test gases in a professional manner.
- The test set complies with the requirements of Directive 2014/30/EU (EMC). When using the product close to devices with radio transmitters:
  - Comply with the information in the operating instructions for the devices regarding emission of interference.

1.6 Qualification of users

The appropriate specialist knowledge is required for using this product. In addition, certain activities may be performed only by qualified persons.

A distinction is made between the following user groups:

Trained person

- Trained persons know the external structure, functions and operating instructions of the devices and the test set.
- Trained persons can detect defects or changes to the device and the test set.
- Trained persons may operate the test set and connect or replace test gases.

Specialist (device inspector)

- Specialists have received professional training and thus have fundamental knowledge of the measuring principles used in gas concentration measuring devices.
- Specialists are experienced users and therefore have sufficient knowledge of the use of gas concentration measuring devices.

- Specialists are allowed to carry out the activities of trained persons and, in addition, commission the test set and configure the **GasCom** software.

Competent person

SEWERIN service personnel and people trained by SEWERIN are competent persons.

- Competent persons have knowledge of the applicable regulations and guidelines as well as the tasks and functions of gas concentration measuring devices.
- Competent persons can evaluate whether the condition of devices and the test set renders them safe to operate and can perform the necessary operations without supervision.
- Competent persons are appointed by their company in writing. Their responsibilities are defined when they are appointed. They are authorised by the manufacturer.
- Competent persons must receive regular training.
- Competent persons are allowed to carry out the activities of specialists and also to service the test set.

2 Product description

2.1 Product variants

The following product variants of the test set are available:

- **ATS 503**
- **ATS 501**

The product variants differ in the number of test gas connections.

	ATS 503	ATS 501
Test gas connections (total)	3	1
– for test gas cans	2	1
– for test gas bottles	1	–
Air connection	1	1

The product variants are suitable for device inspection and adjustment of the following applications:

Application	ATS 503	ATS 501
Structure	×	–
Warning	×	×
Measuring	×	×

2.2 Features

You will find an overview with the names of the parts inside the front cover (fig. 1 to fig. 5).

Device holder and locking mechanism

The device holder is a positive-locking recess in the housing of the test set for holding a device.

The device is secured in the device holder by the locking mechanism. During a device inspection or adjustment, test gas or clean air is supplied to the device via the locking mechanism.

Test gas connections

The test gases used to perform device inspections or adjustments are connected to the test gas connections.

Information on test gas connections can be found in section 5.1.

Air connection

Clean air is drawn in via the air connection during a device inspection or adjustment.

The air can be drawn in:

- Directly

  No accessories are connected to the air connections.

- Using an ambient air hose

  An ambient air hose is connected to the air connection, with the free end positioned in a place where there is clean air.

  For example, the ambient air hose can be routed through an open window so that ambient air is drawn in instead of room air.

  The ambient air hose can be purchased as an accessory.

The air connection is equipped with an internal carbon dioxide filter. The filter is tested by SEWERIN Service as part of the annual maintenance.

Electrical connections

The test set has the following electrical connections:

- USB port
  - for data exchange with a computer
- Connection for power supply
  - for powering the test set
  - for charging the rechargeable batteries of a device

2.3 Visual and audible signals

The test set does not emit any signals. If visual signals are visible and audible signals are audible, they come from the device that is being used.

2.4 Power supply

The test set is powered by an external power source. The following is required for connection:

- AC/DC adapter **M4**

2.5 Menu

The menu (fig. 6) is accessed using the menu key. Which menu level is visible depends on the situation.

In the menu, the user can:

- perform actions
- perform settings
- view information

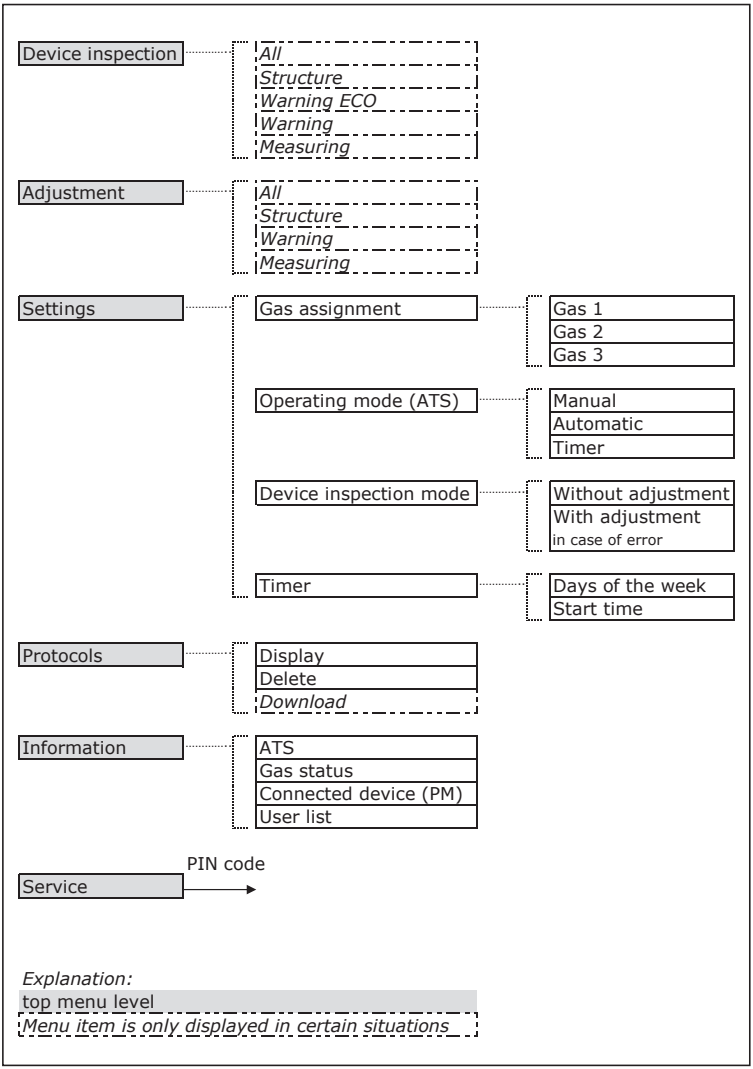

Fig. 6: Menu structure

Information on some menu items

- **Structure, Warning ECO, Warning, Measuring**

  The menu items are only displayed if a device inspection/ adjustment is technically possible (section 1.4).

  If a device inspection/adjustment is not technically possible, the **Warning** menu item will be displayed. If this menu item is then selected, an error message will appear.

- **All**

  This menu item is only displayed if more than one device inspection/adjustment is technically possible.

- **Download**

  This menu item is only displayed if a device has been inserted in the test set.

- **Service**

  This menu item is protected by a PIN code and only accessible to authorised users.

2.6 Waiting mode

In waiting mode, the test set is switched on but no device has been inserted (fig. 7). The test set is ready for use.

The display shows the current pressure[1] of the connected test gases[2] for all test gas connections on a rolling basis.

Fig. 7: Waiting mode (*here:* including pressure display)

[1] Can pressure or pressure on the regulator.

[2] Requirement: The function has been activated using the **GasCom** software.

2.7 Protocol memory

The test set memory has space for a maximum of 6,000 protocols. This memory can be used for one device or for several. If protocols are saved by several devices, the maximum number of protocols is shared out over the devices. A maximum of 200 devices can save protocols.

The test set will notify the user if only a limited memory capacity remains.

If the memory is full, protocols will no longer be saved. Alternatively, you can set the **GasCom** software to delete the oldest protocols if the memory is full to make space for new protocols. Deletion will then be automatic and without asking you for prior confirmation.

Note:
Protocols are important pieces of evidence. Depending on national legal stipulations, the protocols may be subject to retention obligations.

- Download the protocols regularly and in a timely manner to a computer using the **GasCom** software. Ideally, back up the protocols subsequently on another storage device.

The protocols in the protocol memory can only be viewed using the **GasCom** software. Exceptions include the 40 most recent protocols displayed in the protocol list of the test set (section 9.1.1).

3 Preparing for start-up

Note:
Start-up may only be carried out by specialist technicians.

3.1 Suitable environment

The test set may only be operated in spaces that meet the following requirements:

- clean ambient air
- well ventilated
- dry
- dust-free
- vibration-free
- no direct sunlight on test gas cans

If the set-up location does not meet the ambient air and ventilation requirements, the test set can still be operated at this location, provided that an ambient air hose is used. The hose must be positioned so that clean air can be drawn in.

3.2 Position of use

3.2.1 Overview

The test set may be operated in the following operating positions:

- placed on a horizontal, flat surface
  - upright
  - tilted and supported by the bracket
- mounted on a vertical, load-bearing surface (wall mounting)

3.2.2 Tilted position

The test set can be tilted. It is supported by the supporting bracket.

NOTICE!

When tilted, the supporting bracket is not designed for forces applied from above.

- Never exert pressure on a test set that is tilted.

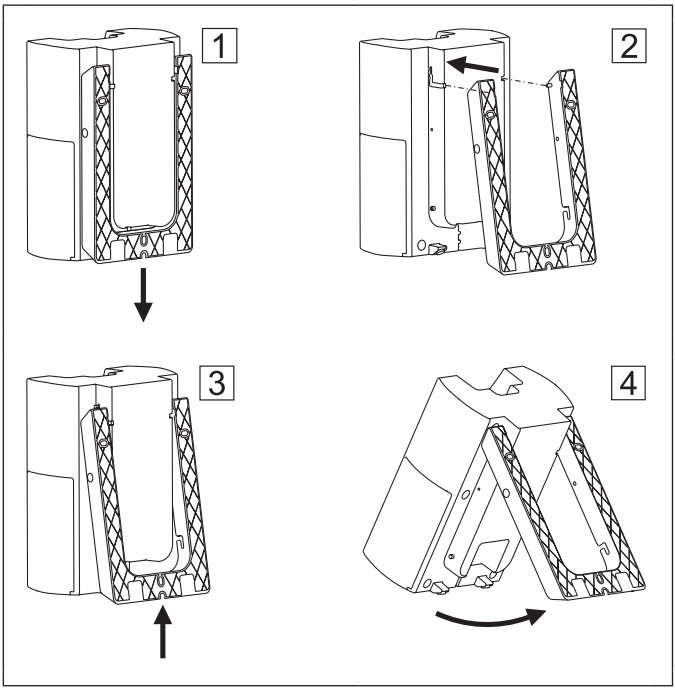

Fig. 8: Setting up the test set in a tilted position
(test set shown without canister holder and locking mechanism)

Setting up the test set in a tilted position (fig. 8)

1. Pull the supporting bracket down vertically. Remove the supporting bracket. [1]
2. Plug the device plug of the AC/DC adapter into the power supply connection of the test set.
3. Slide the supporting bracket into the test set. [2]
   − Insert the pins into the slots on both sides.
4. Push the supporting bracket upwards as far as it will go. [3]
5. Pivot the bracket as far as it will go. Tilt the test set until it is securely supported by the bracket. [4]

3.2.3 Wall mounting

For wall mounting, the supporting bracket is screwed to a vertical, load-bearing surface. The test set is then clicked into the supporting bracket.

The following mounting materials are included in the delivery:

− 3 wood screws 4.5 x 60 mm and 3 universal plugs 5 x 30 mm for attaching the supporting bracket to the surface

− 2 self-tapping screws
for securing the test set

NOTICE!

The mounting materials supplied may be unsuitable for certain surfaces. If the mounting material is nevertheless used in such cases, the supporting bracket may rip away from the surface after the test set has been inserted.

- Only use the supplied mounting material if it is suitable for the surface intended for mounting.

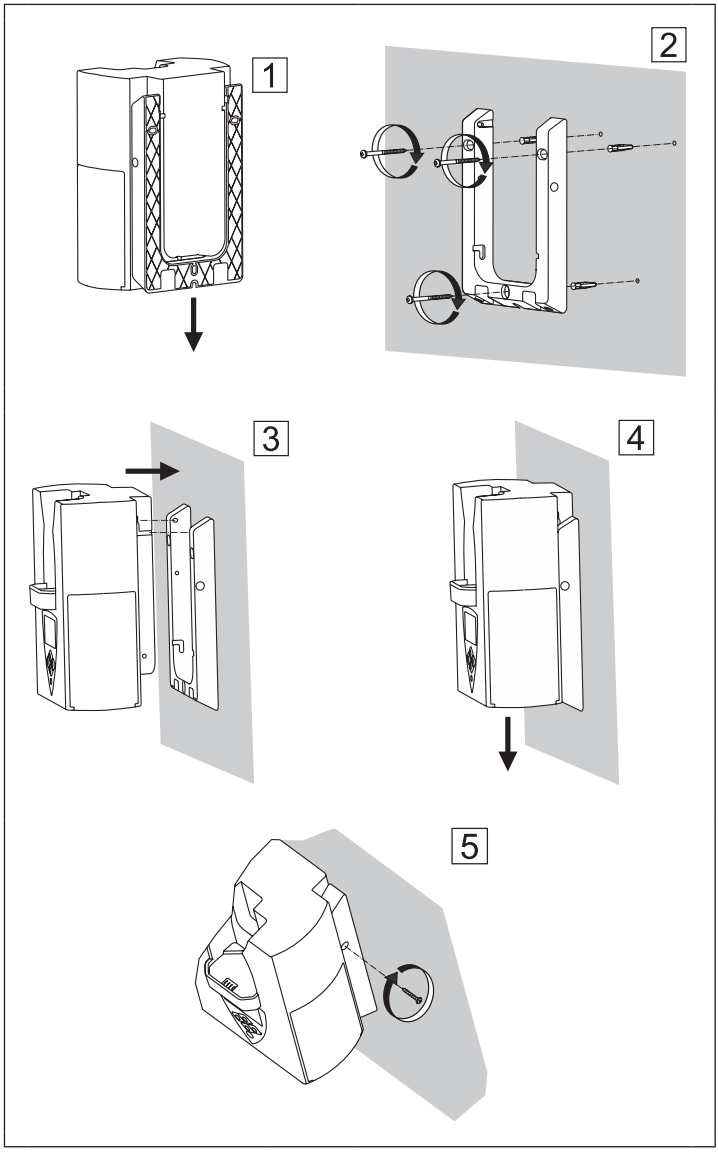

Fig. 9: Mounting the test set on a vertical surface
(test set shown without canister holder and locking mechanism)

Mounting the test set on a vertical surface (fig. 9)

1. Pull the supporting bracket down vertically. Remove the supporting bracket. [1]
2. Attach the supporting bracket to the surface. [2]
   - Using the supporting bracket, mark the 3 holes that need to be drilled.
   - The open side of the bracket[1] must face the surface, the smooth side towards the user.
   - Align the supporting bracket horizontally before tightening.
3. Plug the device plug of the AC/DC adapter into the power supply connection of the test set.
4. Place the cable of the AC/DC adapter carefully in the cable guide.
5. Slide the test set into the supporting bracket. [3]
   - Insert the pins into the slots on both sides.
6. Push the test set down until it clicks into place. [4]
7. Secure the test set on both sides with the 2 self-tapping screws. [5]

[1] Reinforcement ribs visible.

4 Operation

4.1 Switching on the test set

The test set can be switched on as soon as it is connected to the power supply.

- Press the On/Off key.

  a) A sequence of start images (fig. 10) appears.

  b) The gas status (fig. 39) is displayed.

  c) If the test set is switched on without a device inserted:

  − Waiting mode (fig. 7) will be displayed until a device has been inserted.

  If the test set is switched on with the device inserted:

  − The **device inspection** menu (fig. 11) will appear as soon as the test set detects the device.

Fig. 10: Sequence of start images during switch-on process

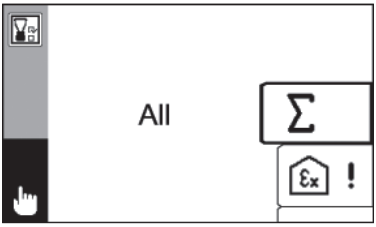

Fig. 11: Inserted device detected (*here:* **Manual** operating mode, **Device inspection** menu)

Note:
The test set always switches on in the preset operating mode and the preset device inspection[1] mode. The operating mode and device inspection mode can be changed once the test set is switched on.

Language selection and gas assignment during switching on

The following additional settings may need to be made during switching on:

- Language of user interface[2] (fig. 12)
- Gas assignment (fig. 24, right image)

The settings are made after the start screens (fig. 10).

These settings are required on the device:

- at initial start-up
- after the following settings in the **GasCom** software (**Settings** > **General I**):
  - the language selection and gas assignment are activated the next time the device is switched on
  - all settings are reset to default values

[1] Settings using **GasCom** software.
[2] Note: If, after setting the language, the test gas list is not displayed in the selected language, the **GasCom** software must be used to send the gas file again. For more information, refer to section 11.3.

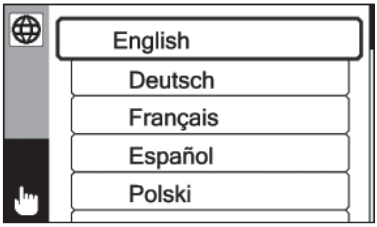

Fig. 12: Language

Special features with significantly modified test gas pressure

When the test set is switched off, the pressure values of all connected test gases are saved. At the start of the next switch-on process, the saved values are compared internally with the current values.

If there is a significant difference, the gas assignment (fig. 24) is displayed again after the start images (fig. 10). The test gases can then be re-assigned, if required.

4.2 Switching off the test set

Switching off the test set takes approx. 3 seconds. During the switch-off process, the display shows:

- **ATS switching off …** message
- Progress bar

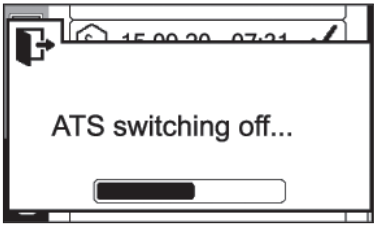

Fig. 13: Display during switch-off

- Hold down the ON/OFF key until the message has disappeared.

Cancelling switch-off

While the **ATS switching off …** message is displayed, the switch-off process can be cancelled.

- Release the ON/OFF key before the message disappears.

4.3 Placing the device in the test set

NOTICE! Incorrect operation or damage to property in case of jamming

The electrical contact of the device to the test set and the gas supply from the test set to the device can only be ensured if the device does not jam when inserted.

- Always insert the device carefully.

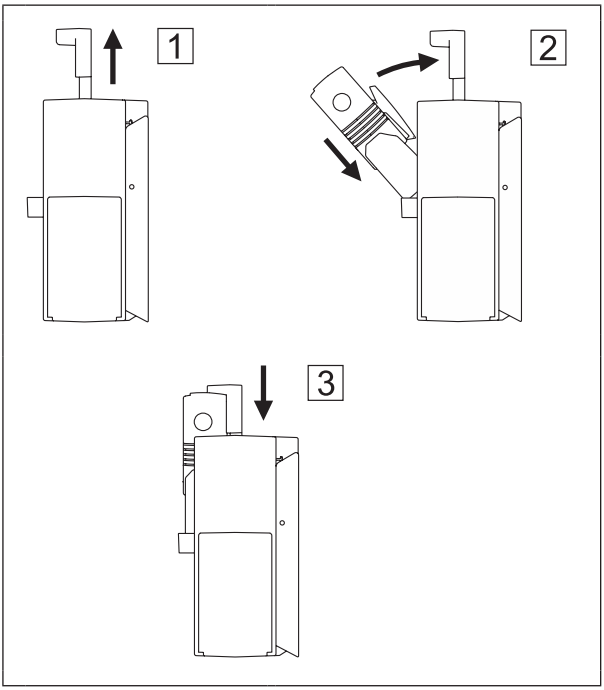

Fig. 14: Placing the device in the test set
(test set shown without canister holder)

The test set is switched on.

1. Pull the locking mechanism upwards as far as it will go (fig. 14 1).

2. Place the device with the front lower edge in the device holder. Tilt the device backwards (fig. 14 [2]).
3. Push the locking mechanism down completely (fig. 14 [3]).
   - If the device was not switched on:

     The device will be switched on.
   - The device switches to charging mode (fig. 15).

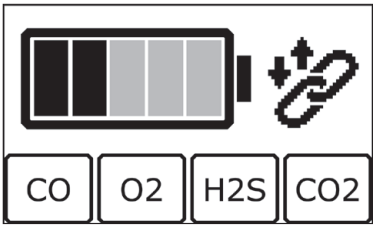

Fig. 15: Device in charging mode

Note:
When a battery-powered device is inserted in the test set, the batteries will be charged. The test set does not have to be switched on but connected to the power supply.

4.4 Navigating

4.4.1 Orientation aids on the display

By means of orientation aids the user can identify the program situation in which the test set finds itself or what action is required.

The display offers the following orientation tools:

- Information area
- Status area
- Messages

Information area

The information area is at the left edge of the display.

The selected menu level is displayed with symbols. The exception to this is the top menu level, where no symbol is displayed.

Fig. 16: Information area (grey)
Left image: Information area at the left edge
Alongside: Examples of orientation using symbols (*here:* **Settings** > **Timer** > **Start time**)

Status area

The status area covers the lower section of the information area.

The symbols in the status area give an indication of the current situation. The selected operating mode is always displayed at the bottom.

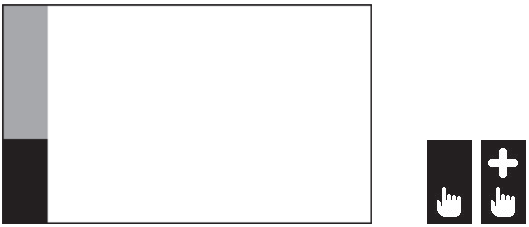

Fig. 17: Status area (black)
Left image: Status area above the information area
Alongside: Examples of information about the current situation (*here:* **Manual** operating mode, **With adjustment in case of error**)

Messages

To a large extent, the messages cover the information underneath them.

Messages contain texts explaining a program situation or asking for action.

The most important messages are:

- Warnings
- Errors
- Questions
- Information

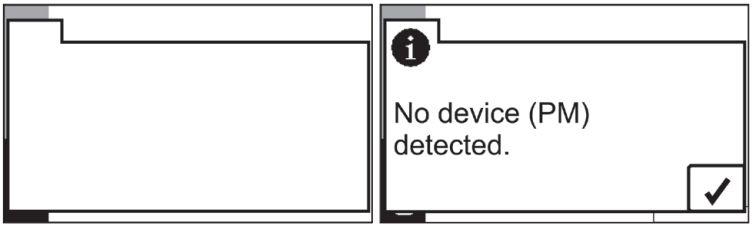

Fig. 18: Message
Left image: Message
The information underneath is covered.
Right image: Example of a message
(*here:* Information **No device (PM) detected**)

4.4.2 Key functions

The following actions can be performed using the keys:

Key	Actions
	● Switching – the test set on and off
	● Changing – back a menu level – between waiting mode and top menu level (when no device is inserted) ● Cancelling – an action, a process
	● Changing – to a submenu level ● Confirming/applying – a selected menu item – a message – a value
	● Selecting – a menu item – a value ● Changing – a default setting, e.g. for questions

4.4.3 Switching between levels

Select a menu item in a menu

The test set shows a menu.

1. Using the arrow keys, select the desired menu item.

2. Press the Enter key. The menu item appears.

Switch from any menu level to the top menu level

The display shows any menu level.

1. Press the Menu key. The test set switches back one menu level.
2. Repeat the action step until the top menu level appears.

4.4.4 Cancelling the action or process

An action is performed or a process is running.

- Press the Menu key. The action or a process is cancelled. The test set switches back one menu level.

4.4.5 Scrolling

If lists, information etc. are so large that they cannot be displayed on a display view, a narrow scroll bar appears at the right-hand edge.

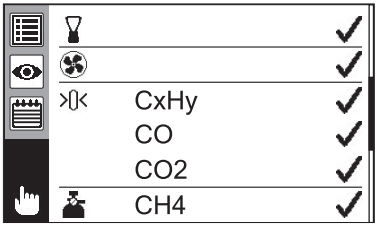

Fig. 19: Example of display view with scroll bar at the right margin (*here:* Protocol of a device inspection

The display view has a scroll bar.

- Press the arrow keys to scroll.

4.4.6 Selecting values

Values or symbols must be selected for certain settings.

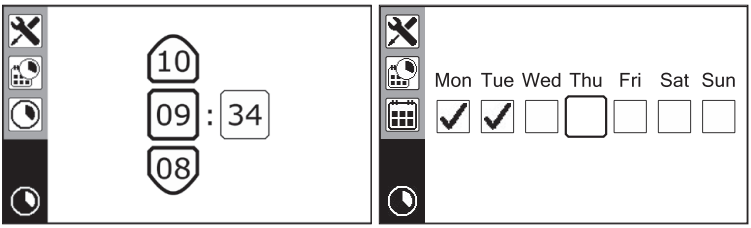

Fig. 20: Examples of selecting values/symbols
Left image: Select numbers (*here:* Start time for timer)
Right image: Tick or untick boxes (*here:* Days of week for timer)

The program situation requires the selection of values. The individual fields are changed from left to right.

▲▼ 1. Select the desired value in the first field using the arrow keys.

↵ 2. Press the Enter key. The value is applied.

(▲▼) (↵) 3. Repeat the selection for all subsequent fields. Once the last value has been applied, the test set switches back a level.

4.4.7 Answering questions

Questions appear in the program procedure if actions have further consequences and during the device inspection. The following responses are possible:

✓ Yes

✗ No

Note:
Questions have different default settings for the answer.

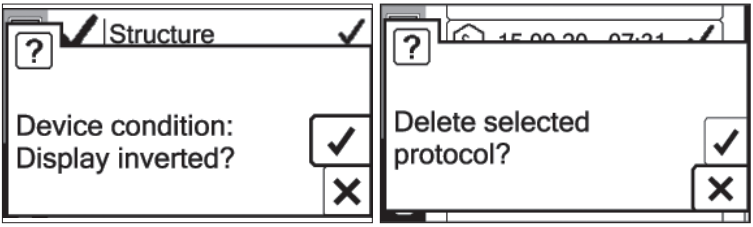

Fig. 21: Examples of questions
Left image: Question with the default answer **Yes**
Right image: Question with the default answer **No**

The display shows a question.

1. Check the default answer setting.
2. (▲▼) Select the other response if necessary using the arrow keys.
3. ↵ Press the Enter key.

4.4.8 Lists – view detailed information

Protocols are displayed in the protocol list. The relevant detailed information can be displayed for each entry in the list.

The display shows a list (fig. 37).

1. ▲▼ Use the arrow keys to select the relevant entry.
2. ↵ Press the Enter key. The detailed information about the entry will be displayed.

5 Test gases

5.1 Test gas connections for the test set

One test gas can be connected for each test gas connection. It is specified whether test gas cans or test gas bottles are connected to the test gas connections (fig. 22 and fig. 23).

With the use of adapters, however, test gas bottles can also be connected to the test gas connections for test gas cans and cans can be connected to the test gas connection for bottles. Adapters can be purchased as accessories.

5.1.1 ATS 503

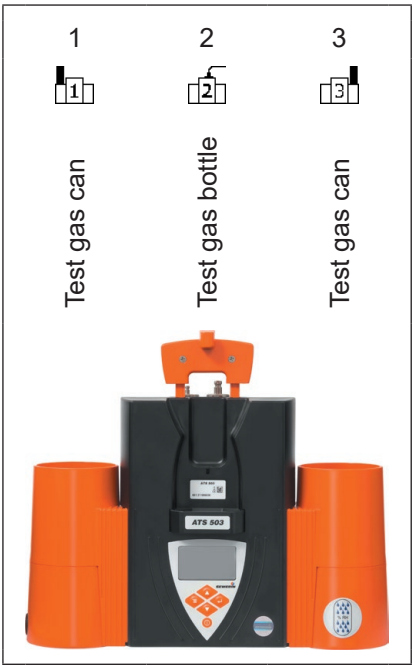

Fig. 22: **ATS 503** – test gas connections

Special features of test gas connection 3

The test gas connection is equipped with an internal conditioner.

SEWERIN recommends using test gas connection 3 only for test gases for testing and adjusting gas-sensitive semiconductors.

Other test gases (e.g. ExTox IR) can quickly saturate the conditioner.

5.1.2 ATS 501

Fig. 23: **ATS 501** – test gas connection

5.2 Utilisable test gases

All test gases suitable for the respective device and purpose can be used for device inspection and adjustment. These can be both gas mixtures and individual gases. With some test gases, particularly gas mixtures, several gases can be tested or adjusted simultaneously.

Test gases can be both preset and self-set.

Preset test gases

Test gases are preset in condition at delivery. These SEWERIN test gases can be used to perform all the required device inspections and adjustments.

Information about the preset test gases can be found in section 12.2.

Self-set test gases

Test gases other than preset test gases can be used provided they meet the listed specifications. The test gases that are not preset must be set up by the user by means of the **GasCom** software. The test gas specifications are available on request.

5.3 Available test gases

Available test gases can be both pre-set and self-set test gases.

Test gases included in the test gas list (fig. 24, right image) are theoretically available for device inspections or adjustments.[1]

In order to use the test gases in practice, they must be connected (section 5.5).

5.4 Planning for gas assignment

How effectively the test set can be used depends in particular on whether the required test gases are available and connected.

SEWERIN recommends planning the gas assignment by reflecting on the following questions:

1. Which devices need to be tested?
   - Device version?
   - Optional sensors?
   - Self-set gas types?
2. Which device inspections must be carried out and how often?

[1] A gas database is part of the **GasCom** software. In addition to the pre-set test gases, the gas database can contain a wide range of self-set test gases. Of all the test gases in the database, a maximum of 7 can be selected for a test set and assigned to it. All assigned test gases are displayed in the test gas list.

3. What test gases are needed for this?
   - Which test gas can be used to test as many gases/gas types as possible at the same time?
4. Which test gases required can be connected to which test gas connection (section 12.2)?

SEWERIN recommends using a second test set if more test gases are required to test a device than can be connected to one test set at the same time. The device is then tested first in one test set and then in the other test set without having to replace test gases.

5.5 Connecting test gases

Note:
Only test gases included in the test gas list may be connected.
If other test gases are required, they must be assigned to the test set using the **GasCom** software.

5.5.1 Screwing on the test gas can

No accessories are required to connect test gas cans to test gas connections 1 or 3.

NOTICE!
When screwing on and unscrewing test gas cans, abrasion can occur, which may accumulate in the canister holder.
- Blow out the canister holder before screwing on a test gas can.

---

1. Check the canister holder for cleanliness.
   - Remove any existing contamination (e.g. by blowing it out).
2. Place the test gas can vertically on the test gas connection.
3. Screw on the test gas can with a steady and uniform movement.

5.5.2 Connecting a test gas bottle

The following accessories are required to connect a test gas bottle to test gas connection 2:

- Pressure reducer
- Hose with connection option on CEJN connection, e.g. SPE pressure hose

1. Screw the pressure reducer to the test gas bottle.
2. Attach the hose to the pressure reducer.
3. Attach the other end of hose to the test gas connection 2 (CEJN).
4. Open the test gas bottle.

   SEWERIN recommends setting the test gas pressure to 1.5 bar.

5.6 Assigning test gases to test gas connections (gas assignment)

Note:
Correct gas assignment is the most important prerequisite for error-free device inspections and adjustments.

- Always assign the test gases carefully to the test gas connections.

After the test gas has been connected to a test gas connection, the gas assignment must then carried out.

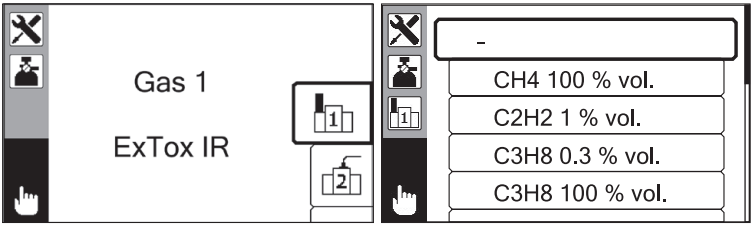

Fig. 24: Gas assignment (*here:* Test gas connection 1)
Left image: Currently assigned test gas (*here:* ExToxIR)
Right image: Test gas list

The test set is switched on. At least one test gas is connected. The menu is open.

1. Select **Settings** > **gas assignment**.

   The test gas currently assigned is displayed for each test gas connection (fig. 24, left image).

2. Select a test gas connection (**Gas 1**, **Gas 2** or **Gas 3**).
3. Press the Enter key.

   The test gas list appears (fig. 24, right image).

4. Select the test gas connected to the selected test gas connection from the list.
5. Press the Enter key.

   The selected test gas is assigned to the test gas connection.

6. If necessary:

   − Repeat the steps for the other test gas connections.

5.7 Non-use of test set

SEWERIN recommends unscrewing connected test gases if the test set is not used for long periods. This will reduce potential test gas losses and also reduce operating costs.

6 Settings

6.1 General information about the settings

A distinction is made between the following settings:

- Settings that can only be set using the **GasCom** software
- Settings that can only be set using a test set
- Settings that can be set either by the test set or using the **GasCom** software

When a test set is connected to a computer on which the **GasCom** software is started:

- The current settings of the test set can be read out and edited in the software.
- Settings made using software must be transferred to the test set.

6.2 Settings using the GasCom software

Note:
The test set must only be configured using the **GasCom** software by specialist technicians.

A number of settings for the test set are made on the computer using the **GasCom** software.

They include:

- Language
- Date format
- Behaviour of the test set during initial start-up, when switching on, when saving device inspections
- Timer
- Managing test gases
- Managing protocols

The **GasCom** software can be downloaded free of charge from www.sewerin.com.

6.3 Settings using the test set

6.3.1 Possible settings

The following settings for the test set can be made using the test set:

- **Gas assignment**
- **ATS mode**
- **Device inspection mode**
- **Timer**

6.3.1.1 Gas assignment

Under **Gas assignment**, you can set which test gas is connected to which test gas connection.

- **Gas 1**

  Test gas at test gas connection 1

- **Gas 2**

  Test gas at test gas connection 2

- **Gas 3**

  Test gas at test gas connection 3

Fig. 22 and fig. 23 shows the numbering of the test gas connections.

6.3.1.2 ATS mode

Note:
Please refer to section 6.3.2 “Special feature when changing operating mode”.

The test set can be operated in various operating modes.

- **Manual**

  The device inspection must be started manually by the user.

- **Automatic**

  The device inspection starts as soon as a device is inserted into the test set that is switched on.

  All the device inspections that are due and are technically possible are carried out.

- **Timer**

  The device inspection starts as soon as a device is inserted in the test set that is switched on. In addition, the device inspection starts at the specified time, provided there is a device in the test set.

  All the device inspections that are due and are technically possible are carried out.

6.3.1.3 Device inspection mode

If a device inspection fails, an adjustment must be performed.[1] This adjustment can be started automatically by the test set or manually.

- **Without adjustment**

  The adjustment must be started manually by the user.

- **With adjustment in case of error**

  An adjustment is started automatically following a failed device inspection.

  The test set performs the adjustment immediately following the automatic subtests performed (section 7.4). The device inspection is repeated after the adjustment. The **Device condition** subtest is then performed.

In mode **With adjustment in case of error**, the corresponding symbol (plus sign) is visible in the status area (fig. 25).

[1] Does not apply if only the **Device condition** subtest failed but all other subtests passed.

Fig. 25: **Manual** mode, device inspection mode **With adjustment in case of error** (symbol in status area)

6.3.1.4 Timer

For the **Timer** operating mode, you must specify when device inspections are to be performed.

- **Day of the week**

  Days on which a device inspection is started. You can select every day of a week or only certain days.

- **Start time**

  Time at which a device inspection is started on the set days of the week.

6.3.2 Changing settings

The settings specified in section 6.3.1 can be changed directly using the test set.

Fig. 26: Settings

The test set is ready for use.

1. If necessary:
   − Switch to the top menu level.
2. Select **Settings** (fig. 26).
3. Select the desired menu item.
4. Change the settings.

5. Press the Enter key. The changed settings will be applied.
6. Press the Menu key to exit the **Settings**.

Special feature when changing operating mode

If you change the operating mode while **Automatic** or **Timer** is set, you must then activate this change.

- Press the Menu key repeatedly until the waiting mode appears.

Alternatively, if a device was inserted when the setting was changed:

- Remove the device from the test set and then re-insert it.

7 Device inspections

Device inspections are carried out to ensure the functionality of devices.

Note:
The visual inspection of probes and probe hoses is not part of the device inspection using the test set. This visual inspection must therefore also be performed.

7.1 Options for carrying out the procedure

A device inspection using a test set can be performed in the following operating modes:

- **Manual**
- **Automatic**
- **Timer**

Information about the operating modes can be found in section 6.3.1.2 and section 7.3.

In the event of technical problems, the device inspection is automatically cancelled to save test gas and time.[1]

7.2 Requirements

- The test set is operated in a suitable environment (section 3.1).
- The required test gases are connected.
- The test gases are correctly assigned to the test gas connections.
- The device inspection is technically possible (section 1.4).

[1] The function can be disabled using the **GasCom** software.

7.3 Features

7.3.1 All operating modes

- The test set automatically remembers successful device inspections or subtests for use in subsequent device inspections. The requirement for this is:
  - The device inspection or subtest[2] was performed on the same day.
- If device inspections or subtests thereof are not technically possible, a message will appear.
- Following certain subtests, the gas path is automatically purged. If there is a waiting time associated with this, **Purge** will appear on the display. The device inspection will then continue automatically.
- Device inspections are then automatically saved as a protocol.
  - Each device inspection is saved as a separate protocol.
  - If the device condition is also tested as part of a device inspection, the device inspection can be saved with a user name.[3]

    In all other cases, the serial number of the test set is saved.
- When a device inspection is complete, the **Remove gas** symbol appears.

7.3.2 Manual operating mode

- The device inspection must be performed separately for each application.
  - Alternative: The test set will automatically carry out all device inspections that are technically possible one after the other via the **All** menu item.
- The device inspection must be started manually by the user.
- The **Pump** and **Device condition** subtests are performed for every device inspection, even if they are not due.

---

[2] Applies to all of the automatic subtests as well as the **Device condition** subtest.

[3] Setting using the **GasCom** software.

- Device inspections that are not due can also be carried out if they are technically possible.

Variants of the device inspections for the warning application (standard and ECO)

In **Manual** operating mode, the device inspection for the **Warning application** can be performed in two variants. The variants differ in whether the indication accuracy is tested and whether a bump test is performed.

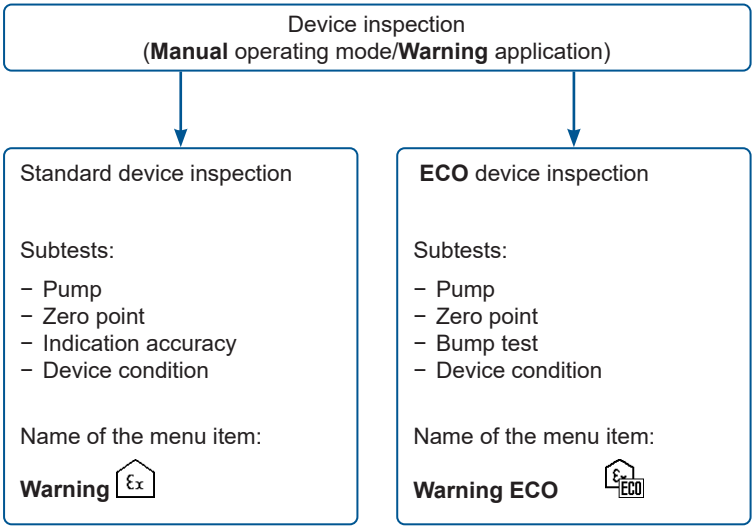

Fig. 27: **Manual** operating mode, **Warning** application – variants of device inspection with associated subtests

7.3.3 Automatic operating mode

- The test set automatically performs all device inspections that are due one after the other.
- The device inspection starts as soon as a device is inserted in the test set that is switched on.

  However, the **Device condition** subtest requires user interaction with the test set.
- Using the **GasCom** software, device inspections can be specified for other applications, which will be performed in

addition to the device inspections that are due once a device has been inserted.

- If only the **Pump** or **Device condition** subtests are due, no device inspections will be carried out automatically. Instead, messages appear prompting the user to manually perform the subtests that are due.
- If multiple device inspections are due (**All** appears in the menu):

  The results of the device inspections of all applications are displayed together (fig. 29, left image).

7.3.4 Timer operating mode

- **Timer** operating mode is only available with rechargeable batteries. An error message appears for devices powered by disposable batteries.
- The test set automatically performs all device inspections that are due one after the other.

  However, the **Device condition** subtest requires user interaction with the test set.
- The device inspection starts as soon as a device is inserted in the test set that is switched on. In addition, the device inspection starts at the specified time, provided there is a device in the test set.
- If only the **Pump** or **Device condition** subtests are due, no device inspections will be carried out automatically. Instead, messages appear prompting the user to manually perform the subtests that are due.
- If multiple device inspections are due (**All** appears in the menu):

  The results of the device inspections of all applications are displayed together (fig. 29, left image).

7.3.5 Device inspection limits

The test set works with the limits specified in the device.

Information about device inspection limits can be found in the device operating instructions.

7.4 Subtests

A device inspection includes all of the following subtests.

- The following subtests are automatic in sequence:
  - **Pump**

    Test whether the device detects a pump error. To do this, the gas input is blocked.
  - **Zero point**

    Check whether the zero point is within the permitted tolerances. Test gas is fed in for this purpose.
  - **Indication accuracy** (for standard device inspection)

    Check whether the indication accuracy lies within the permissible tolerances. Test gas is fed in for this purpose.

    OR

    Bump test (for **ECO** device inspection)

    Check whether the display is working and whether alarms are triggered. Test gas is fed in for this purpose.
- The following subtest is then carried out:
  - **Device condition**

    Evaluation of the device external condition (visual inspection). Test whether the signals work.

In contrast to the automatic tests performed, the **Device condition** subtest requires multiple user interactions with the test set.

Notes:
The device must remain in the test set during the **Device condition** subtest.

7.5 Due date

Device inspections are due when the specified intervals[4] have been exceeded.

In **Manual** operating mode, after a device has been detected, the test set indicates that device inspections[5] are due (fig. 28).

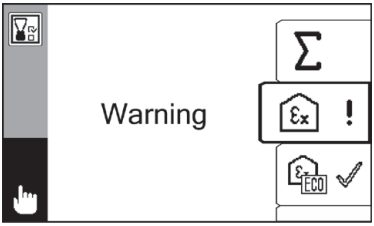

Fig. 28: **Manual** operating mode – mark due device inspections with the **Due** symbol (*here:* **Warning** application due).

7.6 Presentation of results

The results of subtests and the overall result of a device inspection are displayed using symbols. Please see section 12.3.2 for an explanation of the symbols.

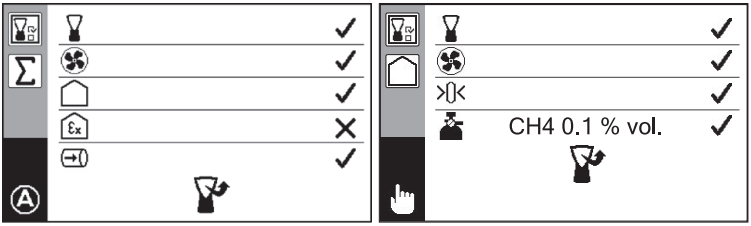

Fig. 29: Device inspection – results
Left image: Overview of the applications tested (*here:* **Warning** application failed)
Right image: Results of the subtests (*here:* **Structure** application, all subtests passed)

If test gases are missing, it may not be possible to carry out all subtests. In this case, the missing test gases are listed in additional display views (scroll bar visible).

The list of due, untested gases (fig. 30) appears after the results (fig. 29).

---

[4] Setting using the **GasCom** software.

[5] Requirement: The guided device inspection has been activated for the device using **GasCom** software.

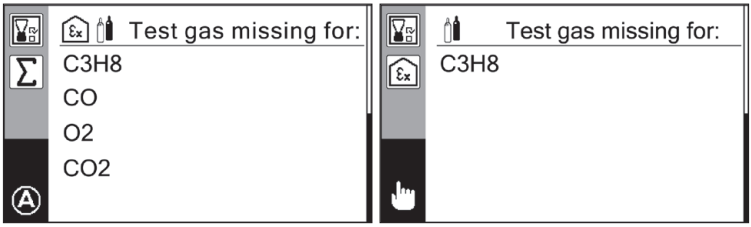

Fig. 30: Device inspection – list of due, untested gases
Left image: Missing test gases for the device inspection of all due applications
Right image: Missing test gases for the device inspection of one application (*here:* Warning **application**)

7.7 Performing the device inspection

7.7.1 Manual operating mode

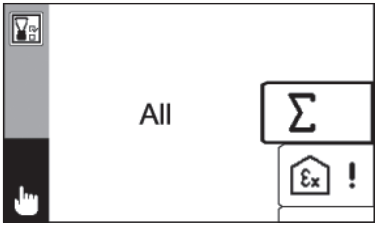

Fig. 31: **Manual** operating mode, **Device inspection menu** The menu item **All** is displayed at the top position because more than one device inspection is due.

The test set is switched on. **Manual** operating mode is selected.

1. Check the device housing for external damage.[6]
2. Place the device in the test set.
3. Select **All** or an application.
4. Press the Enter key. The device inspection starts.

   The end of the automatic subtests will be signaled audibly by two short consecutive sounds.

[6] The inspection is required before insertion so that the device does not have to be removed from the test set for the **Device condition** subtest. If you remove the device during a running device inspection, the inspection will be cancelled.

5. If the following message appears: **Device condition: Display inverted?** [7]

   − Check the device condition.

   A series of questions appears. Answer them.

   a) **Device condition: Display inverted?**

   Does the device display show all pixels in reverse colour assignment[8] (fig. 31)?

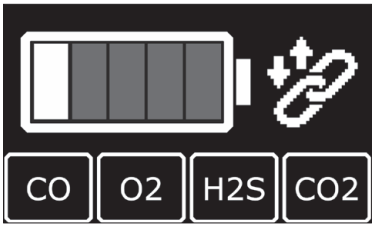

Fig. 32: Inverse display of the device

   b) **Device condition: Signal light and buzzer switched on?**

   Is the audible signal audible and the visual signal visible?

   c) **Device condition: Housing OK?**

   Is the device housing free of external damage?

   The device condition check is now complete.

6. Depending on the configuration of the test set using the **GasCom** software:

   − The device inspection is automatically saved with the serial number of the test set.

   OR

   a) The user list appears. Select a user from the list.

   b) If necessary:

   − Enter the PIN code of the user[9].

   c) Press the Enter key.

---

[7] Will not appear if the **Device condition** subtest for the device has already been performed that day. The device inspection is then saved immediately with the serial number of the test set.

[8] White pixels are displayed black, black pixels are displayed white.

[9] Optionally defined in **GasCom** software under **Tools** > **User management**.

The device inspection is saved with the selected user name.

The device inspection is complete. The result (fig. 29) is displayed until the device is removed or the Enter key or the Menu key is pressed.

7.7.2 Automatic and Timer operating mode

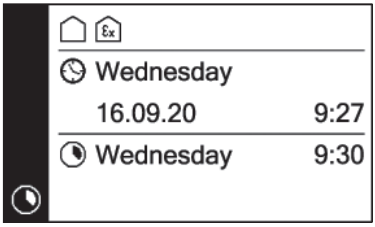

Fig. 33: **Timer** operating mode – display view until a device inspection is started
Top: Device inspections due
Middle: Current date/time
Bottom: Select start time

The test set is switched on. **Automatic** operating mode or **Timer** is selected.

1. Check the device housing for external damage.[10]
2. Place the device in the test set.
   - **Automatic** operating mode:

     The device inspection starts immediately.
   - **Timer** operating mode:

     The device inspection starts at the selected time. The current time and the selected start time are displayed until the startup (fig. 33).

   The end of the automatic subtests will be signaled audibly by two short consecutive sounds.
3. If the following message appears: **Device condition: Display inverted?** [11]
   - Check the device condition.

[10] The inspection is required before insertion so that the device does not have to be removed from the test set for the **Device condition** subtest. If you remove the device during a running device inspection, the inspection will be cancelled.

[11] Will not appear if the **Device condition** subtest for the device has already been performed that day. The device inspection is then saved immediately with the serial number of the test set.

A series of questions appears. Answer them.

a) **Device condition: Display inverted?**

Does the device display show all pixels in reverse colour assignment[12] (fig. 32)?

b) **Device condition: Signal light and buzzer switched on?**

Is the audible signal audible and the visual signal visible?

c) **Device condition: Housing OK?**

Is the device housing free of external damage?

The device condition check is now complete.

4. Depending on the configuration of the test set using the **GasCom** software:

   − The device inspection is automatically saved with the serial number of the test set.

   OR

   a) The user list appears. Select a user from the list.

   b) If necessary:

      − Enter the PIN code of the user[13].

   c) Press the Enter key.

      The device inspection is saved with the selected user name.

   The device inspection is complete. The result (fig. 29) is displayed until the device is removed or the Enter key or the Menu key is pressed.

[12] White pixels are displayed black, black pixels are displayed white.

[13] Optionally defined in **GasCom** software under **Tools** > **User management**.

8 Adjusting devices

Note:
This section describes how to adjust a device using the test set. The test set itself does not have to be adjusted.

The sensors and the corresponding gases are set by means of adjustment. To this end, the zero point and the sensitivity are adjusted to the reference values.

8.1 Options for carrying out the procedure

The device inspection mode (section 6.3.1.3) determines whether the adjustment is started automatically by the test set or whether it must be started manually.

After starting, the adjustment will always run automatically.

In the event of technical problems, the adjustment is automatically cancelled to save test gas and time.[1]

8.2 Requirements

- The test set is operated in a suitable environment (section 3.1).
- The required test gases are connected.
- The test gases are correctly assigned to the test gas connections.
- The device inspection is technically possible (section 1.4).

8.3 Frequency

It is mandatory to perform an adjustment in the following cases:

- The measurement values are outside the specified limit values
- The device inspection failed

[1] The function can be disabled using the **GasCom** software.

8.4 Features

- The adjustment must be performed separately for each application.
  - Alternative: The test set will automatically carry out all adjustments that are technically possible one after the other via the **All** menu item.
- Following certain subtests, the gas path is automatically purged. If there is a waiting time associated with this, **Purge** will appear on the display. The adjustment will then continue automatically.
- When an adjustment is complete, the **Remove gas** symbol appears.

8.5 Presentation of results

The result of an adjustment is displayed with symbols. Please see section 12.3.2 for an explanation of the symbols.

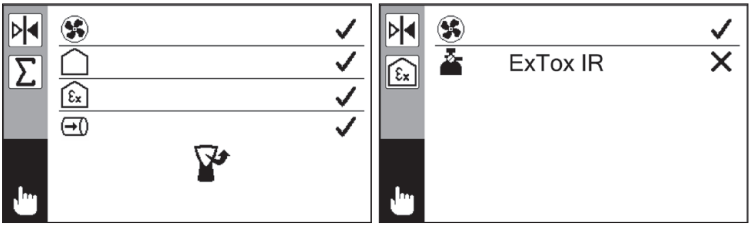

Fig. 34: Adjustment – results
Left image: Adjustment successful
Right image: Adjustment failed (*here:* Adjustment ExTox IR failed)

If test gases are missing, it may not be possible to perform an adjustment fully. In this case, the missing test gases are listed in additional display views (scroll bar visible).

The list of untested gases (fig. 35) appears after the results (fig. 34).

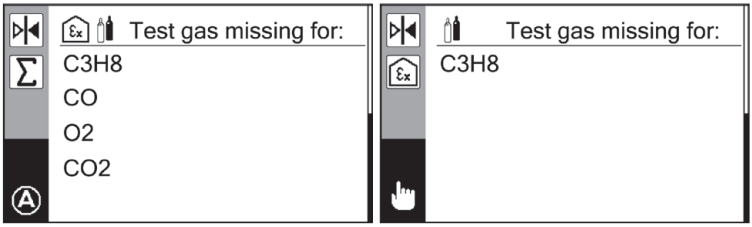

Fig. 35: Adjustment – list of untested gases
Left image: Missing test gases for the adjustment of all applications
Right image: Missing test gases for the adjustment of one application (*here:* Warning **application**)

8.6 Performing an adjustment

The test set is switched on.

1. Place the device in the test set.
2. Press the Menu key to switch to the top menu level.
3. Select **Adjustment**.
4. Select **All** or an application.
5. Press the Enter key. The adjustment starts.
6. Wait until the adjustment is complete.

   The end of the adjustment is signaled audibly by two short consecutive sounds.

   The result (fig. 34) is displayed until the device is removed or the Enter key or the Menu key is pressed.
7. If necessary:

   − Repeat the adjustment for further applications.

9 Protocols and information

9.1 Protocols

The test set saves device inspections as protocols in the protocol memory. In addition, the most recent protocols are displayed in the protocol list.

Information about the protocol memory can be found in section 2.7.

Notes:

- Device inspections using a test set are saved in both the test set and the device.
- Device inspections using the device are only saved in the device. When the device has been inserted in the test set, the protocols are not displayed in the protocol list. However, the protocols can be downloaded to the protocol memory of the test set.

The following actions can be performed for protocols:

- **Display**
- **Delete**
- **Download**

9.1.1 Displaying protocols

The protocol list (fig. 36) shows the protocols of the most recent device inspections.

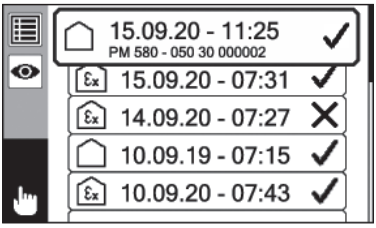

Fig. 36: Protocol list

Protocols are displayed in the protocol list in descending date order. The overall result of each device inspection is displayed with a symbol.

The protocol list displays a maximum of 40 protocols. When the list is full, the oldest protocol will be overwritten with the most recent protocol. Protocols that are no longer displayed in the protocol lists still exist in the protocol memory.

Detailed information

You can access the relevant detailed information for each protocol (fig. 37).

The following detailed information is included:

- Application (symbol), device version, overall result (symbol)
- Serial number of device
- Save date
- Inspector (serial number of test set or user name)
- Results of the subtests (device condition, pump, zero point, tested gases)

Note:
The detailed information about a protocol is spread over several display views.

- Scroll using the arrow keys to view the complete information.

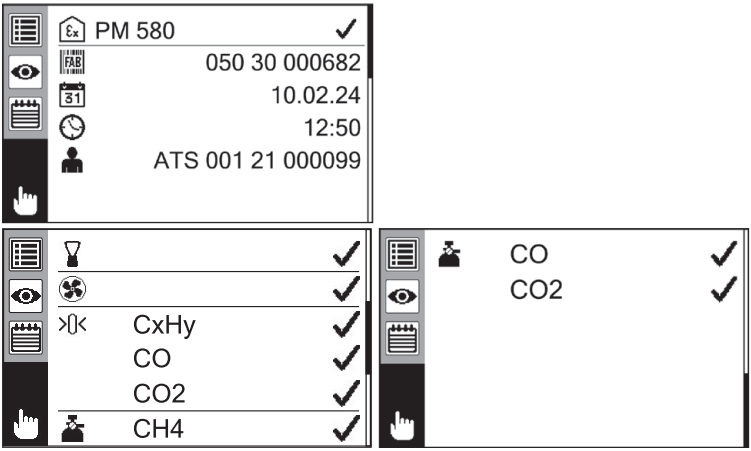

Fig. 37: Protocol of a device inspection (detailed information)
The information is spread over several display views.

The test set is switched on. A device is inserted. The menu is open.

1. Select **Protocols** > **Display**.

   The protocol list appears.

2. Select a protocol.
3. Press the Enter key.

   The detailed information about the selected protocol will be displayed.

9.1.2 Deleting protocols

Protocols of device inspections can be deleted individually.

Protocols are saved in both the protocol list and the protocol memory.

The test set is switched on. A device is inserted. The menu is open.

1. Select **Protocols** > **Delete**.
2. Select the protocol to be deleted.

   A warning prompt will appear.

3. Confirm the prompt with **Yes**.

   The protocol is deleted from the protocol list.

9.1.3 Downloading protocols

Protocols of device inspections that have been performed using a device can be downloaded to the test set from the device.

The protocols are downloaded as a copy. They are not deleted from the device.

The test set is switched on. A device is inserted. The menu is open.

1. Select **Protocols** > **Download**.
2. Press the Enter key.

   All protocols saved in the device are downloaded without asking for prior confirmation.

9.1.4 Backing up protocols and clearing the protocol memory

Protocols saved in the test set can be downloaded to the database of the **GasCom** software, thus backing them up. After the backup process, the protocol memory of the test set can be cleared, thus freeing up space for new protocols.

SEWERIN recommends you regularly create free space in the protocol memory of the test set.

1. Back up the device inspection protocols using the **GasCom** software.
   - To do this, download all required protocols to the **GasCom** database.
2. Delete the saved protocols from the protocol memory.
   - Delete the protocols directly from the test set (section 9.1.2).

   OR
   - Delete the protocols using the **GasCom** software.

9.2 Information

The following information can be displayed:

- **ATS**

  Information about the **ATS** test set
- **Gas status**

  Test gases assigned to test gas connections
- **Connected device (PM)**

  Information about the device inserted in the test set
- **User list**

  List of users for a device or test set

9.2.1 ATS

The following information about the test set is displayed:

- Product version and serial number
- Firmware version

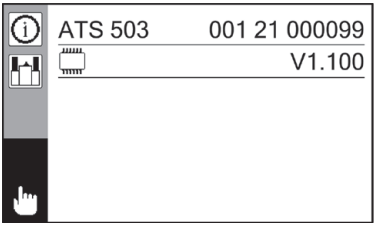

Fig. 38: Information – ATS

The test set is switched on. The menu is open.

- Select **Information** > **ATS**.

  Information about the test set is displayed.

9.2.2 Gas status

The following are displayed for each test gas connection of the test set:

- Assigned test gas
- Current pressure of the connected test gas (as a numeric value and graphically)

Note:
The gas status shows the gas assignment set by the user. If errors are made during assignment, the gas assignment will not correspond to the actual situation.

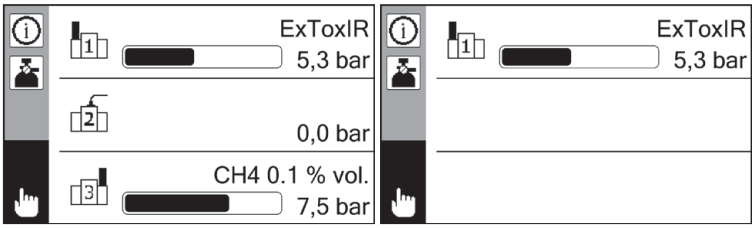

Fig. 39: Information – gas status
Left image: **ATS 503** (*here*: no test gas connected to connection 2)
Right image: **ATS 501**

The test set is switched on. The menu is open.

- Select **Information** > **Gas status**.

  Information about the gas connections is displayed.

9.2.3 Connected device (PM)

The following information about the device inserted in the test set is displayed:

- Device version and serial number
- Microcontroller firmware version
- Set battery type
- Next servicing

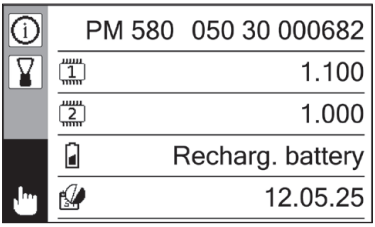

Fig. 40: Information – Connected device (PM)

The test set is switched on. The menu is open.

− Select **Information** > **Connected device (PM)**.

Information about the inserted device is displayed.

9.2.4 User list

The user list displays the names of all users selected and transferred using the **GasCom** software.

Note:
Users can only be created and edited using the **GasCom** software.

Users included in the user list can save the result of device inspections together with their name. The device condition must also be checked as part of the device inspection process for this option to be available.

The user list can include the user **Guest**. This user name can be used by any user. **Guest** is then listed as the name of the inspector in the protocol of the device inspection.

The **User list** menu item either shows the user list of the test set or of the device.[1]

If no users are transferred to the device or to the test set by **GasCom,** the user list will be empty.

The test set is switched on. The menu is open.

− Select **Information** > **User list**.

The user list selected using the **GasCom** software is displayed.

[1] Setting using the **GasCom** software.

10 Maintenance of the test set

10.1 Servicing

Note:
Servicing may be performed only by competent persons.

SEWERIN recommends having the test set serviced once a year.

- Send the test set to SEWERIN Service for servicing.
- If there is a service contract, the test set can be serviced by the mobile service.

An inspection sticker on the test set confirms the last servicing and shows the next due date.

Fig. 41: Inspection sticker

10.2 Care

All that is necessary to care for the test set is to wipe it down with a damp cloth.

NOTICE!
Possible damage to property from unsuitable cleaning agents
Unsuitable cleaning agents can chemically corrode the housing surface.

- Never use solvents, petrol, cockpit sprays containing silicone or similar substances to clean the test set.

10.3 Replacing the rubber gasket

SEWERIN recommends to replace the rubber gasket in the following cases:

- Rubber abrasion is visible at the test gas connection of the test set
- Rubber abrasion is visible at the gas inlet of a device
- **Pump** test repeatedly failed

Fig. 42: Locking mechanism, front part removed
Top centre: Rubber gasket (black)

1. Loosen both screws on the locking mechanism.
2. Remove the front part of the locking mechanism.
3. Remove the black rubber gasket from the hose connection.
4. Slide on a new rubber gasket.
5. Push the hose connection together with the rubber gasket back into the guide.
6. Replace the front part of the locking mechanism.
7. Screw the locking mechanism back together.

11 Faults and problems

11.1 Messages in the event of faults

If a fault occurs during operation, a message will appear on the display.

Error messages with error code

Error code	Error	Explanation/corrective action
F081	System error: Pressure control	– Contact SEWERIN Service.
F082	System error: Pressure sensor	– Contact SEWERIN Service.
F084	Communication error: ATS – PM Check contacts!	The data exchange between the test set and the device is not working. The device may not be inserted correctly and therefore has no electrical contact with the test set. – Remove the device from the test set. Then re-insert the device.
F085	System error: Outlet pressure too high	Excessive pressure at the gas outlet of the device – Contact SEWERIN Service.
F089	Memory error: XFlash	– Contact SEWERIN Service.
F090	File error: Gas file missing Update file!	The gas file is managed in **GasCom** (**Settings** > **Gases**). It contains the assigned test gases. – Transfer the gas file from **GasCom** to the test set.
F092	File error: User file faulty Update file!	The user file is managed in **GasCom** (**Tools** > **User management**). It contains the authorised users. – Transfer the user file from **GasCom** to the test set.

Error messages without error code

Error	Explanation/corrective action
An error occurred when reading out the device (PM).	The data exchange between the test set and the device is not working. The device may not be inserted correctly and therefore has no electrical contact with the test set. – Remove the device from the test set. Then re-insert the device.
ATS gas assignment incorrect. Re-assign gases!	Assignment of test gases to test gas connections incorrect. – Re-assign test gases!
Communication error: ATS – PM Device (PM) missing.	The data exchange between the test set and the device is not working. The device was taken out of the test set during a device inspection/adjustment. – Re-insert the device in the test set. Then repeat the process.
Incorrect PIN. Saved without user.	User's PIN code entered incorrectly several times. Device inspection is saved without a user name.
Incorrect PIN.	PIN code entered incorrectly several times. – Enter PIN code again and correctly.
PM undervoltage. Wait until PM has been loaded!	The residual capacity of the device powered by rechargeable batteries is so low that the device first has to be charged in the test set. – Wait until the device has been charged.
Process cancelled. Close locking mechanism! Re-start process!	A device inspection/adjustment was cancelled because the locking mechanism is open. – Close locking mechanism. Then repeat the process.

Warning messages

Warning	Explanation/corrective action
Locking mechanism open. – Close locking mechanism.	Locking mechanism open. – Close locking mechanism.
Error in device (PM). Check PM!	Error occurred in device. – Check device!
Gas 1/2/3 used up.	Test gas can or test gas bottle connected to test gas connection 1/2/3 is empty. – Connect new test gas.
Timer not possible as device (PM) operated by battery.	**Timer** operating mode is only available with rechargeable batteries. – Run the device with rechargeable batteries instead of disposable batteries.
To ensure successful use of the ATS: device firmware (PM) at least: %01d.%03d	To ensure ideal data exchange, the device needs the specified firmware version. – Update device firmware.

Information

Information	Explanation/corrective action
User list (ATS) empty. Protocol is saved without a user.	The test set user list does not contain any users. The protocol is therefore saved without a user name.
User list (PM) empty. Protocol is saved without a user.	The device user list does not contain any users. The protocol is therefore saved without a user name.
“Timer” mode not possible because no days have been specified.	– In **Settings** > **Timer**, set the **Day of the week** and the **Start time**.
Free space in protocol memory: …	Displays the free memory slots for protocols in the protocol memory of the test set. Appears when fewer than 11 memory slots are free (of max. 6,000). – As a precaution, clear the protocol memory of the test set (section 9.1.4).
Free memory (PM): %2d device inspections	Displays the free memory slots for device inspections in the device memory. Appears when fewer than 11 memory slots are free (of max. 500). – As a precaution, clear the protocol memory of the device.

Information	Explanation/corrective action
Device inspection not possible because no device inspection is due.	Message appears in **Automatic** and **Timer** operating modes if all the device inspections due on one day have already been carried out. – **Automatic**: Remove the device. Do not re-insert it until the next device inspection due date. – **Timer**: The device can remain in the test set. The device inspection starts at the next specified time.
Device inspection not possible or only partly possible. Gas is missing.	A test gas required for a device inspection is used up or not connected. The device inspection cannot therefore be carried out or cannot be carried out for all applications/ subtests that are due. – Connect missing test gas. – Check gas assignment.
Device inspection/ adjustment cancelled. Check gas assignment!	A device inspection/adjustment was cancelled because the measurement values are not plausible. – Check gas assignment.
ATS gas assignment incorrect. Re-assign gases!	Assignment of test gases to test gas connections incorrect. – Re-assign test gases!
Adjustment not possible. Gas is missing.	A test gas required for the adjustment is used up or not connected. Therefore, the adjustment cannot be carried out. – Connect missing test gas. – Check gas assignment.
No device (PM) detected.	Message appears in **Manual** operating mode when a device inspection should be started even though no device is inserted. – Insert the device.
List empty	The list of protocols/errors does not contain any entries because no device inspection or error has been saved yet.
Only device condition test due. Check device condition manually!	As part of the device inspection, only the **device condition** subtest is due. – Check device condition manually.
Only pump test due. Check pump manually!	As part of the device inspection, only the **device condition** subtest is due. – Check pump manually.

Information	Explanation/corrective action
Test gas new. Currently assigned: …	New test gas connected. Check whether the new test gas corresponds to the currently assigned test gas. – If necessary, re-assign test gas (**Settings** > **Gas assignment**).
Test gas pressure too low.	Test gas can or test gas bottle is almost empty. – Connect new test gas. Test gas can insufficiently screwed on. – Screw on the test gas can tighter.
Memory (ATS) full. Too many devices (PM). Protocol will not be saved.	No more free memory for additional devices in the protocol memory of the test set (max. 200). The current protocol cannot be saved. – Clear the protocol memory of the test set (section 9.1.4). In order to delete a device from the protocol memory, all device protocols have to be deleted.
Memory (ATS) full. Too many protocols. Protocol will not be saved.	No more free memory for additional protocols in the protocol memory of the test set (max. 6000) The current protocol cannot be saved. – Clear the protocol memory of the test set (section 9.1.4).
Memory (PM) full. Oldest device inspections will be overwritten.	No more free memory for additional protocols of device inspections in the device memory (max. 500). The oldest device inspections will be overwritten with the most recent protocol. – Clear the device protocol memory. – Use **GasCom** to configure that the oldest device inspections will be deleted when the memory is full.

11.2 Monitoring test gas pressure

The test set continuously monitors the pressure of the connected test gases. If the pressure drops below certain values, the test set issues a warning.

Pressure [bar]	Type of warning
< 1.0	In the status area, the symbol of the test gas connection appears where the pressure of the connected test gas has fallen below the value of 1.0 bar. The symbol flashes. If several test gases are affected simultaneously, the symbol display alternates.
< 0.5	When a device inspection or adjustment is started, the following message appears: **Test gas pressure too low**.
< 0.2	If the test gas pressure drops below 0.2 bar during a device inspection or adjustment, the following message appears: **Gas 1/2/3 used up**.

Note:
New test gas must be connected as soon as the test gas pressure drops below 0.5 bar.

11.3 Resolution of problems

Test gas

Problem	Explanation/corrective action
After screwing on a new test gas can, a test gas pressure of 0 bar is displayed.	Test gas can insufficiently screwed on. – Screw on the test gas can tighter. Note: If the error is not detected by the user and an action is started, the following message appears: **Test gas pressure too low**.

Device inspection

Problem	Explanation/corrective action
Device inspection: Zero point subtest failed	Ambient air not clean. – Ventilate the room. – If necessary, change the setup location of the test set. – If necessary, use ambient air hose. Sensor misaligned. – Perform an adjustment.
Device inspection: Indication accuracy/bump subtest failed	Gas assignment incorrect. – Check gas assignment. Shelf life (stability) of the test gas exceeded. – Check the expiry date of the test gas. Sensor misaligned. – Perform an adjustment.
Device inspection: Device condition subtest failed	– Contact SEWERIN Service.
Device inspection: Pump subtest failed	Device does not fit properly in the device holder. Locking mechanism not fully down. – Check that the device is positioned correctly and locked in the device holder. – Check the rubber gasket for wear and replace if necessary. Sensor misaligned. – Perform an adjustment.

Adjustment

Problem	Explanation/corrective action
Adjustment failed	Gas assignment incorrect. – Check gas assignment. Shelf life (stability) of the test gas exceeded. – Check the expiry date of the test gas. Sensor error. – Repeat adjustment. If the adjustment fails again: – Contact SEWERIN Service.

Language

Problem	Explanation/corrective action
Test gas list: Units of SEWERIN test gases are not displayed in the language of the test set.	Gas file has not been changed to the selected language. 1. If necessary: Change **GasCom** to the selected language (**Tools** > **Options** > **Language**). 2. Use **GasCom** to read out the **ATS** settings (**Device** > **Edit settings**). 3. **Gases** register: Click on **Default**. 4. Click on **Send**. 5. If necessary: Set up the gas file individually and send it again.

12 Appendix

12.1 Technical data

Product data

Dimensions (W × D × H)	ATS 503: 370 × 130 × 320 mm ATS 501: 280 × 130 × 320 mm
Weight	ATS 503: approx. 3250 g (with supporting bracket) ATS 501: approx. 2100 g (with supporting bracket)
Material	housing: polycarbonate

Certificates

Marking	FCC, CE

Features

Gas connections	– air connection: RECTUS NW 2.7 quick-release coupling – test gas connection 1: adapter for pressurised gas container 7/16"-28 UNEF ATS 503 plus: – test gas connection 2: CEJN series 220, DN 5 – test gas connection 3: adapter for pressurised gas container 7/16"-28 UNEF
Display	TFT display, 380 × 224 pixels, size 56 × 33 mm
Interface	USB 2.0 Type B
Memory	8 MB
Control	membrane keypad
Other features	– internal carbon dioxide filter ATS 503 plus: – internal conditioner (test gas connection 3)

Operating conditions

Operating temperature	10 – 40 ºC
Storage temperature	-25 – 60 ºC
Humidity	5 – 95% r.h., non-condensing
Atmospheric pressure	700 – 1200 hPa
Pressure on test gas connection	max. 13 bar
Protection rating	IP20
Non-permitted operating environments	in potentially explosive areas
Position of use	– upright – tilted (supported by supporting bracket) – wall mounting

Power supply

Power supply	AC/DC adapter M4
Operating voltage	12 V DC
Operating current	– ATS without PM 5x0/400: approx. 100 mA – ATS with PM 5x0/400 (charging mode): approx. 400 mA – ATS with PM 5x0/400 (device inspection): approx. 180 – 280 mA

Data transmission

Communication	USB 2.0 Type B

Additional data

Attachment option	wall mounting using supporting bracket

12.2 Preset test gases

ATS 503

Test gas	Test gas connection		
	1	2	3
CH_4 0.1% vol.			×
CH_4 2.2% vol.	×	×	×
CH_4 100% vol.	×	×	
ExCox IR	×	×	×
ExTox IR	×	×	
ExTox CAT	×	×	×
N_2 100% vol.	×	×	×

ATS 501

Test gas	Test gas connection 1
CH_4 0.1% vol.	
CH_4 2.2% vol.	×
CH_4 100% vol.	×
ExCox IR	×
ExTox IR	×
ExTox CAT	×
N_2 100% vol.	×

12.3 Symbols

12.3.1 Symbols on the housing

Test gas connection with internal conditioner

CE mark

Follow the operating instructions.

Do not dispose of product in domestic waste.

12.3.2 Symbols on the display

Status


Waiting mode


Data exchange

Actions/responses to questions


Confirm or Yes


Cancel or No

Messages


Warning


Error


Question


Information


Wait


ATS switches off

Device inspection

	Device inspection	
	All	
	Structure	
	Warning ECO	
	Warning	
	Measuring	
	Not due	*before a device inspection (all gases)*
	Passed	*after a device inspection* *(in the protocol list: applies to the current gas type at the time of the inspection)*
	Applied	
	Not due	*current gas type*
	Failed	
	Due	*before a device inspection* *(current gas type)* *after a device inspection* *(in the protocol list only)*
	Not tested	*after a device inspection*
	Missing test gases	
	Inspector	
	Remove device	

Adjustment


Adjustment


All


Structure


Warning


Measuring


Successful


Failed


Not adjusted


Missing test gases


Remove device

Settings


Settings


Gas assignment


Gas 1 (test gas connection 1)


Gas 2 (test gas connection 2)


Gas 3 (test gas connection 3)


Timer


Start time


Days of the week


Day


Date


Device inspection mode


With adjustment in case of error


Operating mode (ATS)


Manual


Automatic


Timer

Protocols


Protocols


Display


Delete


Download

Information

 Information

 ATS

 Gas status

 Connected device (PM)

 Firmware version (ATS)

 Microcontroller: Firmware version (PM)

 Battery type

 Next servicing

 User list

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Service

 Service

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12.4 Accessories and consumables

Accessories

Part	Order number
Adapter ATS hose connection	ZP11-10000
Adapter ATS test gas can connection	ZP11-10100
Outside air hose Rectus coupling	PP05-Z5000
Pressure hose SPE	ZZ19-10000
Pressure reducer for test gas cans	ZT32-Z0100
Pressure reducer SPE test gas	PP01-Z1000
Base for test gas can	ZP10-10000
AC/DC adapter M4	LD10-10001

Consumables

Part	Order number
Test gas 1,000 ppm CH_4*	ZT29-10001
Test gas 2.2% vol. CH_4*	ZT03-10001
Test gas 100% vol. CH_4*	ZT20-10000
Test gas 0.3% vol. C_3H_8*	ZT35-10001
Test gas 1.0% vol. C_3H_8*	ZT11-10001
Test gas 100% vol. C_3H_8**	ZT22-10001
Test gas ExTox IR*	ZT47-10000
Test gas ExTox CAT*	ZT32-10000
Rubber gasket PP05	2620-0031

* Test gas can 1 ltr, pressure approx. 12 bar
** Test gas can 1 ltr, pressure approx. 7 bar

Other accessories and consumables are available for the product. Please contact the SEWERIN Sales Department for further information.

Apart from the following exceptions, the same storage conditions apply to accessories and consumables as to the test set.

− Test gas cans: max. 50 °C, no exposure to sunlight

12.5 Advice on disposal

The European Waste Catalogue (EWC) governs the disposal of products and accessories in accordance with EU Directive 2014/955/EU.

Waste	EWC code
Test set	16 02 13
Test gas can	16 05 05
Disposable battery, rechargeable battery	16 06 05

Alternatively, test sets can be returned to Hermann Sewerin GmbH.

12.6 Declaration of Conformity

Hermann Sewerin GmbH hereby declares that the **ATS 503/501** test set fulfils the requirements of the following guidelines:

- 2011/65/EU
- 2014/30/EU

Gütersloh, 2025-09-01

Benjamin Sewerin (General Manager)

The complete declaration of conformity can be found online.

12.7 Abbreviations

% vol.	percentage of a gas in a gas mixture based on the volume
ppm	parts per million

12.8 Technical terms

Clean air

Air that is free from hydrocarbons and toxic gases.

Gas type

Gaseous hydrocarbon with the sum formula CxHy, e.g. methane CH_4, propane C_3H_8, nonane C_9H_{20}.

User

General name for the user of the test set or a device, regardless of membership of a user group.

12.9 Conversion of the concentration data

Gas concentrations are specified in the unit ppm (parts per million) or % vol. (volume percent).

Conversion:

1	% vol.	=	10,000	ppm
0.1	% vol.	=	1,000	ppm

13 Index

V

W

Z

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