seitron
Innovation Technology

USE AND MAINTENANCE

be safe MG ----

Portable Multi-Gas Detector

INDICE

1.0 IMPORTANT INFORMATION

1.1 Information about this manual

◊ This manual describes the operation, features, and maintenance of the device.
◊ This manual must be read and followed carefully when using the product. In particular, safety instructions and information on the use and operation of the product must be read and followed carefully. Additionally, to ensure safe use, national regulations in force must be respected.

Respect the environment, think before printing the full manual.

1.2 Safety warnings

WARNING!
Carefully read the information and take adequate measures to ensure safety in order to avoid any danger to people and property.
Failure to comply with these instructions may pose a danger to individuals.
Use the device only as specified in this manual; otherwise, the protection provided by the device may be compromised.

WARNING! Proper disposal
Ensure the proper disposal of the battery pack at the end of its life only through designated containers. This device *must not* be disposed of as household waste.
Follow the provisions of current national legislation.

2.0 SAFETY

Before using the Multigas Be Safe MG personal gas detector, it is very important to read and understand the Ex safety instructions provided in the quick guide that comes with the device, particularly the following sections:

- **Description**
- **Marking**
- **Instructions for safe use of the equipment - Par. 30.1 EN60079-0, Chapter 2**
- **Specific conditions for use**
- **Manufacturer's address**

WARNING!
This product can be considered a life-saving or injury-prevention safety device.

Incorrect use or maintenance of the device may compromise its proper functioning and, consequently, seriously endanger the life of the user.

Before use, it is necessary to check that the product is functioning correctly. The product must not be used if the Bump Test has failed, if there are any damages, or if maintenance/servicing has not been carried out by a Seitron authorized service center.
Any use that deviates from or is contrary to these instructions will be considered non-compliant. This applies particularly to unauthorized modifications to the product or repairs not carried out by a Seitron authorized service center.

2.1 Precautionary Safety Measures to Adopt

Bump Test

The frequency of the bump test is often regulated by national or company standards; however, as a general rule, performing a bump test before each use is the best safety practice and is therefore recommended by Seitron.
The Canadian Standards Association (CSA) requires the bump test procedure for the LEL sensor to be performed before daily use, using calibration gas concentrations between 25% and 50% LEL. The instrument must be recalibrated if, during a bump test, the reading does not fall between 100% and 120% of the expected value for the gas.
Before using the instrument, the device must pass the bump test.
If the bump test is not passed, DO NOT use the instrument; it is necessary to calibrate the sensors or send the instrument to a Seitron authorized service center.

Manually verify that the audible signal, visual, and vibrating alarms are activated.

Perform the bump test (see Chapter 10.0 “Bump Test”) more frequently if the device has suffered physical shock or if it has been exposed to high levels of contaminants.
The bump test should also be performed more frequently if the tested atmosphere contains the following substances, which can reduce the sensitivity of the flammable gas sensor and lower the indicated values:

- Organic silicones
- Silicates
- Compounds containing lead
- Exposure to hydrogen sulfide concentrations above 200 ppm or exposure to more than 50 ppm for one minute.

Seitron recommends performing the bump test procedure (see Chapter 10.0 "Bump Test") before each use and advises charging the device's battery after every workday. Calibrate the device every 180 days.

Check the Minimum Concentration of Flammable Gas

The minimum concentration of flammable gas in the air that can ignite is defined as the Lower Explosive Limit (LEL).

The "XXX" flammable gas value indicates that the atmosphere exceeds 100% LEL or 5.00% vol CH4, and there is a risk of explosion. Immediately leave the hazardous area.

Seitron recommends testing the combustible gas sensor with a known gas concentration after any exposure to contaminants/

poisons such as sulfur compounds, silicone vapors, halogenated compounds, etc.

Pay Attention to the Atmosphere

Do not use the device to detect flammable or toxic gases in the following atmospheres, as the indicated values may be incorrect:

- Deficiency or excess of oxygen in the ambient air.
- Reducing atmospheres.
- Chimneys or furnace stacks.
- Inert atmospheres.
- Atmospheres containing volatile flammable mists or dust.

The device should only be used to detect gases/vapors for which a sensor has been installed.

The device is suitable and certified for measuring oxygen concentrations in gas mixtures for inerting, according to the EN 50104 standard, but without an alarm function.

Ensure that the oxygen level is >10% for accurate combustible readings with the catalytic sensor.

Sensor Maintenance

Do not obstruct the sensor openings to avoid inaccurate readings. To prevent damage and measurement errors, do not apply pressure to the front of the sensors. Do not use compressed air to clean the sensor openings, as the pressure may damage the sensors.

Adhere to Proper Stabilization Times

Allow sufficient time for the device to display a correct value. Reaction times vary based on the type of sensor used (See Chapter "4.0 Measurement Ranges and Sensor Accuracy").

Environmental Conditions Awareness

Gas sensor readings can be affected by various environmental factors, including changes in pressure, humidity, and temperature. Pressure and humidity variations affect the actual amount of oxygen in the atmosphere.

Pressure Variations

If the pressure changes rapidly (e.g., when passing through a pressurized chamber), the oxygen sensor reading may change momentarily and possibly trigger the device's alarm.

Humidity Variations

If humidity changes significantly (e.g., when moving from a dry, air-conditioned environment to outdoor air with high humidity), the oxygen readings may drop by up to 0.5% due to the displacement of oxygen by water vapor in the air. The oxygen sensor is equipped with a special filter that reduces the effects of humidity variations on oxygen readings. Its effect is not immediate but gradually influences oxygen readings over several hours.

Temperature Variations

The device has a built-in temperature compensation function. However, if the temperature changes rapidly, the sensor reading may vary.

To minimize the effect, zero the device at the working temperature.

If the device is used near its upper or lower operating temperature limit, Seitron recommends performing auto-zeroing or turning the device off and on in that environment.

Special Conditions for Safe Use

- In the event of an overrange condition for the flammable gas sensor, the device will enter Alarm Lock status, which must be reset in a fresh air environment. To reset this alarm, turn the device off and back on after moving to fresh air. Keep the device in fresh air until the LEL or CH4 readings have stabilized, then follow the instructions for Fresh Air Setup and Zero Calibration contained in this manual.
- Prolonged exposure of the device to certain concentrations of combustible gases can strain the device's sensitive element and severely affect its performance. If an alarm is triggered due to a high concentration of combustible gas, the device calibration must be performed. If necessary, replace the sensor.
- High concentrations of certain toxic gases, such as H2S, can damage the LEL sensor. This effect, known as inhibition, is usually temporary, but in extreme circumstances, it can impair the sensitivity of the LEL sensor after any exposure to gases that trigger alarms in toxic gas sensors.
- Protect the combustible sensor from exposure to lead compounds, silicones, and chlorinated hydrocarbons. While some organic vapors (such as leaded gasoline and halogenated hydrocarbons) can temporarily inhibit the sensor's performance, in most cases, the sensor recovers after calibration.
- High Off-Scale LEL Readings May Indicate an Explosive Concentration.
- Any rapid reading followed by a decreasing or erratic reading may indicate a gas concentration beyond the upper scale limit, which can be dangerous.

- The pellistors used in the catalytic flammable gas sensor may suffer from a loss of sensitivity in the presence of poisons or inhibitors, such as silicones, sulfides, chlorine, lead, or halogenated hydrocarbons.
- The device is equipped with an anti-static coating on the LCD display to minimize the risk of ignition due to electrostatic discharge. Periodic inspection of this coating is necessary to ensure it is free from degradation, delamination, abrasions, or other surface deformations.
- Care should be taken to avoid exposure to excessive heat, aggressive chemicals or solvents, sharp edges, and abrasive surfaces. Clean the exterior with a soft, damp cloth.
- The products may contain materials whose transportation is regulated under national and international dangerous goods regulations. Return the product in accordance with the appropriate dangerous goods regulations. Contact the goods carrier for further instructions.

- **Warning:** The lithium battery may present a fire or chemical burn hazard if misused; it should never be disassembled, incinerated, or heated above 100°C.
- **Warning:** Lithium polymer batteries exposed to high temperatures (above 130°C) for more than 10 minutes may cause fire and/or explosion.

3.0 TECHNICAL FEATURES

Power Supply:		Rechargeable internal Li-Ion battery 3.7 Vdc 2200 mA/h
Communication Port:		4 gold-plated brass contacts
Battery Charging Temperature:		10 °C to 30 °C
Charging Time:		<10 hours
Charging Indicator:		Red/green LED
Fully Charged Indicator:		Green LED + battery symbol on display
Alarms:	Audible Alarm:	90 dB @ 30 cm
	Vibration Alarm:	Vibrating motor
	Visual Indicator:	Steady green LED (Ok status)
	Visual Alarm:	3 flashing red LEDs
Display:		LCD display
Device Runtime:		Up to 18 hours
Ingress Protection:		IP67
Self-Diagnosis:		Full function and internal sensor check with error reporting
Device Runtime:		18 hours, only for instruments with marking II 1G Ex da ia IIC T4 Ga or II 1G Ex ia IIC T4 Ga
		7 hours, only for instruments with marking II 2G Ex db ia IIC T4 Gb
Ingress Protection:		IP67
Self-Diagnosis:		Full function and internal sensor check with error reporting
Autozero:		Automatic autozero cycle at instrument start-up (10 seconds)
Internal Data Memory:		130.000 events automatically stored (one data every 10 seconds)
Data logging:		64.000 log (one data every 10 seconds)

Operating Conditions

Usage:	Indoor and outdoor use
Temperature:	-20 °C to +55 °C
Humidity:	5% to 90% RH, non-condensing

Storage Conditions

Storage Temperature:	-20 °C to +55 °C
Humidity Limit:	5% to 90% RH

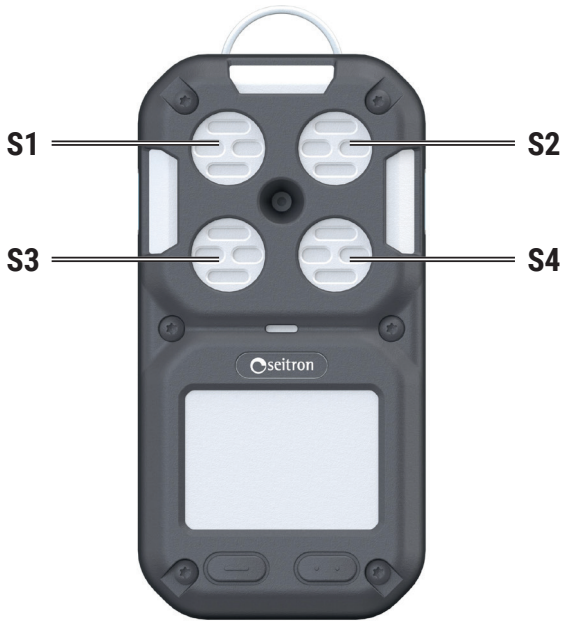
3.1 Dimensions

4.0 MEASUREMENT RANGES AND SENSOR ACCURACY

MEASUREMENT	MEASUREMENT RANGE	SENSOR TYPE	RESOLUTION	ACCURACY	RESPONSE TIME T90	POSITION
O_2	0-25% Vol.	Electrochemical Lead free	0,1% Vol	±0,2% Vol	<10 sec	S1
CO	0-1000 ppm	Electrochemical	1ppm	±5 ppm	<15 sec	S3 - S4
NO	0 .. 250 ppm	Electrochemical	1ppm	±5 ppm	<30 sec	S3
NO_2	0 .. 150 ppm	Electrochemical	1ppm	±2 ppm	<30 sec	S3 - S4
SO_2	0 .. 100 ppm	Electrochemical	1ppm	±2 ppm	<20 sec	S3 - S4
H_2	0 .. 1000 ppm	Electrochemical	1ppm	±5 ppm	<40 sec	S3 - S4
H_2S	0 .. 100 ppm	Electrochemical	0,1ppm	±0,5 ppm	<15 sec	S3 - S4
NH_3	0 .. 100 ppm	Electrochemical	0,1ppm	±0,5 ppm	<40 sec	S3 - S4
CL_2	0.. 20 ppm	Electrochemical	0,1ppm	±0,5 ppm	<40 sec	S3 - S4
CO+H_2S (dual)	0 .. 1500ppm CO 0 .. 500ppm H2S	Electrochemical	1ppm	±5 ppm	<15 sec	S4
Flammable*	0-5% Vol. CH4	Catalytic (Pellistor)	1% LEL / 0,01% v/v	±5% LEL	<15 sec	S2
Flammable*	0-5% Vol. CH4	MEMS	1% LEL / 0,01% v/v	±5% LEL	<15 sec	S2

*: The instrument is by factory default with methane (CH4) as the combustible gas.

5.0 SENSOR POSITION



6.0 PRODUCT DESCRIPTION

6.1 Product code table

PM4	Personal Monitor with 4 Sensors		
	Z	O2 sensor (Long Life)	S1 position
	G	O2 sensor (Galvanic)	
	X	Not sensor installed	
	L	LEL sensor (VQ548MP2-DS)	S2 position
	R	LEL sensor (4P75)	
	X	Not sensor installed	
		C CO sensor	S3 position
		H H2S sensor	
		B NO2 sensor	
		S SO2 sensor	
		Y H2 sensor	
		K Cl2 sensor	
		A NH3 sensor	
		N NO sensor	
		X Not sensor installed	
		C CO sensor	S4 position
		H H2S sensor	
		B NO2 sensor	
		S SO2 sensor	
		Y H2 sensor	
		K Cl2 sensor	
		A NH3 sensor	
		D CO + H2S sensor (dual)	
		X Not sensor installed	
			0 Without Bluetooth module
			1 With Bluetooth module
			-- Non ATEX related characters
			SE Branding Seitron

6.2 General features

The personal monitor is equipped with:

- Electronic circuit which can host up to 4 sensors.
- LEDs, vibrating motor, and buzzer for alarm notifications.
- Belt clip.
- LCD display.
- Rechargeable Li-Ion battery pack.
- Two multifunction buttons.

6.3 Available software

- Be Safe MG Manager

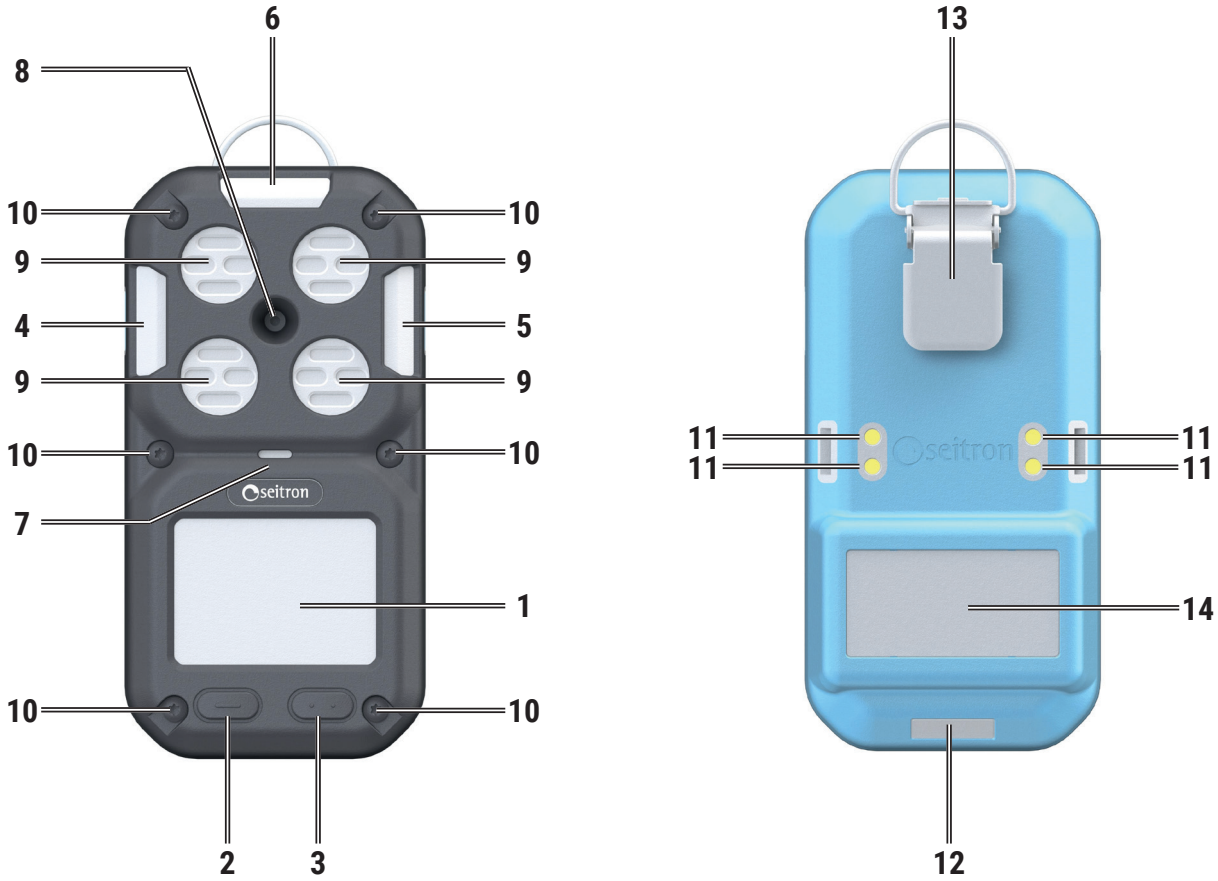
  PC Software compatible with Microsoft Windows 7 operative system or later, downloadable from the Microsoft Windows Store.

  Features:
  1. Displays the instrument's nameplate data.
  2. Configures the instrument.
  3. Performs the bump test.
  4. Downloads the data stored during operation.

6.4 Calibration Certificate

A calibration certificate is included with the instrument.

6.5 MECHANICAL DESCRIPTION



1	Display
2	Multifunction Button
3	Multifunction Button
4	Red LED: Alarm status indication
5	Red LED: Alarm status indication
6	Green LED: Normal operation indication ed LED: Alarm status indication
7	Red LED: Battery charging in progress Green LED: Battery charging completed (visible only if the battery is charged with the instrument turned off)
8	Buzzer
9	Sensor Openings
10	Screws (6 pieces) for shell closure
11	Contacts for battery charging and PC software communication
12	Serial Number
13	Belt Clip
14	Nameplate Data

6.6 Definition of Multifunction Buttons

The device is equipped with two operating buttons. Each button activates interactive functions indicated on the display directly above the button itself.

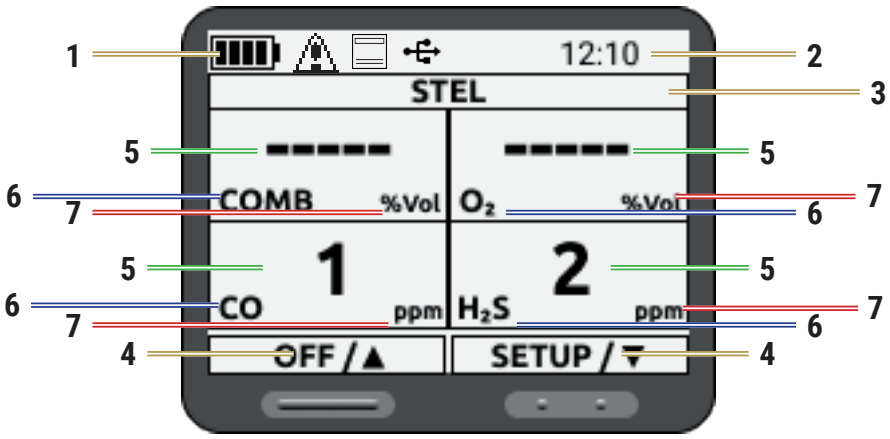
Below is the specific functionality of each button:

Button	Functions
 **Left Button**	- Power On: Long press turns the device on. - Power Off: In the measurement screen, the interactive function "OFF" appears; a long press turns off the instrument. **In General:** - Short Press: Activates the interactive arrow function. - Long Press: Activates interactive functions such as "ESC", "SETUP", "OK", etc.
 **Right Button**	**In General:** - Short Press: Activates the interactive arrow function. - Long Press: Activates interactive functions such as "ESC", "SETUP", "OK", etc..

6.7 LED Definition

LED	Description
Red	- Indicates alarms or 'charging' status when the device is connected to the Docking Station and charging.
Green	- Indicates normal operation. Steady on.

6.8 Display icons and values setup



Reference	Description
1	This part of the display shows several symbols: Battery Charge Status (for further details see section 7.2 Battery charge status). The icon appears at startup if: 1. At least one sensor has reached the end of its life (EOL). 2. At least one sensor's calibration is expired and/or the last calibration failed. 3. During operation, the icon appears if a bump test fails; it remains until the instrument is turned off. This symbol appears when the device is connected to the docking station, which is connected to the PC via USB cable, and the Be Safe MG Manager software is active. If the software is not active, the symbol briefly appears on the display. This symbol appears when the instrument's logging function is active.
2	Shows current date and time in 12- or 24-hour format.
3	Displays the current screen being viewed.
4	This part of the display shows the instrument's interactive functions. To activate these functions, press the corresponding button below the indication.
5*	Value measured by the instrument.
6*	Gas being measured by the sensor.
7*	Displays the unit of measurement, or if the instrument is in alarm state, it indicates the type of alarm detected.

*: The display of this section may vary depending on the version of the instrument (while maintaining the data display mode) or when the user enters the instrument's menus.

6.9 Backlighting

The display backlighting is always on.

6.10 Vibration Alarm

The device is equipped with a vibration alarm.

6.11 Acoustic Alarm

The acoustic alarm provides an audible warning.

6.12 Visual Alarm

The visual alarm consists of flashing LEDs on the device.

6.13 Toxic Gas Monitoring

The device monitors the concentration of toxic gases in the ambient air. During normal operation, it displays the concentration of gases in parts per million (ppm) or mg/m³ on the measurement page.

WARNING!
If an alarm sounds during normal operation of the device, immediately leave the area. Remaining in the area under such circumstances exposes you to the risk of serious or fatal injuries.

For monitoring toxic gases, the device uses four alarms for each toxic gas:

- HIGH Alarm
- LOW Alarm
- STEL Alarm
- TWA Alarm

If the gas concentration reaches or exceeds the alarm threshold, the device will enter alarm mode (see Chapter 9.3 Alarms).

6.14 Oxygen Concentration Monitoring

The device monitors the oxygen concentration in the ambient air. Alarm threshold values can be set to activate under two conditions:

- Excess: Oxygen concentration > 23.5%
- Deficiency: Oxygen concentration < 19.5%

WARNING!
If an alarm sounds during normal operation of the device, immediately leave the area. Remaining in the area under such circumstances exposes you to the risk of serious or fatal injuries.

For monitoring oxygen levels, the device uses two alarms:

- HIGH Alarm
- LOW Alarm

If the gas concentration reaches or exceeds the alarm threshold, the device will enter alarm mode (see Chapter 9.0 Alarms).

Note:
Due to barometric pressure changes (altitude) or extreme ambient temperature variations, false oxygen alarms may occur. It is recommended to perform a zero calibration at the ambient temperature and pressure of use. Ensure that the device is in fresh air before proceeding with the zero calibration procedure, which is performed when the instrument is turned on. The device will remain in alarm mode until the oxygen concentration returns to the set levels.

6.15 Flammable Gas Monitoring

The device is capable of monitoring ambient air concentrations of methane and other flammable gases, which can be selected from the SETUP->Fuel menu.
The instrument displays the concentration of flammable gas in %Vol on the measurement page until another page is selected or the device is turned off.

WARNING!
If an alarm sounds during normal operation of the device, immediately leave the area. Remaining in the area under such circumstances exposes you to the risk of serious or fatal injuries.

For monitoring flammable gases, the device uses two alarms:
• HIGH Alarm
• LOW Alarm

If the gas concentration reaches or exceeds the alarm threshold, the device will enter alarm mode (see Chapter 9.0 Alarms).

WARNING!
A flammable gas reading of 100% LEL or 5.00% Vol CH4 indicates a risk of explosion. Immediately leave the contaminated area.

7.0 COMMISSIONING

7.1 Preliminary Operations

Remove the instrument from the packaging used for shipment and proceed with an initial inspection. Verify that the contents match what was ordered. If any signs of tampering or damage are noticed, immediately report the issue to the SEITRON Service Center or its representative, and retain the original packaging.
The serial number and model of the instrument are indicated on the instrument's nameplate.
It is recommended to provide both pieces of information for any technical assistance requests, spare parts, or technical and application clarifications.
Seitron maintains a record of the historical data for each instrument at its headquarters.
Before first use, it is recommended to perform a full battery charge cycle.

7.2 Battery charge status

The instrument is equipped with a rechargeable Li-Ion battery.
The display constantly shows the charge status of the internal battery, through the symbol located at the top left of the display.

WARNING!
THE INSTRUMENT IS SHIPPED WITH A BATTERY CHARGE LEVEL NOT EXCEEDING 30%, AS REQUIRED BY CURRENT AIR TRANSPORT REGULATIONS.
BEFORE USE, PERFORM A FULL CHARGE CYCLE LASTING 6 HOURS.
IT IS RECOMMENDED TO CHARGE THE DEVICE AT AN AMBIENT TEMPERATURE BETWEEN 10°C AND 30°C.

SYMBOL	BATTERY STATUS
	**100% - Battery fully charged.**
	**75% remaining charge.**
	**50% remaining charge.**
	**25% remaining charge.**
 **Blinking**	**Low battery alarm! 5% remaining charge - instrument autonomy 30 minutes. The instrument beeps twice (beep-beep).**

WARNING!
IF THE BATTERY WARNING OR ALARM GOES OFF WHILE YOU ARE USING THE DEVICE, LEAVE THE AREA IMMEDIATELY BECAUSE THE BATTERY IS RUNNING LOW.
FAILURE TO HEED THIS WARNING CAN RESULT IN SERIOUS OR FATAL INJURY.
AS THE BATTERY AGES, THE USEFUL LIFE OF THE DEVICE IS REDUCED.

The instrument can be stored for a period depending on the battery charge level.

WARNING!
IF THE INSTRUMENT IS NOT USED FOR AN EXTENDED PERIOD, IT IS ADVISABLE TO STORE IT AFTER A FULL CHARGE CYCLE AND RECHARGE IT AT LEAST ONCE EVERY 3 MONTHS.

Below is a table specifying the time you can leave the instrument in stock depending on the battery charge level.

BATTERY CHARGE LEVEL	STORAGE DURATION
100%	300 days
75%	225 days
50%	150 days
25%	100 days

7.3 Recharging batteries

To charge the instrument's battery, use only the AMDS01 charging station, provided with the instrument.
The charger can fully charge a completely discharged battery pack in less than six hours under normal conditions, at temperatures between 10°C and 30°C.

WARNING!
Explosion hazard: do not recharge the device in hazardous areas.

Using any charger other than the charger supplied with the device may damage or inadequately charge the batteries.

- The USB Type-C to Type-A cable is provided with the AMDS01; the Type-C connector must be connected to the charging station, while the Type-A connector must be connected to the PC or a 5 Vdc 500 mA charger.
- Ensure that the instrument is properly inserted into the charging cradle (you should hear the click of the side retaining clips).
- The red LED located at the center of the instrument will light up steadily in red. When the instrument is turned on, the number of segments inside the battery symbol increases progressively according to the charge percentage.
- Upon completing the charge:
  - When the instrument is off: the LED at the center of the instrument will light up in solid green.
  - When the instrument is on: the battery symbol will display all segments, but the red LED at the center of the instrument will remain illuminate
- During periods of non-use, the instrument can remain connected to the charging station.
- The minimum and maximum ambient temperatures for charging the device are 10°C and 30°C, respectively.
- For best results, charge the device at an ambient temperature of 23°C.

For more information on the charging station, communication, and Bump Test, AMDS01, refer to Appendix A of this manual.

7.4 Mounting the Bump Test / Calibration Adapter

The instrument comes with the AMGC01 adapter, which is used to perform the Bump Test and/or Calibration of the instrument.
Attach the left hook of the adapter into the transparent slot on the left side of the instrument (A).
Then, attach the right hook of the adapter into the transparent slot on the right side of the instrument (B) until you hear a click.
If no click is heard, the adapter is not securely attached to the instrument.

Refer to the relevant sections for detailed instructions on performing the Bump Test and Calibration.
After completing the Bump Test/Calibration, remove the cap, as it would prevent the gas from reaching the sensor during use.

7.5 Mounting the External Filter

The external filter AMAF01 is an optional accessory that contains filters allowing gas to pass through while protecting the sensors from dust and debris. The filter adapter protects the sensors, making instrument maintenance easier.

Attach the left hook of the adapter into the transparent slot on the left side of the instrument (A). Then, attach the right hook of the adapter into the transparent slot on the right side of the instrument (B) until you hear a click.

The external filter can be used in hazardous areas.
It is designed to work with battery charging accessories, and there is no need to remove it when placing the instrument in the charging station.
The external filter must be replaced if the filters are damaged by substances like paint, grease, or oil, which could block the gas flow to the sensors.

8.0 OPERATION

8.1 Powering On/Off the Instrument

Powering On the Instrument
With the device turned off (OFF), press and hold the button indicated by the arrow.
The instrument will turn on and begin the startup process.

Powering Off the Instrument
With the device turned on (ON), press and hold the button indicated by the arrow as follows:
- On the measurement screen, the interactive function “OFF” will appear: hold down the button.
- From any other screen, switch to the measurement screen to turn off the instrument.

8.1.1 Startup Phase of the Instrument

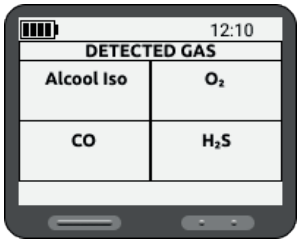
During the startup of the device, the startup screens will appear in succession at 1-second intervals.

During the startup phase, the instrument displays the following screens:

Manufacturer's logo.
Device name.
Firmware version (FW) and serial number (SN) of the device
Date of the last successful calibration.

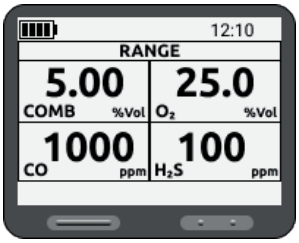
The operator's name currently using the device.

The gases detected by the instrument.
Refer to chapter "6.0 Product Description" to see the full list of measurements the instrument performs, with their abbreviations.



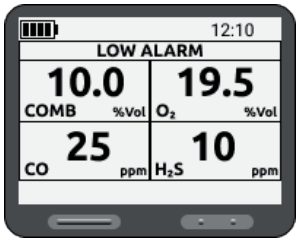
The measurement ranges of the sensors installed in the instrument are displayed.

Note: The units of measurement for toxic gases can be modified through the configuration menu.



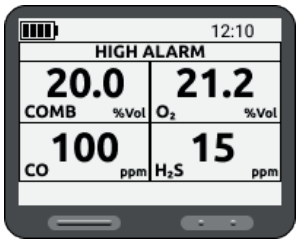
For each measured gas, the screen displays the “LOW ALARM” threshold.

Note: "LOW ALARM" thresholds can be manually adjusted through the configuration menu.

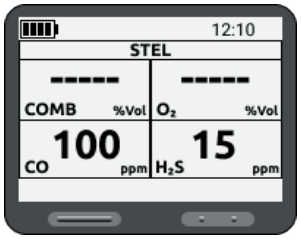


For each measured gas, the screen displays the “HIGH ALARM” threshold.

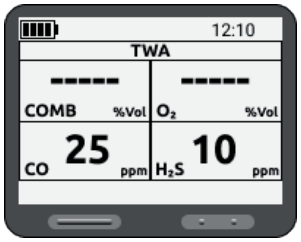
Note: "HIGH ALARM" thresholds can be manually adjusted through the configuration menu.



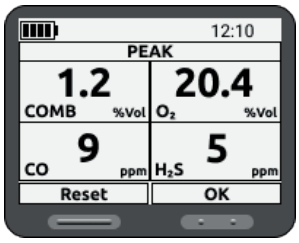
The “STEL” alarms (short-term exposure limit over 15 minutes) for each measured gas are displayed.



The “TWA” alarms (time-weighted average since the first use or since the memory values were reset) for each measured gas are displayed.



Peak values for each measured gas, recorded since the first use or the last reset, are displayed.
Press **Reset** to clear the stored peak values.
Press **Ok** to confirm and continue.

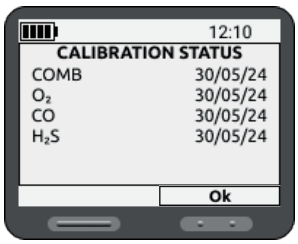


The calibration status of the device's sensors is shown.
The date refers to the last valid calibration.

If a “*” appears next to the date, it means less than 30 days remain until calibration expires.

If the expiration date has passed, the symbol “⚠“ will appear, and the date will be replaced by “**”.

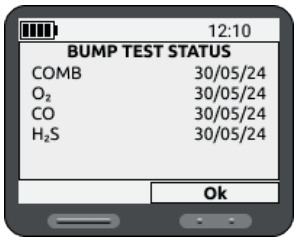
Press the button for the interactive function “**Ok**” to confirm reading the message.



This screen shows the status of Bump Tests and the date of the last Bump Test performed.
Press the button for the interactive function "**Ok**" to confirm reading the message.
On first startup, all sensors will show an empty date field (--/--/--) indicating that the Bump Test must be performed.

If the Bump Test has not been performed or has failed for one or more sensors, the "⚠" symbol will appear and the buzzer activates intermittently.

In this case, pressing **Ok** allows the instrument to continue, but the "⚠" symbol remains until the Bump Test is completed.



The screens on the side appear if saved data is detected upon powering on. If data is present, the samples and accumulated minutes are counted. Using the shutdown time, the minutes the device was off are calculated, and adding these two values determines if the saved data is still valid.
If < 15 min => both STEL and TWA have valid accumulations (1st case)
If > 15 min & < 8 hours => only TWA has valid accumulations (2nd case)
If > 8 hours => data is no longer valid and is deleted (3rd case)

1st case
If 'NO' is selected, both STEL and TWA accumulations are cleared. If 'YES' is selected, accumulation continues. The shutdown time is calculated as the period when accumulation is zero.

2nd case
STEL data is cleared.
If 'NO' is selected, TWA accumulations are also cleared.
If 'YES' is selected, accumulation continues. The shutdown time is calculated as the period when accumulation is zero.

3rd case
If no data is saved or more than 8 hours have passed since the first power-on, all accumulations are cleared, and no message is displayed.

Example – TWA alarm set to 10 ppm for the H2S sensor

Power-on:
8:00 AM -> TWA = 0 ppm, Number of samples acquired = 0

Power-off:
12:00 PM -> TWA = 5 ppm, Number of samples acquired = 240 (1 per minute)

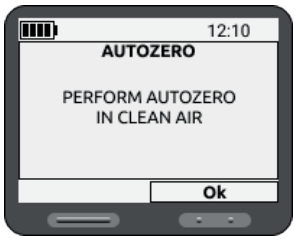
Power-on:
1:00 PM (with saved averages retained) -> TWA = 5 ppm, Number of samples acquired = 300

Power-off:
2:00 PM -> TWA = 7 ppm, Number of samples acquired = 360

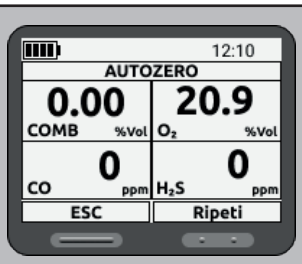
Power-on:
2:15 PM (with saved averages retained) -> TWA = 7 ppm, Number of samples acquired = 375
3:00 PM -> TWA = 10 ppm -> NON-RESETTABLE ALARM
or
4:00 PM -> TWA = 9 ppm -> More than 8 hours have passed -> Sample overflow -> Accumulation ends

For full details on STEL (Short-Term Exposure Limit) and TWA (Time-Weighted Average) alarms, see section 9.0 ALARMS.

Place the instrument in clean air and press the button for the interactive function "**Ok**" to start the instrument's auto-zeroing process.



If the auto-zero fails for one or more sensors, ensure the instrument is in clean air and press Retry to restart the auto-zero process; If the auto-zero is successful, press "**ESC**".

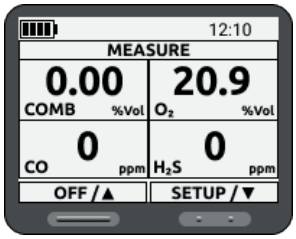


When auto-zeroing is complete, the normal operating screen will appear, displaying the real-time measurements of the instrument.

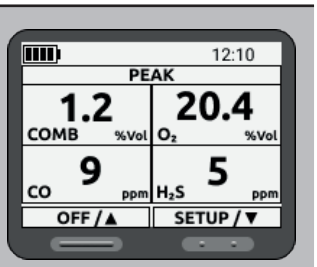
Two interactive functions are present:

OFF/▲: Holding for 5 seconds will turn off the instrument.
A short press cycles through the current values:
"PEAK" - "STEL" - "TWA" - "MEASURE"

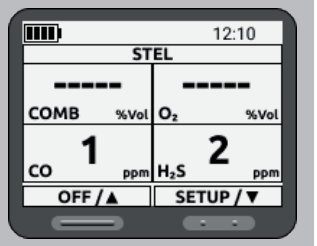
SETUP/▼: Long press (5s) access the instrument configuration menu.
Short press cycles through the current values of:
"PEAK" - "STEL" - "TWA" - "MEASURE"



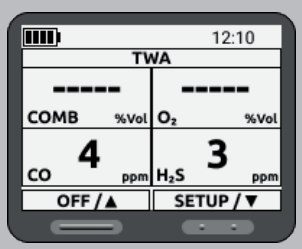
The peak values for each measured gas, recorded since the first use or since the values in memory were reset, are displayed.



The "STEL" values (short-term exposure limit) calculated by the device, representing the average exposure over a 15-minute period, are displayed for each measured gas.



The "TWA" values (time-weighted average), which represent the average exposure from the first use of the device or since the last reset of the values in memory, are also shown for each gas.



8.1.2 Minimum instrument configuration

After the device startup phase is finished, at least the following parameters need to be set:

Fuel: If the instrument uses combustible gas sensors, it is necessary to configure the type of gas to be detected.

Clock: Set the current date and time.

Language: Set the language.

Operator: Set the operator's details who will use the instrument (this can only be done via PC).

To set the parameters:

From PC: Use the "**Be Safe MG Manager**" software, which can be downloaded from the Microsoft Store (recommended). Connect via the AMDS01 charging and communication station provided with the instrument.

Directly from the instrument: Press and hold the button for the "SETUP/▼" interactive function.

8.2 Autozero

Auto-zero is performed by the instrument during the initial power-up phase. If you want to perform auto-zero during normal operation, you must turn the instrument off and then back on.
The auto-zero process is used to detect the zero point of the installed gas sensors. It only occurs within specific limits. If any sensor is outside these limits, the display will show "ERROR," and measurements for that sensor will be suspended.
In case of an error, repeat the auto-zero procedure while ensuring you are in clean air. If the error persists, proceed with calibrating the sensors that generated the error.

⚠ WARNING!
Do not activate the auto-zero function unless you are certain that the surrounding air is pure and uncontaminated; otherwise, inaccurate readings may occur, incorrectly indicating a hazardous atmosphere as safe.
If you have any doubts about the air quality, do not use the auto-zero function.

If the battery charging cycle is interrupted before completion (when starting from a fully discharged battery, at least 4 hours of charging is required), wait for 30 minutes to allow the internal temperature of the device to stabilize before performing the auto-zero.

9.0 ALARMS

Below are the alarm types and the behavior of the device when an alarm condition is detected
The device will automatically return to normal operation once the alarm condition is resolved.
Alarm thresholds can only be changed by Seitron's authorized service center.

WARNING!

If one or more alarms are triggered, immediately leave the contaminated area; the gas concentration in the environment has reached the preset alarm threshold

Failure to follow this warning can result in excessive exposure to toxic gases, which may lead to serious or fatal injuries for those relying on this product for their safety.

The alarm will stop if the measured value falls below the preset alarm threshold.

To silence the alarm, the device must be turned off.

STEL and TWA alarms are specific to toxic gas sensors only.

LOW and HIGH alarms can be set for all sensors.

Alarms are disabled if set to zero or if the device is in CALIBRATION mode or connected to a PC.

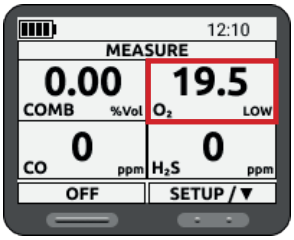
Prioritization of alarms

- The High Alarm (HIGH or PEAK) and the STEL Alarm have the same priority.
- High Alarms (or PEAK) and/or STEL Alarms take precedence over Low Alarms (LOW ALARM) and TWA Alarms.
- The vibration alarm is disabled at -20°C.

Low alarm

When the set threshold is exceeded, the instrument goes into alarm status:

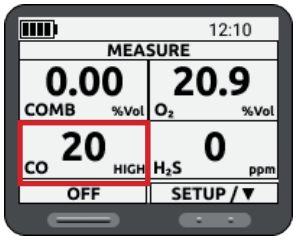
- Acoustic signal activated.
- Vibration activated.
- Flashing "Low" appears instead of the unit of measurement of the sensor that detected the alarm.
- The measurement flashes and continues to update.



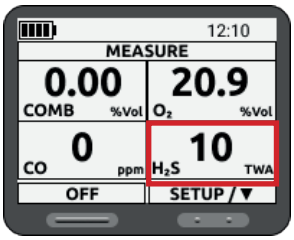
High alarm

When the set threshold is exceeded, the instrument goes into alarm status:

- Acoustic signal activated.
- Vibration activated.
- Flashing "HIGH" appears instead of the unit of measurement of the sensor that detected the alarm.
- The measurement flashes and continues to update.



TWA Alarm (Time Weighted Average)



The TWA alarm is designed to protect operators from long-term exposure to low concentrations of toxic gases, which may not cause immediate effects but could be harmful over time.
Applicable only for toxic gas sensors, the TWA alarm value is calculated based on the average concentration of toxic gases in the environment to which the device has been exposed since its first use or since the last reset of the stored values. The result is scaled to an 8-hour workday exposure, which may be non-continuous. If this average exceeds the set TWA value for that specific gas, the device activates alarm notifications.

When the detected gas quantity exceeds the 8-hour TWA limit:

- An audible alarm is activated.
- The vibration alarm is activated.
- The "TWA" indicator flashes in place of the sensor unit of measure that triggered the alarm.
- The value flashes and continues to update.

Examples of TWA threshold calculation:

Assume that the device has been working for at least 15 minutes.

One-hour exposure to 50 ppm:

$$\frac{(1 \text{ hour} \times 50 \text{ ppm}) + (7 \text{ hour} \times 0 \text{ ppm})}{8 \text{ hours}} = 6{,}25 \text{ ppm}$$

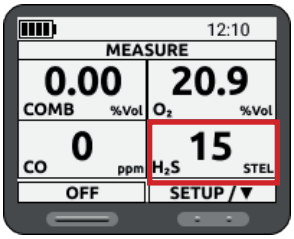
4-hour exposure at 50 ppm and 4-hour exposure at 100 ppm:

$$\frac{(4 \text{ hours} \times 50 \text{ ppm}) + (4 \text{ hours} \times 100 \text{ ppm})}{8 \text{ hours}} = 75 \text{ ppm}$$

12-hour exposure at 100 ppm:

$$\frac{(12 \text{ hours} \times 100 \text{ ppm})}{8 \text{ hours}} = 150 \text{ ppm}$$

STEL alarm (Short Term Exposure Limits)



The STEL alarm is intended to protect operators from the acute effects of short-term but intense exposure to toxic gases. Some substances can cause immediate health damage even if high concentrations are present only briefly.
Applicable only for toxic gas sensors, the STEL alarm value is calculated based on the average concentration of toxic gases in the environment to which the device has been exposed over a 15-minute period.

When the amount of gas detected by the device exceeds the set STEL threshold:

- Acoustic signal activated.
- Vibration activated.
- A flashing "STEL" appears instead of the unit of measurement of the sensor that detected the alarm.
- The value flashes and continues to update.

Examples of STEL threshold calculation:

Assume that the device has been working for at least 15 minutes.

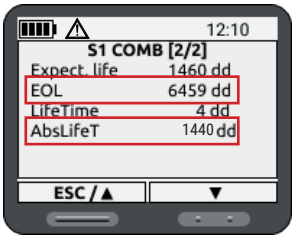
15-minute exposure at 35 ppm:

$$\frac{(15 \text{ minutes} \times 35 \text{ ppm})}{15 \text{ minutes}} = 35 \text{ ppm}$$

10-minute exposure at 35 ppm and 5-minute exposure at 5 ppm:

$$\frac{(10 \text{ minutes} \times 35 \text{ ppm}) + (5 \text{ minutes} \times 5 \text{ ppm})}{15 \text{ minutes}} = 25 \text{ ppm}$$

Sensor end of life (EOL)



- **Position Indication**: SETUP -> Diagnostic -> Sensors. At the end-of-life date, the sensor is still functional; this allows the sensor to be scheduled for replacement in time.
- Warning Icon ⚠:
- Less than 30 days: warning icon appears.
  - Upon expiration: "Expired/expired" appears next to EOL.
- **'AbsLifeT' Indication**:
  - Less than 30 days: 'AbsLifeT' followed by '*', eg. "AbsLifeT 1440 dd *".
  - Expired: 'AbsLifeT' followed by '**', es. "AbsLifeT 1470 dd **".

10.0 BUMP TEST

When you have finished configuring the minimum parameters for using the instrument (see section 8.1.2 Minimum Instrument Configuration), you need to perform the Bump Test.
The Bump Test is a gas test that involves providing the instrument with a known gas concentration above the set LOW alarm thresholds to verify the activation of alarm signals.
The BUMP TEST must be performed for each installed sensor.

The Bump Test can be performed directly on the instrument via the appropriate menus or via PC, after installing the "Be Safe MG Manager" software downloadable from Microsoft store, through the use of the AMDS01 charging and communication station, supplied with the instrument.

WARNING!
As required by the EN60079-29 Part 1 standard, portable devices that detect flammable gases must undergo a functional check with gas before each day of use.
Depending on local circumstances, other testing systems may be adopted.
If the BUMP TEST is not successfully passed, it is necessary to proceed with the calibration of the sensors or send the device to an authorized Seitron service center.

It is possible to perform the BUMP TEST using the procedure described below.
CSA requires (for 22.2 NO. 152) to check the sensitivity of the flammable gas sensor against a known concentration of methane before daily use, equivalent to 25 - 50% of the full scale concentration.
THE ACCURACY MUST BE WITHIN 0 TO +20% OF THE ACTUAL VALUE.

The following tools and equipment are needed to perform the Bump Test:

- **Transparent Rauclair tube 4x7mm, 0.5 meter length, supplied with the instrument.**
- **Calibration cap, supplied with the instrument.**
- **Mixture of calibrated gas** suitable for the sensors to be tested with a known gas concentration; the cylinder must be equipped with a pressure regulator set to 0,3 / 0,5 / 1 LPM.

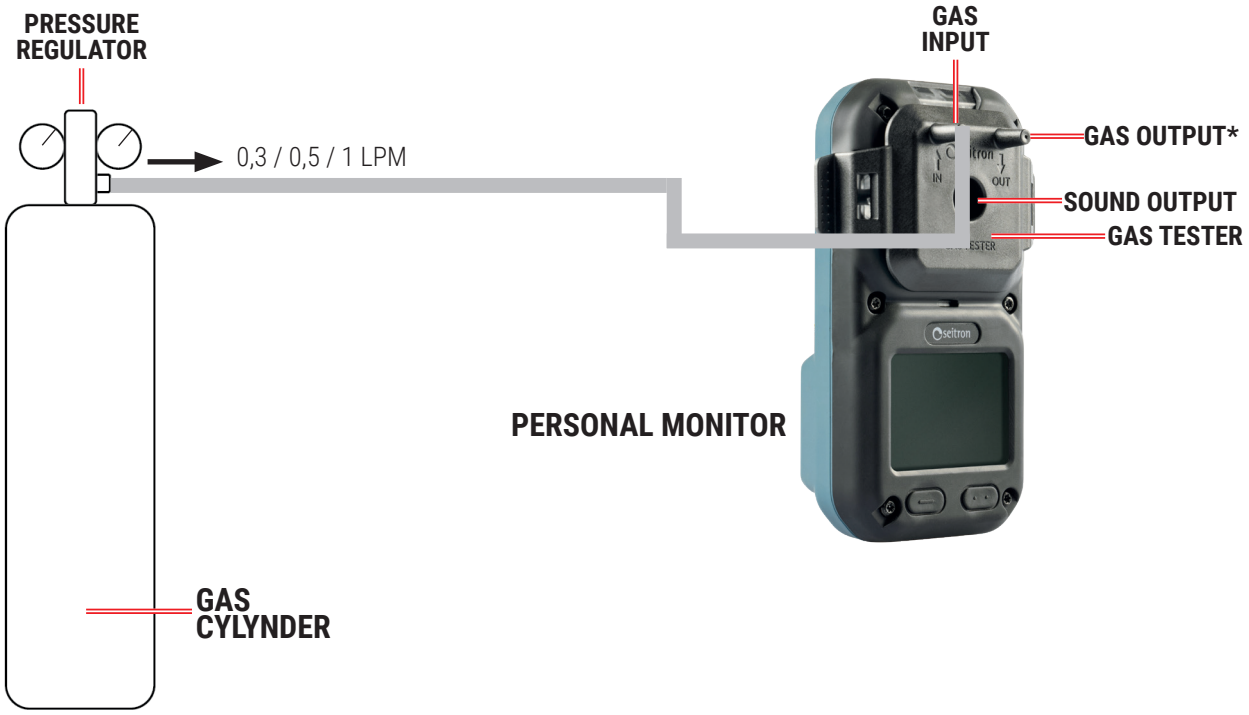
The following table provides information on the sensors and the corresponding gas mixtures required for performing the Bump test.
SENSOR: The sensor installed on the instrument on which it is required to perform the Bump test.
GAS MIX / GAS CONCENTRATION: Gas Mix to be used for Bump test performance.
LOW ALARM: Factory-set LOW alarm thresholds.

SENSOR	GAS MIX / GAS CONCENTRATION	LOW ALARM (factory settings)
H2S + COMB + O2 + CO (*)	H2S 25 ppm + CH4 2,2% Vol. + O2 18% Vol. + CO 50 ppm + N2	H2S 10 ppm + COMB 10% LEL + O2 19,5% Vol. + CO 35 ppm
CL2	CL2 10 ppm + N2	0.5 ppm
H2	H2 200 ppm +Aria	50 ppm
SO2	SO2 20 ppm + N2	2 ppm
NO2	NO2 10 ppm + N2	3 ppm
NO	NO 50 ppm + N2	25 ppm
NH3	NH3 50 ppm + Aria	25 ppm

(*) The bump test can be carried out simultaneously for all sensors.

- **For performing the gas sensor Bump Test, Seitron recommends using calibrated gas mixtures with concentrations defined in the following table.**
- **The gas concentration value applied to the instrument for performing the Bump Test must be above the set LOW alarm threshold, as the activation of the LOW alarm, vibration, and visual signals needs to be verified.**
- **Do not use the gas cylinder beyond its expiration date.**

Connecting the instrument to the cylinder



* From the "Gas Outlet" (OUT) connector, during calibration or BUMP TEST the gas used for the test will come out; for this reason it is absolutely necessary during the use of test gases, to place the instrument inside a fume hood or by means of a tube of the same characteristics as the one supplied, to place the gas outlet remotely.

Once the Bump Test is completed, by associating the instrument with the Be Safe MG Manager software, it is possible to retrieve and store the Bump Test data in PDF format by clicking the " Bump Test Report **" button on the Configuration page.**

10.1 Procedure for performing the Bump Test from a PC (via Be Safe MG Manager)

See Appendix B PC Software "Be safe MG Manager" - Bump Test screen.

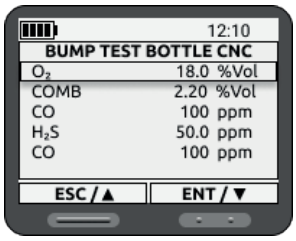
10.2 Procedure for performing manual Bump Test (via instrument)

For all information on instrument menu access and navigability, see Chapter 11.0 menus.

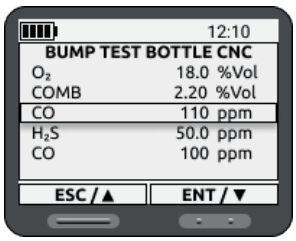
10.2.1 Menu setting "Bump Test Cylinder Conc."

This menu sets the gas concentrations corresponding to the gas cylinders used to perform the BUMP TEST.
The procedure for entering the gas concentrations to be used during the execution of the Bump Test from the device is described below.
It is possible to access the device menu only when the instrument displays the measurement screen. By holding the button related to the interactive function "SETUP/▼" for at least 5 seconds, you can access the device menus; then select the 'Bump Test bottle cnc.' menu and proceed as described in the following example screens.

The adjacent screen shows an example where the gas concentrations to be used during the execution of the Bump Test are visible.
These concentrations must match the gas concentrations of the cylinders used during the test.

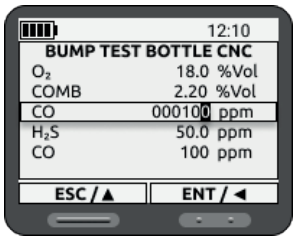


Briefly press one of the two buttons to select the test gas for which you want to change the concentration.

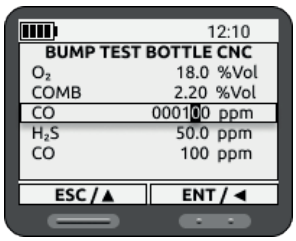


Press and hold the right button related to the interactive function "ENT/▼" to enter edit mode (example referring to CO gas).

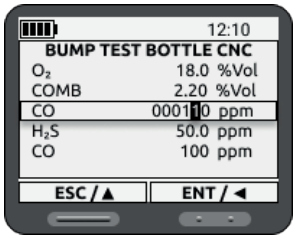
You can modify the value of each digit one at a time.



Briefly press the button related to the interactive function "ENT/◀" to enter the digit to change.

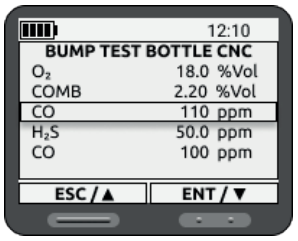


Briefly press the button related to the interactive function "ESC/▲" to change the value.



Press and hold the right button corresponding to the interactive function "ENT/◀" to confirm the modified single digit.
Conversely, press and hold the left button corresponding to the interactive function "ESC/▲" to cancel the modification and return to the previous action.

Proceed as described above to modify the other digits.



Proceed as described so far to configure the other gas concentrations.

Otherwise, press and hold the left button corresponding to the interactive function "ESC/▲" again to exit the menu.

10.2.2 Performing a Bump Test

Instrument Preparation

Before performing the Bump Test, it is necessary to carry out the autozero.
Therefore, turn the instrument off and back on.
Wait for the startup phase to complete.

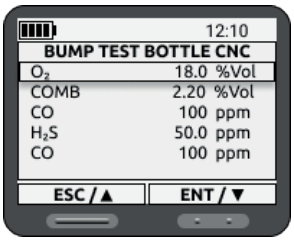
WARNING
- Ensure that the autozero is performed in clean air and completes successfully.
- Check that the battery charge level is at 100%.
It is recommended to perform the Bump Test with the instrument placed in the charging station and connected to the power supply.

Starting the Bump Test from the Instrument

The following describes the procedure for performing the Bump Test from the instrument.
You can access the device menu only when the instrument displays the measurement screen.
By holding down the button corresponding to the interactive function "SETUP/▼" for at least 5 seconds, you can access the instrument menus; then proceed as described in the following example screens.

Verify, through the "BUMP TEST CHIL. CONC" menu, that the gas concentrations set match those indicated on the gas cylinder you will use for the Bump Test.

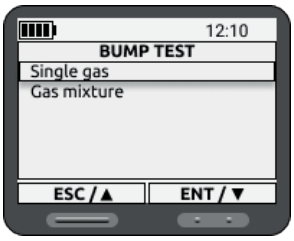
If not, set the values using the "BUMP TEST CHIL. CONC" menu.



Select the "BUMP TEST" menu.
The instrument will offer to perform the Bump Test **simultaneously on all sensors** (Gas mixture) **or for each individual gas** (Single gas).

Select the Bump Test mode by briefly pressing the buttons for the interactive functions "ESC/▲" or "ENT/▼".

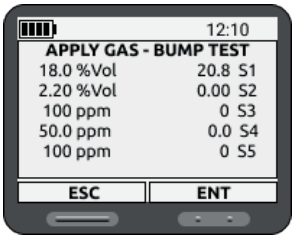
Once the Bump Test mode is selected, press and hold the button for the interactive function "ENT/▼".



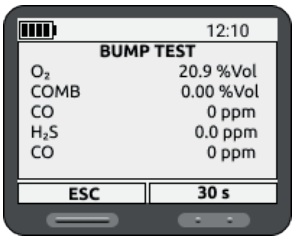
WARNING
If the "Gas Mixture" mode is selected, the device displays only the installed sensors compatible with simultaneous Bump testing.
The supported gases are O_2, CO, H_2S, and L.E.L.
To perform the test on multiple sensors at once, a cylinder containing all the required gases must be used.
For all other sensors, the "Single gas" mode should be used.

Bump Test “Gas mixture”

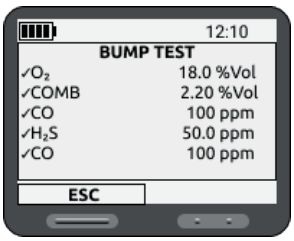
If “Gas mixture” is selected, press and hold the right button for the interactive function “ENT/▼”.
At this point, the instrument will prompt you to apply the gas.
Once the gas is applied to the instrument, press and hold the right button for the interactive function “ENT” to start the BUMP TEST.



The instrument will display the screen on the side; the test duration is 30 seconds.



The Bump Test is considered complete within 30 seconds, or when the detector displays the applied gas concentration.
Note: During the Bump Test, it is normal for the instrument to activate the respective alarms when it detects concentrations at the LOW and HIGH alarm thresholds.
After the Bump Test is complete, stop the gas flow and remove the cap. Then, place the instrument in fresh air. The alarms will automatically reset as the gas concentration decreases.
The event log will be automatically updated in the detector.



The device will indicate next to the sensor whether the test was passed with the following messages:

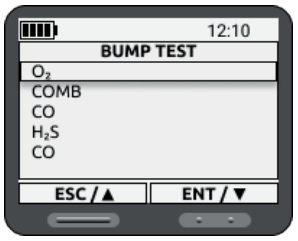
“✓” “BUMP TEST PASSED”

“✗” “ERROR - BUMP TEST FAILED"

In case of an error, the symbol “⚠” will appear on the top status bar. In this case, press the right button for the interactive function “ESC”.
Verify that the gas is reaching the instrument correctly and that the applied gas concentrations match those configured in the “BUMP TEST CHIL. CONC” menu.
Then, repeat the Bump Test.
If the negative Bump Test result persists, the gas sensors need to be calibrated; send the instrument to Seitron authorized service centers.

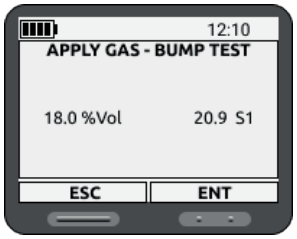
Bump Test Single gas

If “Single Gas” is selected, press and hold the right button for the interactive function “ENT/▼”.
Select the gas sensor for the Bump Test, then press and hold the right button for the interactive function “ENT/▼”.

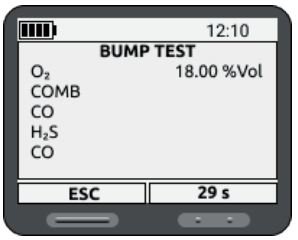


At this point, the instrument will prompt you to apply the gas.

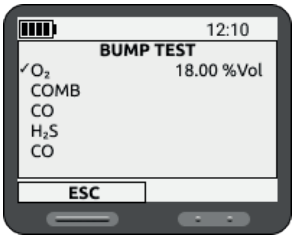
Once the gas is applied to the instrument, press and hold the right button for the interactive function “ENT” to start the BUMP TEST (example refers to the O2 gas).



The instrument will display the screen on the side; the test duration is 30 seconds.



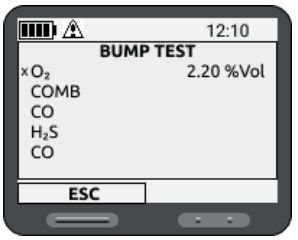
The Bump Test is considered complete within 30 seconds, or when the detector displays the applied gas concentration.
Note: During the Bump Test, it is normal for the instrument to activate the respective alarms when it detects concentrations at the LOW and HIGH alarm thresholds.
After the Bump Test is complete, stop the gas flow and remove the cap.
Then, place the instrument in fresh air. The alarms will automatically reset as the gas concentration decreases/increases. The event log will be automatically updated in the detector



The device will indicate next to the sensor whether the test was passed with the following messages:

“✓” “BUMP TEST PASSED”

“✗” “ERROR - BUMP TEST FAILED"

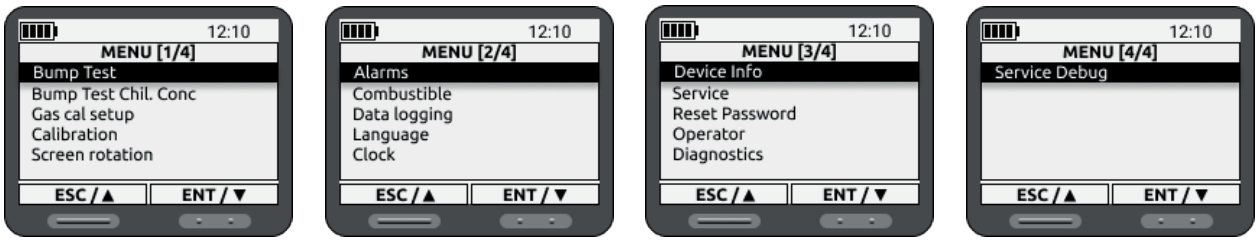


In case of an error, the symbol “⚠” will appear on the top status bar. In this case, press the right button for the interactive function “ESC”.
Verify that the gas is reaching the instrument correctly and that the applied gas concentration matches what is configured in the “BUMP TEST CHIL. CONC” menu.
Then, repeat the Bump Test.
If the negative Bump Test result persists, the gas sensors need to be calibrated; send the instrument to Seitron authorized service centers.

Proceed as described so far to perform the BUMP TEST on the other installed gas sensors.

11.0 MENU

You can access the device menu only when the instrument displays the measurement screen.
To enter the menus, press and hold the button corresponding to the interactive function "ENT/▼" for at least 5 seconds.



Within the instrument's menu, the following interactive functions are available:

"ESC/▲": **Briefly press the corresponding button to use the "▲", function (select a row or modify the value during editing).**

Press and hold (>0.5 s) the button to use the "ESC" function, which cancels an unconfirmed modification or returns to the previous screen.

"ENT/▼": **In order to use the function "▼", briefly press the corresponding button.**
The function "▼" selects a row.

In order to use the function "ENT" (confirm) press and hold (>0,5 s) the relevant button.
The "ENT" function confirms the change made.

"ENT/◀": **In order to use the function "◀", briefly press the relevant button.**
The function "◀", present only when editing, selects a digit.

In order to use the function "ENT" (confirm) press and hold (>0,5 s) the related button.
The "ENT" function confirms the change made.

"ENT": **To use the "ENT" function, briefly press the relevant button.**
The "ENT" function confirms the operation.

"ESC": **To use the "ESC" button, briefly press the relevant button. The "ESC" function cancels any unconfirmed change or, when pressed at any time, returns to the previous screen.**

"YES": **To use the "YES" button, briefly press the relevant button. The "YES" function confirms and proceeds with the requested operation.**

"NO": **To use the "NO" button, briefly press the relevant button. The "NO" function cancels the requested operation.**

"REPEAT": **To use the "REPEAT" button, briefly press its button. The "REPEAT" function repeats the test performed.**

11.1 Bump Test

See chapter "9.0 BUMP TEST"

11.2 Bump Test Cylinder Conc.

See chapter "9.0 BUMP TEST"

11.3 Setup cal gas

The menu is password-protected for use only by Seitron-authorized service centers.

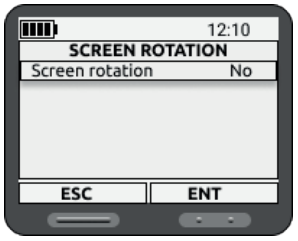
11.4 Calibration

The menu is password-protected for use only by Seitron-authorized service centers.

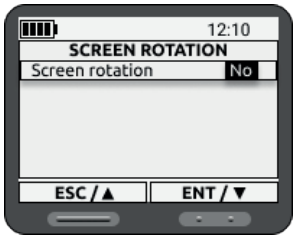
11.5 Screen rotation

Flip the instrument's screen for easier readability during operation.

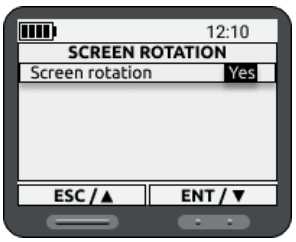
Hold down the right button labeled "ENT" to enter edit mode for the parameter..



Tap either button to select "Yes" and rotate the screen.



Hold down the right "ENT/▼" button to confirm your selection, or hold the left "ESC/▲" button to cancel and go back to the previous step.



The instrument will restart with the screen rotated.

11.6 Alarms

The menu is password-protected for use only by Seitron-authorized service centers.

11.7 Combustible

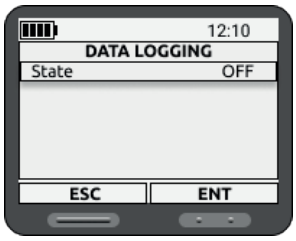
The menu is password-protected for use only by Seitron-authorized service centers.

11.8 Data logging

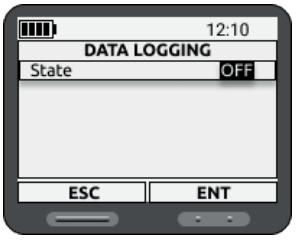
Through this menu, it is possible to enable/disable the instrument's data logging function.
When enabled, the function records the gas levels detected by all sensors, with a maximum capacity of 15,000 records (40 hours with 10-second intervals).
It is possible to download all the recorded data from the device to a PC by installing the dedicated software "Be Safe MG Manager."
The recorded data with Data Logging enabled includes:
Measurement
Gas type
Gas concentration
Measurement unit
Date/time
Temperature
Battery level (%)

Select the "Data logging" menu and long press the right button related to the interactive function “ENT/▼”.

Long press the right button related to the interactive function "ENT" to enter the edit mode.
To exit without making any changes, long press the left button related to the interactive function "ESC".

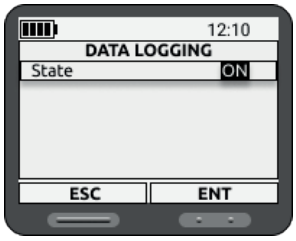


Briefly press the left button related to the interactive function “ENT/▲”, to select the status:
ON: Enables event storage.
OFF: Disables event storage.



Long press the right button related to the interactive function "ENT" to confirm the change made.
Conversely, long press the left button related to the interactive function "ESC" to cancel the change made and return to the previous action.

The confirmed "ON" status, is identified by the lighting of the " " on the top bar of the display.



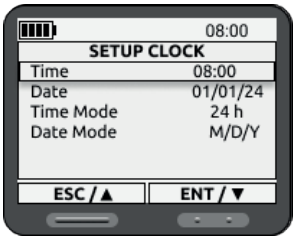
11.9 Language

Set the language of the instrument.

Select the "Language" menu and long press the right button related to the interactive function “ENT/▼”.

Briefly press either button to select the desired language.

Long press the right button related to the interactive function “ENT/▼” to set the selected language.

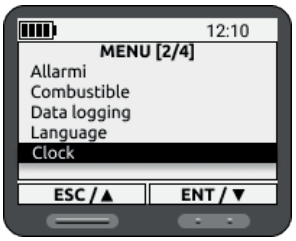


To exit, long press the left button related to the interactive function “ESC/▲”.

11.10 Clock

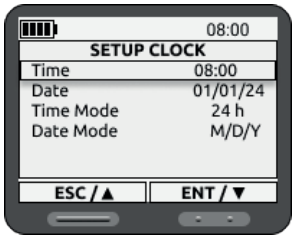
Allows the setting of the current time and date. It is also possible to change the format of the date and time.

Select the "Clock" menu (Clock) and long press the right button related to the interactive function “ENT/▼.



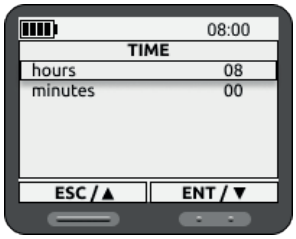
Briefly press either button to select the data to be changed.

The following is the example of changing the timetable.

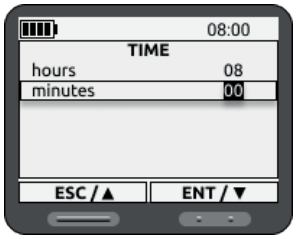


Briefly press the right button related to the interactive function “ENT/▼” to select the parameter to be changed.

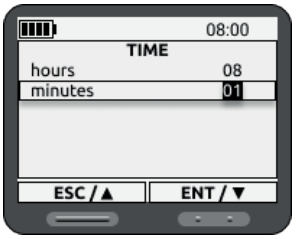
It is possible to change the value of each individual digit at a time.



Long press the button related to the interactive function “ENT/▼” to select the digit to be varied.

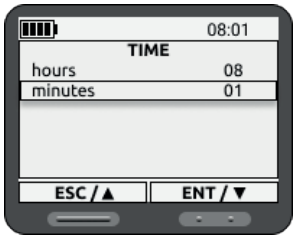


Briefly press the interactive buttons to set the desired digit.

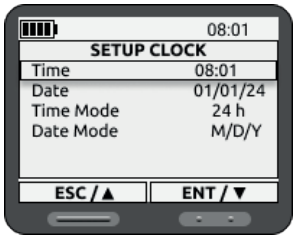


Long press the button related to the interactive function “ENT/▼” to confirm the set value.

Proceed as described above to vary the other digits.



Long press the right button related to the interactive function “ESC/▲” to confirm the changes made and exit the screen and return to the previous screen.



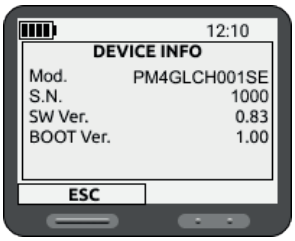
Proceed as described so far to configure the other data.

WARNING!
Time: displayed in the chosen format.
Date: displayed in the chosen format
Date format: EU (Europe) or US (America)
Time format: 24h or 12h

11.11 Device Info

Displays information about the instrument to be reported to the Service Center to be contacted in case of failure or routine maintenance. Information necessary for quick identification of the product is shown, such as instrument model, serial number, and installed firmware version.

Select the "Device Info" menu and long press the right button related to the interactive function “ENT/▼.



Mod. Instrument model
S.N. Instrument Serial Number
SW Ver. Software version installed on instrument
BOOT Ver. Boot version

11.12 Service

Display a QR code.
Scan the QR code with a QR code reader to get all the information about authorized service centers.

Select the “Service” menu and long press the right button related to the interactive function “ENT/▼.

11.13 Reset Password

For Password Reset contact Seitron service center.

11.14 Operator

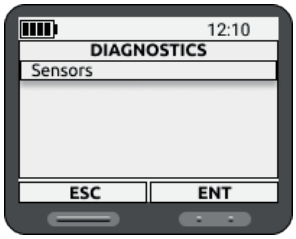
This submenu displays information regarding the operator using the instrument.
Data regarding the operator can only and exclusively be entered via PC after installing the “Be Safe MG Manager” software.

Select the “Operator” menu and long press the right button related to the interactive function “ENT/▼.

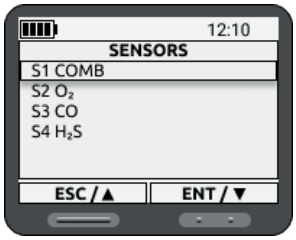
11.15 Diagnostics

The user, through this menu, can check all data related to the sensors installed on the instrument.

Press the right button related to the interactive function “ENT” to go to the next screen. On the contrary, long press the left button related to the interactive function “ESC” to return to the previous page.

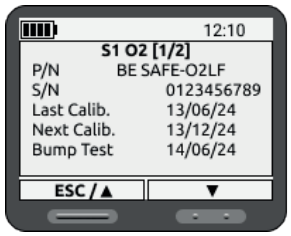


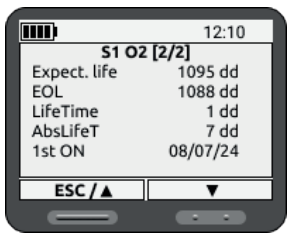
Briefly press one of the two buttons to select the sensor for which you want to check the data.



Briefly press either button to move to the next page.

Detail:
P/N: Sensor code.
S/N: Serial number.
Last calibration: Date related to the last calibration performed.
Next Calibration: Date useful for scheduling the recalibration of the sensor.
Bump Test: Date for the last bump test performed.
Expect. Life: Expected sensor life since first instrument switch-on (in days)..
EOL: End of sensor life - time remaining in days to schedule sensor replacement.
LifeTime: Time to actual power on in days.
AbsLifeT: Days elapsed since first use of the sensor in days.
1° ON: Date of first power on.

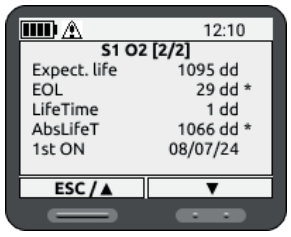




WARNING!
Below are details of the end-of-life warnings of the gas sensors installed on the instrument:

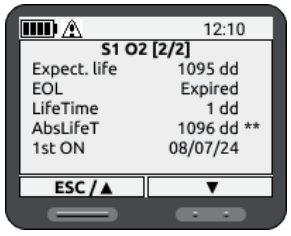
When the remaining sensor life is less than 30 days, the symbol " * “ appears after ” dd " for **EOL** and **AbsLifeT** data. See example opposite.

The symbol " * " appears on the indication bar " ".



When the sensor has reached the end of its life plus one day, the word " Expired " appears in place of the value for the **EOL** datum, while the symbol " ** “ appears after ” dd " for the **AbsLifeT** datum, whose counter continues counting the days the sensor is actually used.

The symbol " * " appears on the indication bar " ".



11.16 Debug Service

The menu is password-protected for use only by Seitron-authorized service centers.

12.0 MAINTENANCE

WARNING!
Any repairs or modifications to the device beyond the procedures described in this manual or performed by personnel not authorized by Seitron may cause the unit to malfunction.
Failure to observe this warning may result in serious injury or death.

12.1 Cleaning

Routine cleaning
Regularly clean the outside of the device using only a damp cloth. Do not use detergents as many of them contain silicone, which will damage the sensors. Do not use abrasive detergents, thinners and other similar cleaners to clean the instrument.
Exposure to dirt and dust
Use a dry soft-bristled brush to remove dust and dirt accumulated on the equipment, especially at the sensor openings. If there is an accumulation of dust or dirt particles remaining in the sensor area after brushing, use a vacuum cleaner to remove the remaining particles, but maintain a distance of at least 1.3 cm (1/2 inch) from the gas detector.
Do not use compressed air to clean the sensor holes, as the pressure may damage the sensors.
Exposure to water
If the equipment is exposed to water, rotate the device with the sensor side down and gently shake the water out of the sensor area and sound outlet cavity. Residual water can be removed with a clean, dry cloth.

12.2 Replacing gas sensors

If the sensor filters are particularly dirty (blackened), it is necessary to replace them.
To replace gas sensors, send the instrument to Seitron's authorized service center.

12.3 Replacing gas sensor filters

For replacement of gas sensor protection filters send the instrument to Seitron authorized service center.

12.4 Instrument expandability

If the instrument is expandable, and you wish to install additional sensors, you will need to send the instrument to the Seitron authorized service center.

12.5 Replacing the internal battery

For battery replacement, send the instrument to Seitron authorized service center.

13.0 TROUBLESHOOTING AND FAULTS

If an error occurs during operation, use the indicated error codes to determine the appropriate measures. This device should be checked and maintained regularly by competent technicians.

13.1 Troubleshooting

PROBLEM	DESCRIPTION	REACTION
"**ERROR**" on one or more sensors.	Autozero was not performed in clean air.	Move the instrument or sampling point to clean air and repeat Autozero. If the problem persists, contact the authorized service center.
Instead of the gas concentration the following symbol appears: ▲	The measured gas is above the measuring range of the sensor.	The instrument is in an alarm state because it has exceeded the set HIGH alarm thresholds. Leave the area immediately.
Instead of the gas concentration the following symbol appears: ▲	The measured gas is less than the measuring range of the sensor. Applicable to Oxygen sensor only.	The instrument is in an alarm state because it has exceeded the set LOW alarm thresholds. Leave the area immediately.

14.0 SPARE PARTS AND SERVICE

14.1 Spare parts

CODE	DESCRIPTION
AMGC01	Gas Tester 
AMDS01	Charging, Communication and Bump Test Station 
AMKF01	Filter Kit for AMAF01 - 8 pcs 

14.2 Accessories

CODE	DESCRIPTION
AMKA01	Power supply kit: USB cable + power supply + plugs (EUROPEAN - UK - USA - Australia - China) 
AMAF01	External dust filter 
AMSD01	Wall or DIN rail mounting adapter for AMDS01 
AMKP01	Gas Tester Kit (AMGC01) + External Dust Filter (AMAF01) 

14.3 Service centers

Seitron S.p.A. a socio unico
Via del Commercio, 9/11
36065 Mussolente (VI)
Tel.: +39.0424.567842
Fax.: +39.0424.567849
E-mail: info@seitron.it
http://www.seitron.it

Seitron Service Milano
Via Leonardo da Vinci, 1
20090 Segrate (MI)
Tel. / Fax: +39.02.836.476.71
E-mail: service.milano@seitron.it

For NORTH AND SOUTH AMERICA

Seitron Americas Inc
140 Terry Drive Suite 101
Newtown PA 18940 - USA
Tel.: (215) 660-9777
Fax.: (215) 660-9770
E-mail: service@seitronamericas.com
http://www.seitronamericas.com

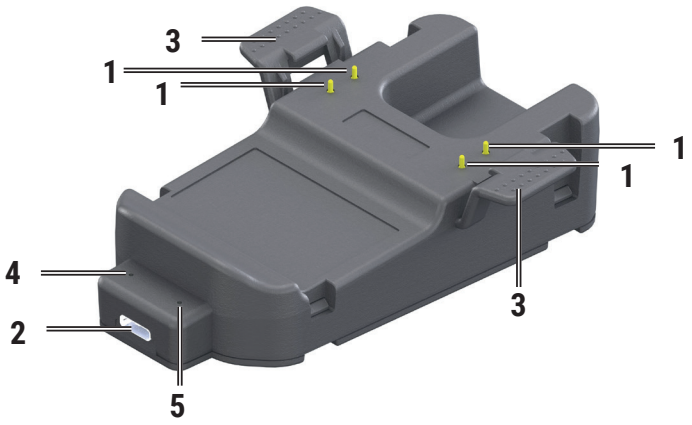
APPENDIX A AMDS01 (BATTERY CHARGING AND COMMUNICATION STATION)

Battery charging and communication station interface for Be Safe MG series personal gas detectors --.

Main functions:
- Charging the internal battery of Be Safe MG series personal gas detectors --.
- Can be connected to the computer via USB connection, after installing the appropriate Be Safe MG manager PC software, to perform the following main functions:
  - Instrument configuration
  - Bump test
  - Calibration
  - Data log transfer
  - Firmware upgrade

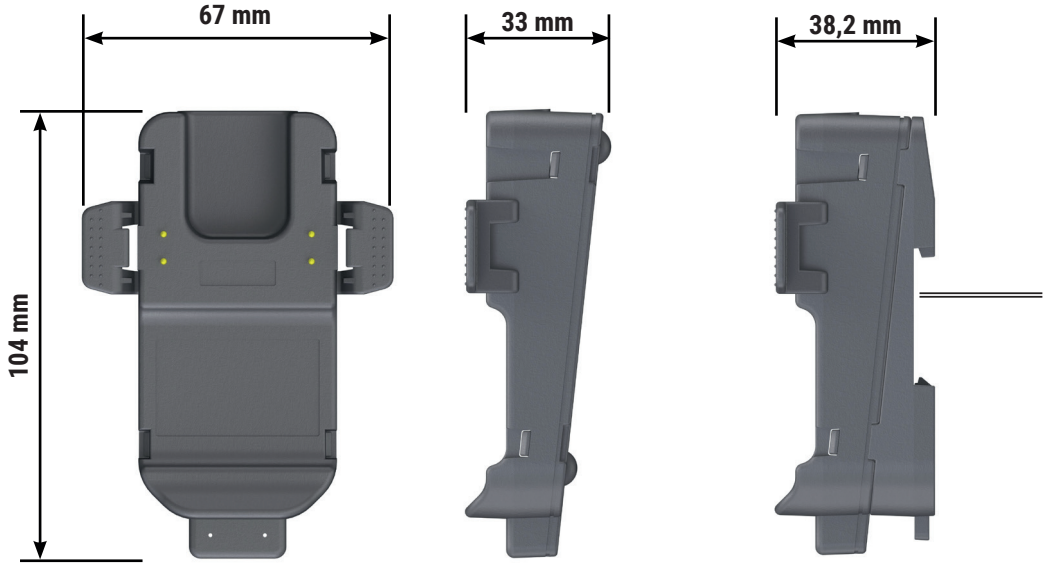
Usage:
1. Stand on a tabletop or DIN rail/wall mount using the AMSD01 station.

1.1 Mechanical description



1	Communication port with the instrument.
2	USB type C connector for connection to battery charger or PC.
3	Locking tabs for securing the instrument.
4	Green LED: Steadily lit: The docking station is powered.
5	Red LED: Steadily lit: The instrument battery is charging.

1.2 Dimensions



With stand AMSD01 (for Din Bar / Wall Mounting)

1.3 Technical Features

Power supply:	5Vac 500mA via USB type C connector
Conditions of use	
Usage:	Inside buildings in safe areas.
Temperatures:	-5°C .. +45°C
Humidity range:	5% .. 90% RH, non-condensing
Storage	
Storage temperature range:	-20°C .. +55°C
Humidity limit:	5% .. 90% RH

1.4 Charging station use and communication

1.5 TROUBLESHOOTING

PROBLEM	DESCRIPTION	REACTION
Both LEDs are off.	The USB cable has not been connected or is disconnected.	Connect the AMDS01 battery charging and communication station to the PC via the supplied USB cable. In this case both green LEDs (4) (5) should be lit steadily. If the problem persists, contact the Seitron service center.
Both LEDs are lit, but in the "Be Safe MG Manager" PC software, the COM port to which the AMDS01 battery charging and communication station is connected is not selectable.	The instrument was not inserted correctly on the AMDS01 battery charging and communication station.	Verify that the instrument is securely attached to the AMDS01 battery charging and communication station.
	The instrument has not finished Autozero.	Wait for the end of Autozero.
	There is a problem on the USB port of the PC.	Restart the PC and/or the instrument. If available, use another USB port on the PC. Try removing and reinserting the USB cable. Check in Windows "device manager" for unrecognized devices. If the problem persists, contact the Seitron service center.
The green LED (4) is on, but the red LED (5) is off.	The battery charging circuit is broken (the instrument battery will not charge).	Contact the Seitron service center.

APPENDIX B Software PC "Be Safe MG Manager"

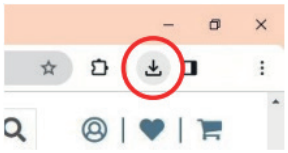
The **Be Safe** MG multi-gas detector through the AMDS01 charging and communication station, is able to communicate with the PC, upon installation on the PC of the "**Be Safe MG Manager**" software, which can be downloaded from the **Microsoft store**.

The main operations that can be performed through the "Be Safe MG Manager" PC software are as follows:

- Setting the cylinder gas concentrations for performing the Bump Test;
- Performing the Bump Test;
- Configuration of: Language, Date and Time, Operator Name and Unit of Measurement;
- Display of all instrument configuration parameters;
- Reading and exporting to .csv file of measurements made and events;
- Updating firmware of gas detectors.

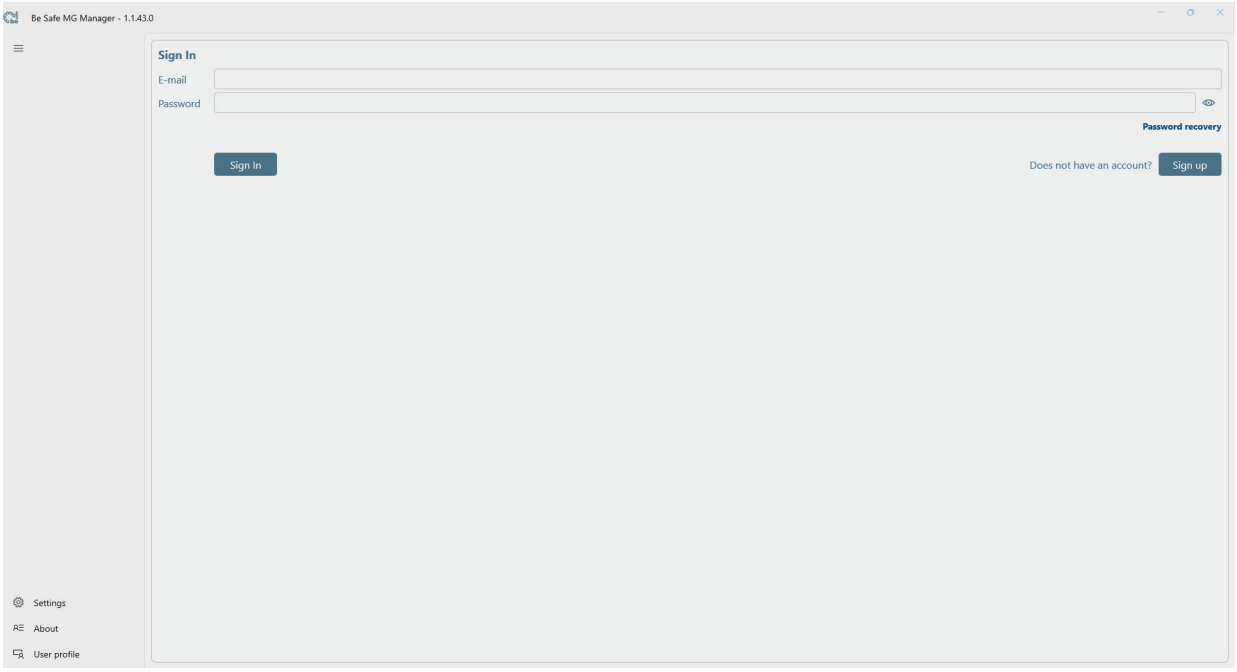
Instructions for installing the software

1. Go to the Microsoft store and search for the "Be Safe MG Manager" App.
2. Access the page for the "Be Safe MG Manager" App.
   2a. From App Microsoft store, click on "Get": the App will install automatically and when the installation is finished click on "Open".
3. From the web page, click on "Download".
4. A .exe file download will start. Once the download is finished, on your browser click on the top right button to access the Windows "Download" folder.

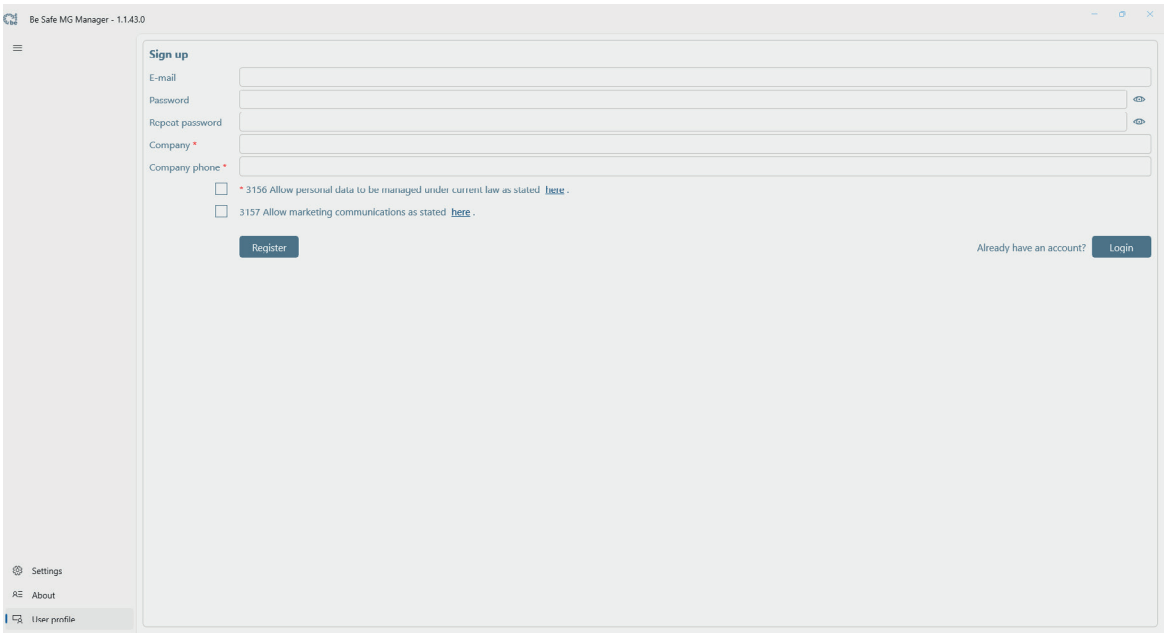


WARNING: The symbol may vary depending on the browser being used.

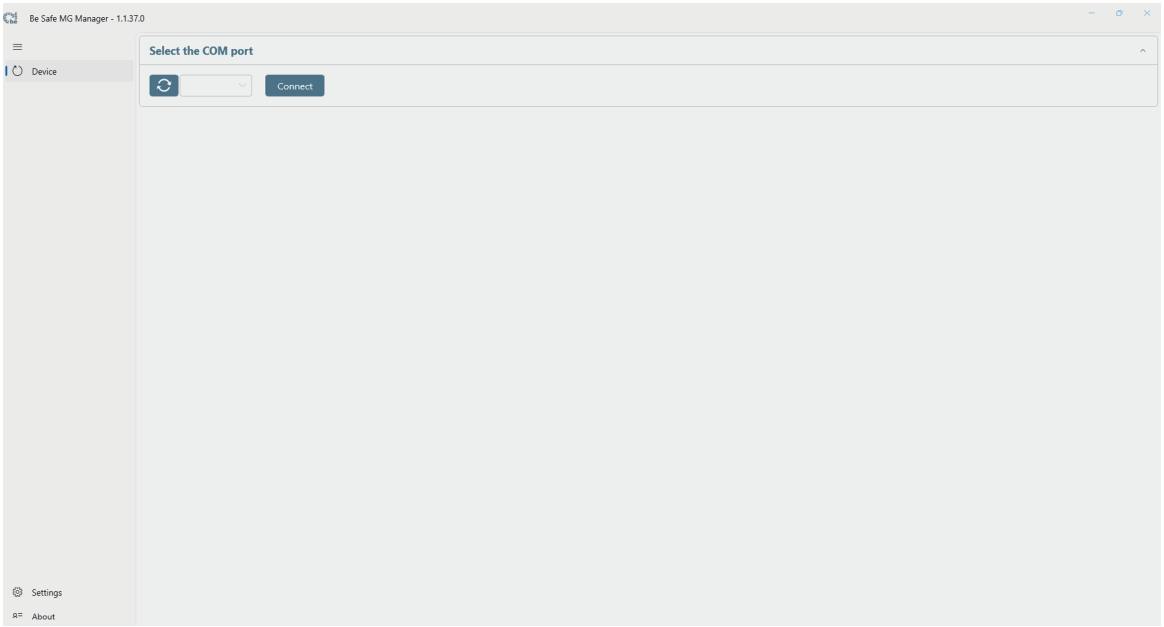
6. Double-click on the previously downloaded "Be Safe Personal Monitor Installer.exe" file (step 4).
7. The App installs automatically and eventually the login screen of the Be Safe MG Manager software opens.
   If you have a Seitron account, fill in the required data and click on Accedi. If you do not remember the password, click on "**Retrieve Password**".
   Otherwise, proceed as described in step 8.



8. To access the software features, it is necessary to register with company data; click on Sign up and proceed to fill in the required data and click on Register.



9. After logging in, the startup screen of the Be Safe MG Manager software is accessed.



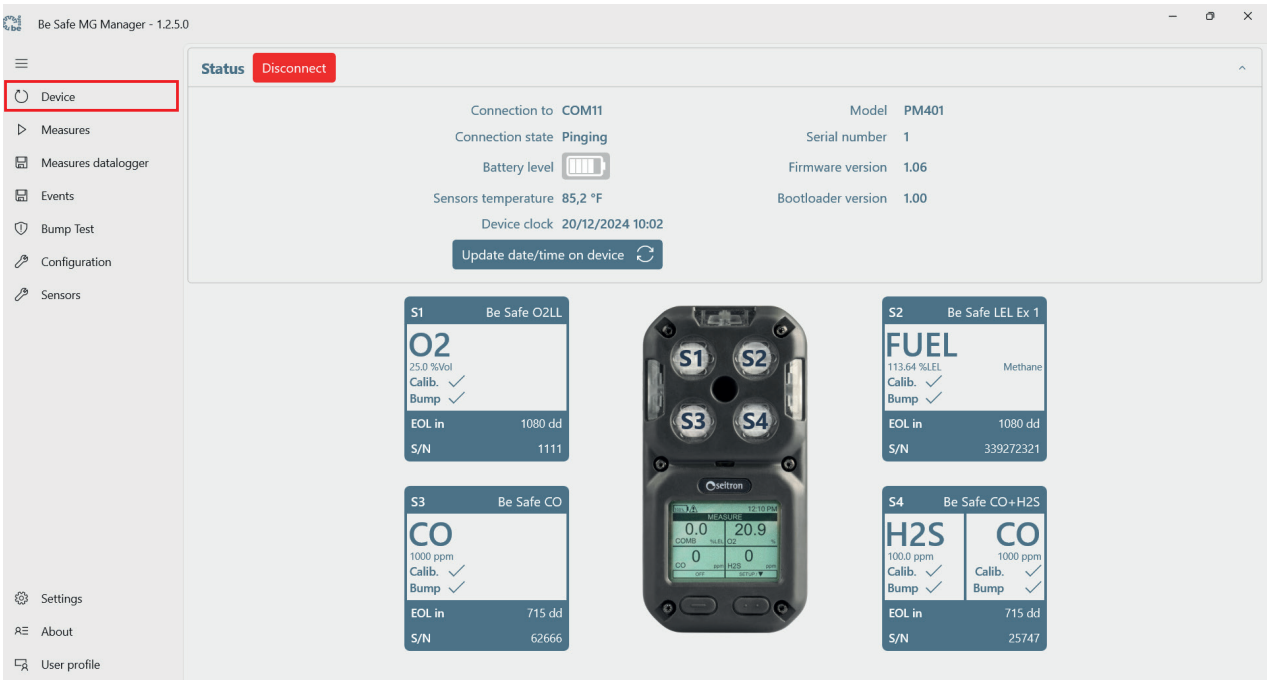
Connect Be Safe MG

8. Turn on **Be Safe MG** and wait for the startup procedure; the instrument should display the "MEASURE" screen.
9. Plug in Be Safe MG multigas detector on **AMDS01** (see Appendix A).
10. Connect AMDS01 to the PC using the USB cable provided.
11. Click on the button to scan the communication port.
12. Click on to select the COM port to which the device connects; then press the button Connect.
13. The main screen of the software is accessed, while the display of the instrument displays the following screen:

When the instrument is connected to “Be Safe MG Manager”:
- All alarms are disabled.
- The buttons on the instrument are disabled.

User's Guide

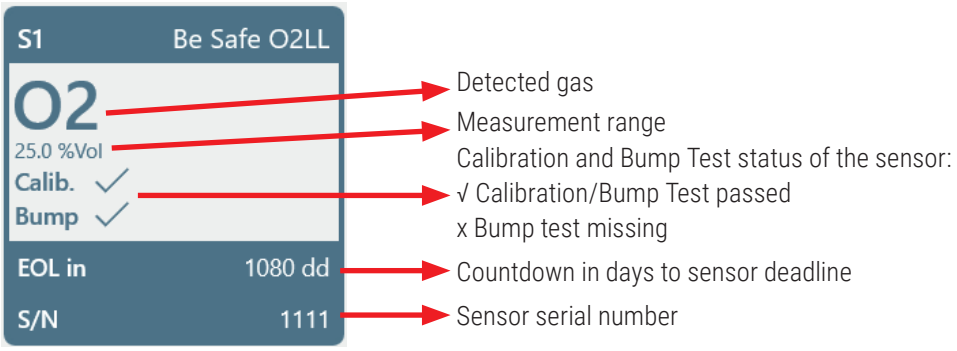
Device screen:



Status button

By clicking on the Status button you can display or not display the main data of the instrument.
With the Status visible, you can click on the “Update date/time on device” button to synchronize the PC date and time on the instrument.

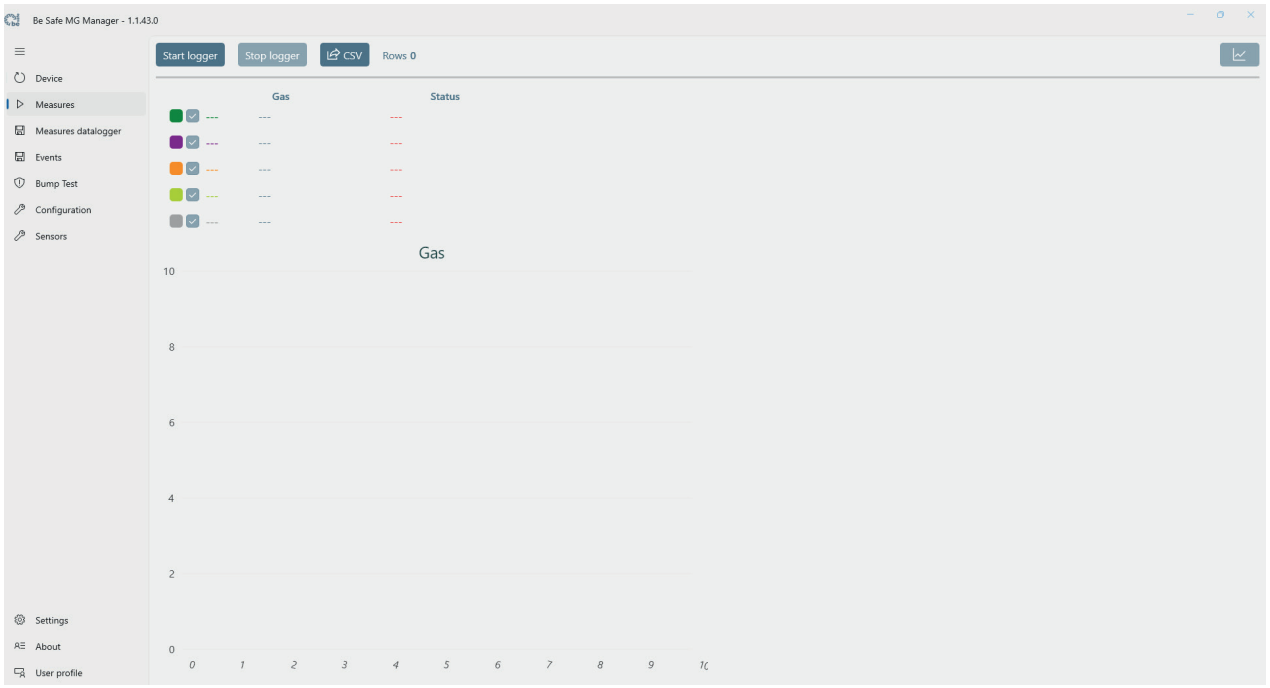
The image of the instrument and the arrangement of the sensors and their status, is always visible.



Disconnect button

Clicking the button Disconnect will disconnect the instrument.

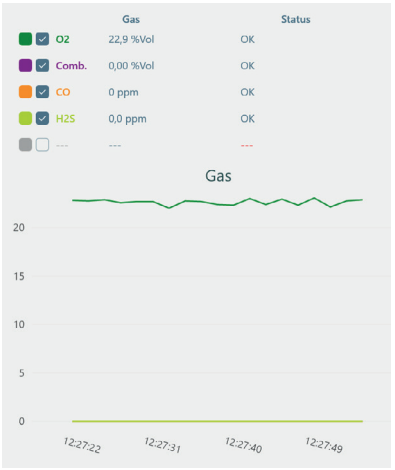
Measure screen:



In this screen you have the option to remotely start the acquisition of real-time measurements.

"Start logger" Button

By clicking on the button Start logger, the recording of real-time measurements is started.
An example screen during the recording of measurements can be seen at the side.
At the top, each gas is identified by a color, where the concentration detected and the status of the sensor is shown.



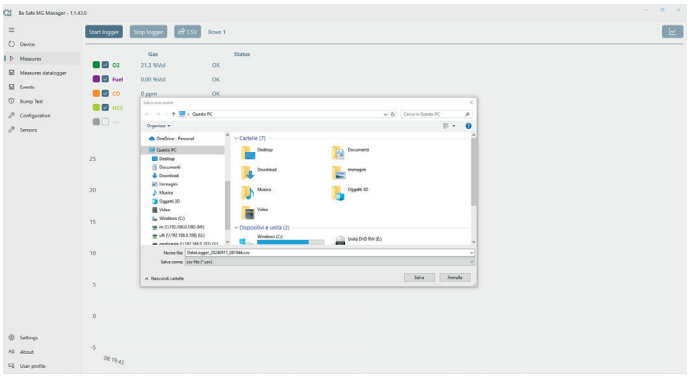
At the bottom, the measurements taken are plotted in a graph at each sampling.
Clicking on the button instead of the graph displays the detail of the measurements being acquired. This button is active only during the recording of real-time measurements.

"Stop Logger" Button

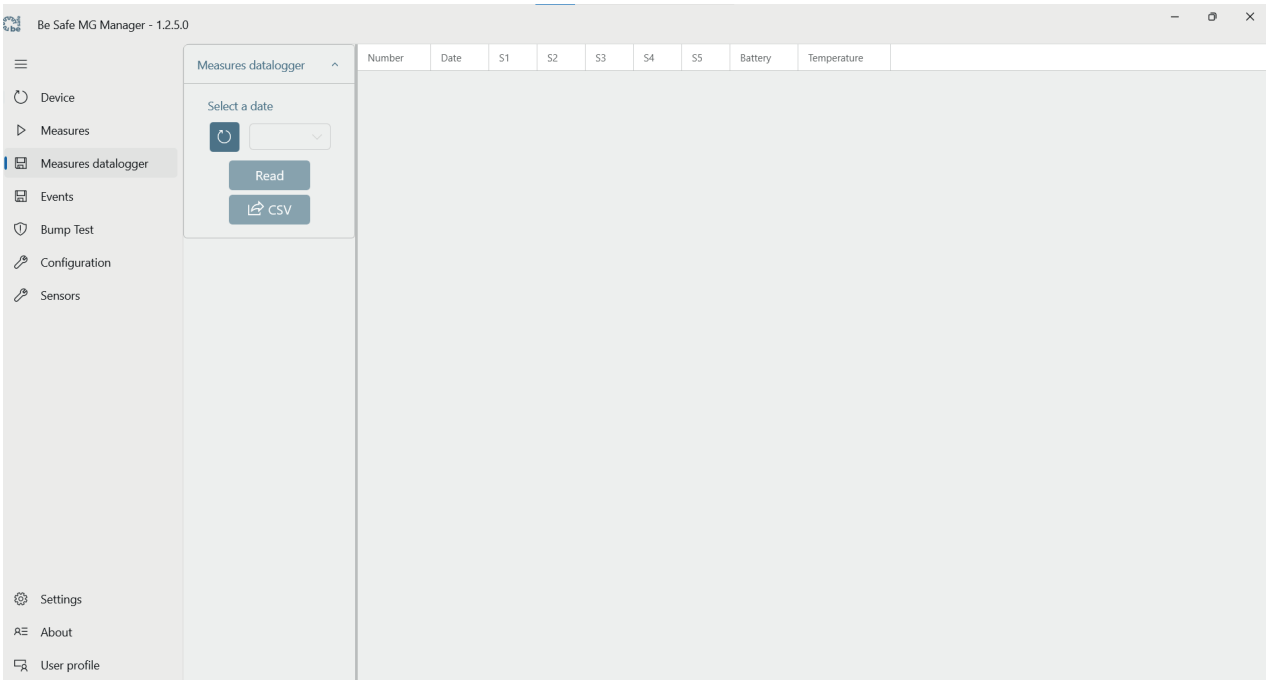
Clicking the button Stop logger, exits the measurement recording mode; the screen displays the last stored sampling.

"Export .csv" Button

Click the button CSV, export the recorded samples to a .csv file.



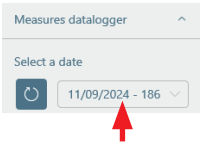
Data logger measurements screen:



In this screen you can read and export to a .csv file the measurements in the instrument memory.

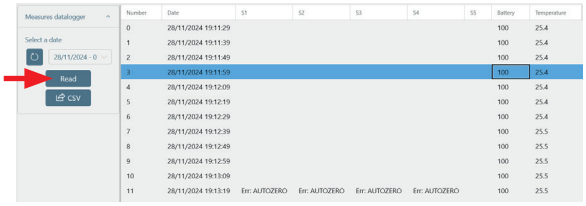
"Update" Button

By clicking on the button , the software reads the contents of the instrument memory by sorting the measurements by date; the last recorded measurement is displayed on the side pane.
By clicking on the date box, the list of measurements to be displayed and/or exported can be displayed by date.



"Read" Button

Once one of the proposed dates is selected, clicking the button Read displays all the samplings made on the selected date.

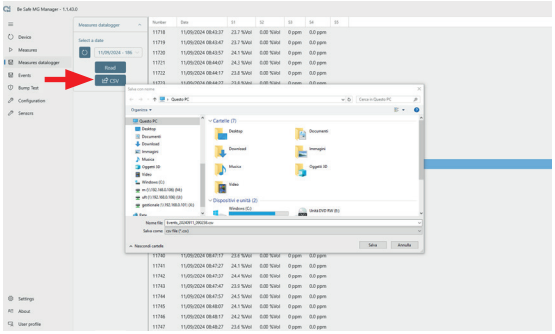


Where:

Number:	ID number.
Date:	Date and time of the sampled measurements.
S1 / S2 / S3 / S4 / S5:	Sensor location corresponding to the detected gas concentration.
Battery:	Battery charge status in %.
Temperature:	Instrument internal temperature.

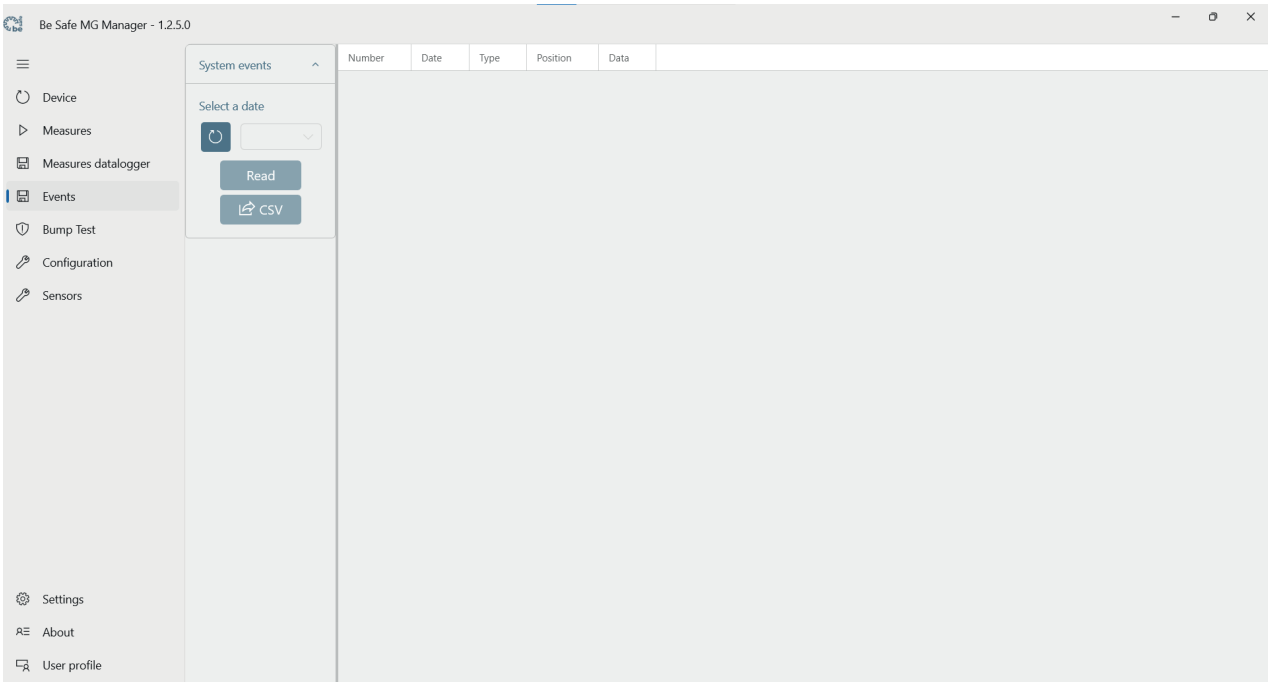
"Export" Button

After selecting a date, and clicked the button Read, click on CSV to export the measurements to a .csv file.



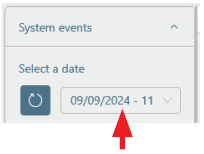
Events screen:

In this screen, you can read and export the list of events that occurred and were stored on the device to a .csv file.
The events are meant all activities that are performed by the instrument, such as switching the instrument on/off, occurrence of alarms, updating configurations, performing Bump Test, etc.



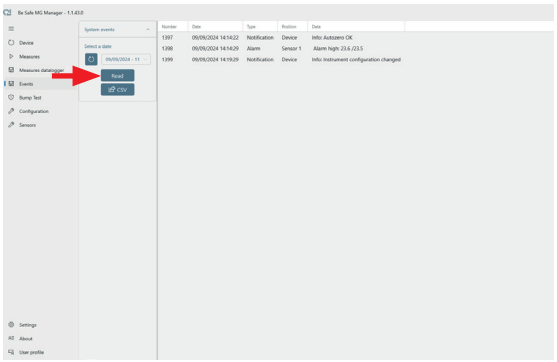
"Update" Button

Clicking the button  , retrieves the content of the device's memory, sorting the events by date; the last recorded event is displayed in the adjacent panel. By clicking on the date panel, you can view and export the list of events by date.



"Read" Button

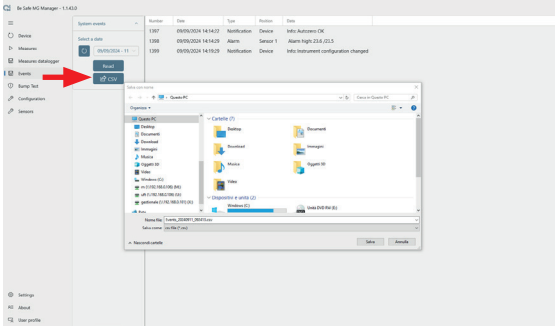
After selecting one of the proposed dates, clicking the button Read displays all the events that occurred on the selected date.



Where:
Number: ID number
Date: Date and time of the event.
Type: Type of detected event.
Position: Sensor that detected the event.
Data: Specific event type.

"Export" Button

After selecting one of the proposed dates, and clicking the button Read, click the CSV button to export the displayed events to a .csv file.



List of events:

The following table details the complete list of events that are stored in the memory of the instrument when they occur. Each stored event is preceded by a sequence number and the date and time when the event occurred.

Event	Position	Data	Details
End of alarm	Sensor 1	Alarm high: 20.8 /23.5	If a gas concentration detected by a sensor activates/ deactivates an alarm, an event containing: - The type of event - The position of the sensor that caused the event - The specific alarm with the value of the detected gas concentration / the set threshold of the relevant alarm
End of alarm	Sensor 2	Alarm high: 0.80 /0.88	
End of alarm	Sensor 3	Alarm low: 34 /35	
End of alarm	Sensor 4	Alarm low: 7.8 /10.0	
Alarm	Sensor 1	Alarm high: 24.5 /23.5	
Alarm	Sensor 2	Alarm high: 1.10 /0.88	
Alarm	Sensor 3	Alarm high: 214 /200	
Alarm	Sensor 4	Alarm high: 17.2 /15.0	
Alarm	Sensor 1	Alarm low: 19.5 /19.5	
Alarm	Sensor 2	Alarm low: 0.49 /0.44	
Alarm	Sensor 3	Alarm low: 56 /35	
Alarm	Sensor 4	Alarm low: 11.4 /10.0	
Alarm	Sensor 3	Alarm STEL: 36 /35	
Alarm	Sensor 4	Alarm STEL: 36 /35	
Alarm	Sensor 3	Alarm TWA: 36 /35	
Alarm	Sensor 4	Alarm TWA: 36 /35	
Error	Sensor 1,2,3,4	Err: AUTOZERO	Autozero failed, sensor with invalid Autozero shows 'err' on display
Error	Sensor 1,2,3,4	Err: END OF LIFE	EOL < 30 gg (For each sensor)
Error	Sensor 1,2,3,4	Err: BUMP	Bump Test Failed (For each sensor)
Error	Sensor 1,2,3,4	Err: ZERO calib error	Zero calibration failed
Error	Sensor 1,2,3,4	Err: SPAN calib error	Span calibration failed
Error	Device	Err: System rebooted	
Error	Device	Err: Date/time lost	The battery has been disconnected. The battery voltage has dropped below 2.8 V.
Notification	Device	Info: Battery low	Remaining battery charge is less than 5% - instrument range 30 minutes.
Notification	Device	Info: Battery exhausted	Remaining battery charge is less than 2% the instrument will turn off
Notification	Sensor 1,2,3,4	Info: Bump Test required	Verification is done when the instrument is turned on.
Notification	Sensor 1,2,3,4	Info: Bump Test OK	
Notification	Sensor 1,2,3,4	Info: Calibration ZERO OK	
Notification	Sensor 1,2,3,4,	Info: Calibration SPAN OK	
Notification	Sensor 1,2,3,4	Info: Calibration missed or expired	At startup it was detected that the calibration is missing or expired.
Notification	Sensor 1,2,3,4	Info: Calibration expiring	At startup, it was detected that there were less than 30 days left until the calibration deadline.
Notification	Device	Info: Autozero OK	Autozero was successful.
Notification	Device	Info: FW updated	A different FW version was detected at startup from the last shutdown.
Notification	Device	Info: Device switched on	Record date/time of power on.
Notification	Device	Info: Device turned off	Records date/time of shutdown.

Notification	Sensor 1,2,3,4	Info: Alarm changed. Alarm LOW for S1,S2,S3,S4	The service center has changed at least one of the alarm thresholds.
Notification	Sensor 1,2,3,4	Info: Alarm changed. Alarm HIGH for S1,S2,S3,S4	
Notification	Sensor 3,4	Info: Alarm changed. Alarm TWA for S3,S4	
Notification	Sensor 3,4	Info: Alarm changed. Alarm STEL for S3,S4	
Notification	Device	Info: Instrument configuration changed	Change sensor configuration.
Notification	Device	Info: Sensors configuration changed	Sensor replacement.
Notification	Device	Info: Reset calibration password	Password has been reset.
Notification	Device	Info: First power on	First power-up of the instrument.
Notification	Device	Info: Peaks reset	The user at startup chose to reset the saved peaks.
Notification	Sensor 1	Info: New sensor	Replacement of the indicated components has been performed.
Notification	Sensor 2	Info: New sensor	
Notification	Sensor 3	Info: New sensor	
Notification	Sensor 4	Info: New sensor	
Notification	Device	Info: New battery	
Notification	Device	Info: New display	
Notification	Device	Info: New vibrator	
Notification	Device	Info: New filter	
Notification	Device	Info: New case	
Notification	Device	Info: New clip	
Notification	Device	Info: Configuration factory reset	Reset configuration to factory data.
Notification	Device	Info: Datalogging deleted	Deletion of data recording.
Notification	Device	Info: Events deleted	Canceled events.

Bump Test Screen

In this screen, you can perform the Bump Test on the gas sensors of the device connected to the PC, configuring the data for the cylinder used during the test. No other configuration is allowed.
From the PC, you can run the Bump Test for a single gas or for all 4 gases simultaneously. It is not possible to run the test for 2 or 3 gases at a time.

1	Duration of Bump Test execution, in seconds; configurable data.
2	Starts the execution of the Bump Test for the selected sensors. Follow the directions on the screen. **WARNING!** **The button is active only if one or four sensors have been selected.**
3	Stop the execution of the Bump Test.
4	Sensor selection button: Leftward sensor NOT selected - Rightward sensor selected.
5	Sensor data: Gas detected, Sensor model and Measuring range.
6	Values in voltage (mV), current (uA) or in digital counts (ADC) referenced to the selection of step 10 and the value of the measured gas concentration. In case the sensor is in error, the measurement status appears instead of the measured gas concentration value: **MAX. LIM.** Gas concentration detected out of range **MIN. LIM.** Gas concentration detected out of range **OVERFLOW** Sensor board failure or sensor failure **ADC** Sensor board failure **AUTOZERO** Repeat Autozero or Sensor to be replaced **END OF LIFE** Sensor end of life, sensor to be replaced
7	Date of the last bump test performed. After the Bump test is finished successfully, the date is automatically updated.
8	Gas concentration of cylinder in use for Bump test; configurable data.
9	Batch number of the cylinder in use for the Bump test; configurable data.
10	Select ADC or Is/Vs. The sensors output values in voltage (mV), current (uA) or in digital counts (ADC) in proportion to the detected gas concentration. It is possible to monitor the performance of the measurement through these values, represented in the graphs in Step 11.
11	Graphs of real-time measurements based on the selection of step 10.

WARNING!
To perform the Bump Test, please read chapter "10.0 BUMP TEST" carefully.

Performing the Bump Test

Instrument preparation

Before proceeding with the Bump test, it is necessary to perform autozero, so turn off the instrument and turn it on again. Wait for the end of the startup phase.

WARNING
- Ensure that autozero occurs in clean air and ends properly.

Starting the Bump Test

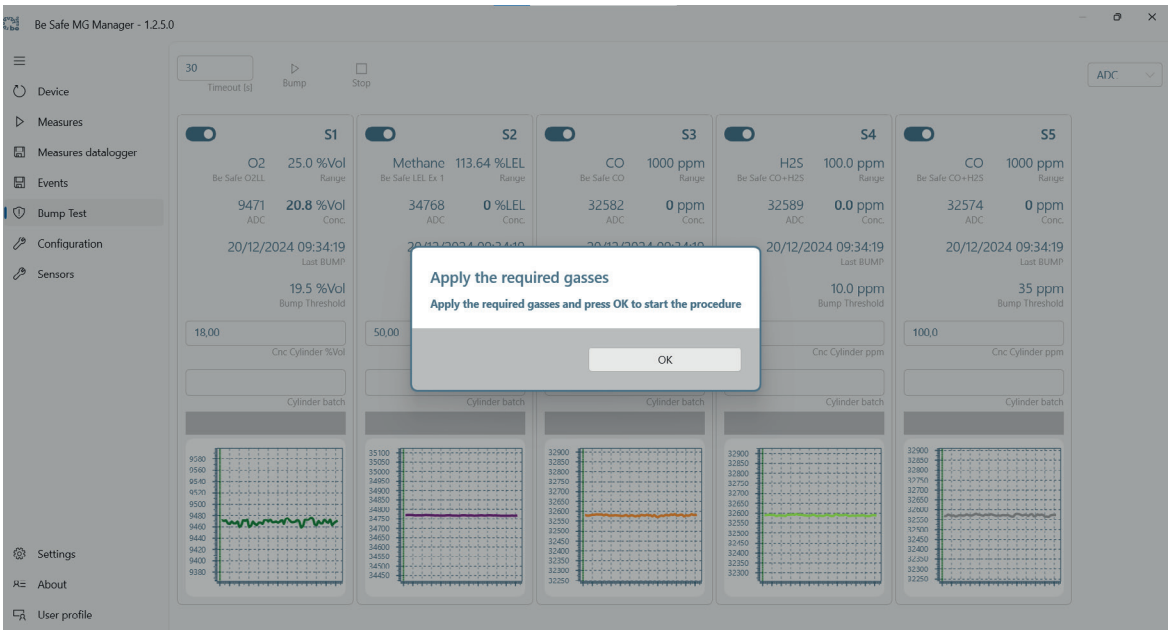
The procedure of performing the Bump test simultaneously on all four gas sensors mounted on the instrument is described below as an example.

WARNING
Performing the Bump test simultaneously on all installed sensors is only possible if the instrument is configured with the following sensors:
O2 - CO - H2S - L.E.L.
By performing the Bump test at the same time on all installed sensors, a cylinder containing all the titrated gases corresponding to the sensors installed on the instrument should be used.

1. **Access the "Bump test" screen of Be Safe MG Manager.**

2. **Set up the data for performing the Bump Test:**
   - Set the duration (in seconds) of the Bump Test.
   - Select the sensors whose Bump Test is desired. **The sensors that must be selected are the ones corresponding to the titrated gas contained in the gas bottle used for the Bump Test.**
   - Set the concentration of each titrated gas contained in the cylinder used for the Bump Test.
   - Set the cylinder batch number used for the Bump Test.

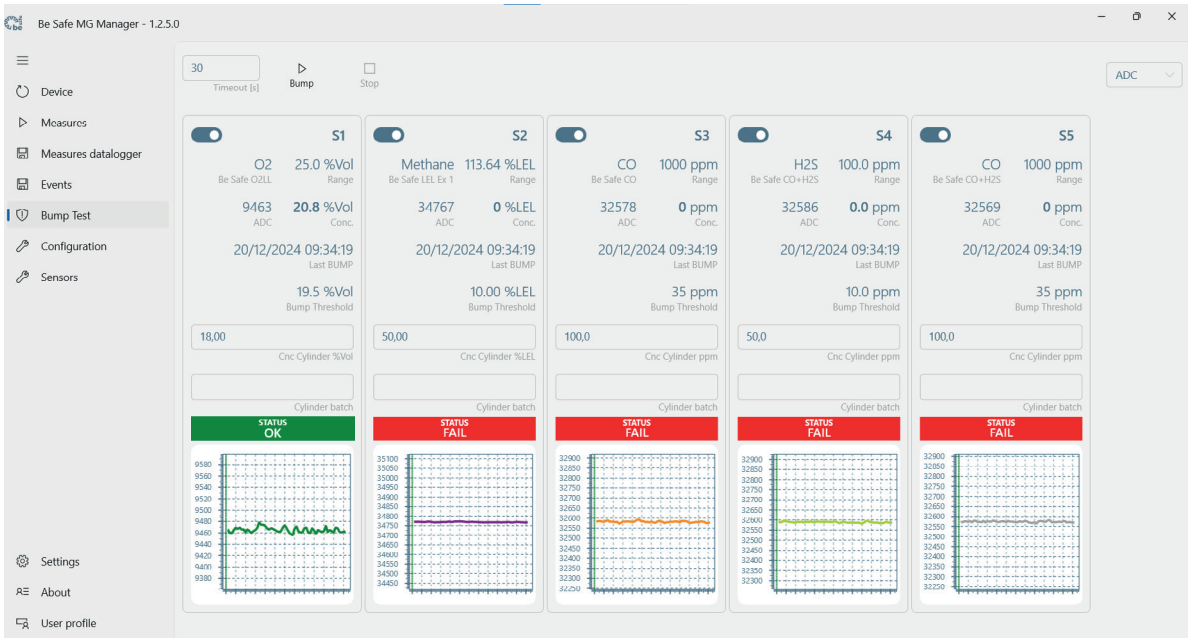
4. **Press the “ Bump “ button.**



4. **Make sure that gas from the cylinder reaches the instrument sensors and press the button “ OK “.**

5. **The Bump Test phase has been started; the screen displays “ STATUS RUN “.**
   To stop the Bump Test, press the “ Stop “ button.

6. When the test is finished, the screen with the test outcome is displayed:



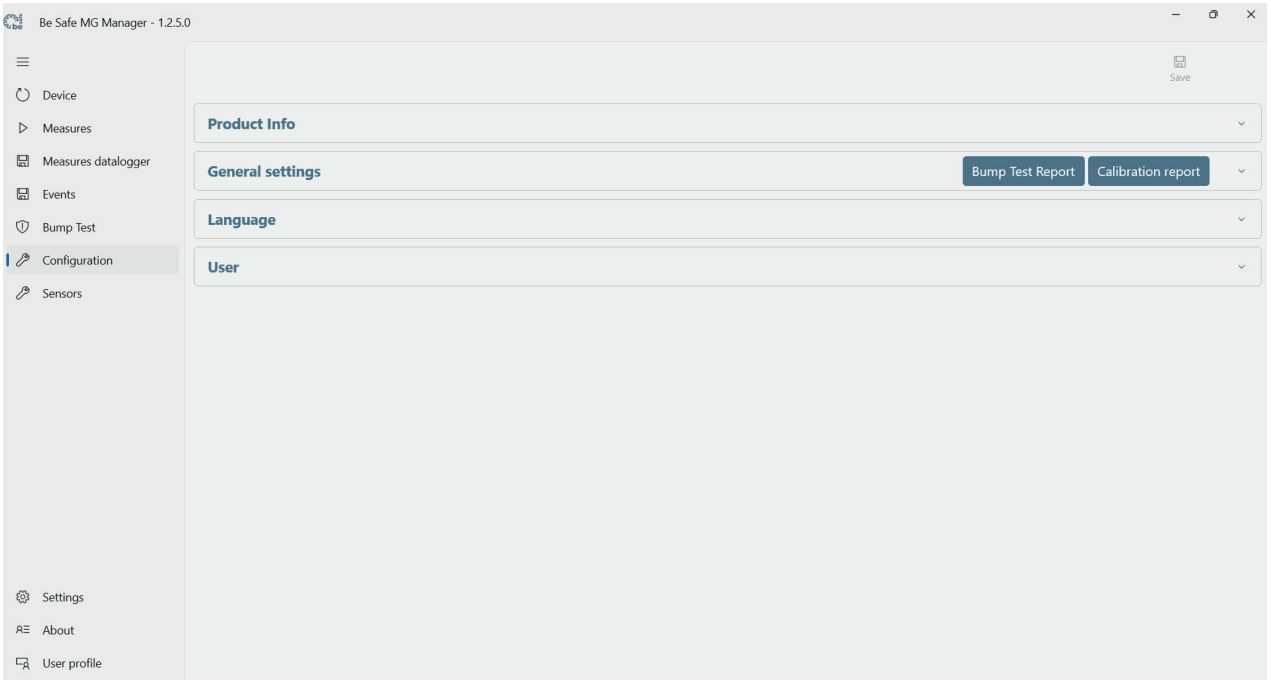
STATUS OK

"BUMP TEST SUCCEDED" - Bump test date is automatically updated.

STATUS FAIL

"ERRORE - BUMP TEST FAILED"
In case of an error, check that the gas reaches the instrument correctly and that the gas concentrations applied match what is configured in the screen under "Cnc. Cylinder."
Then repeat the bump test.
If the negative Bump Test result persists, the gas sensors need to be calibrated; send the instrument to Seitron authorized service centers.

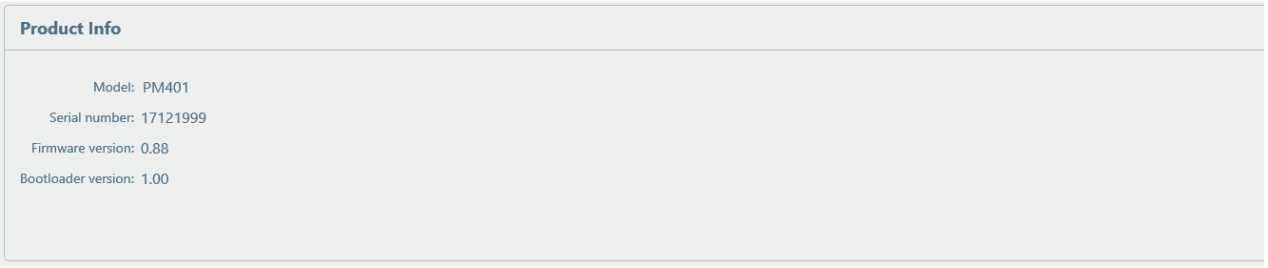
Configuration Screen:



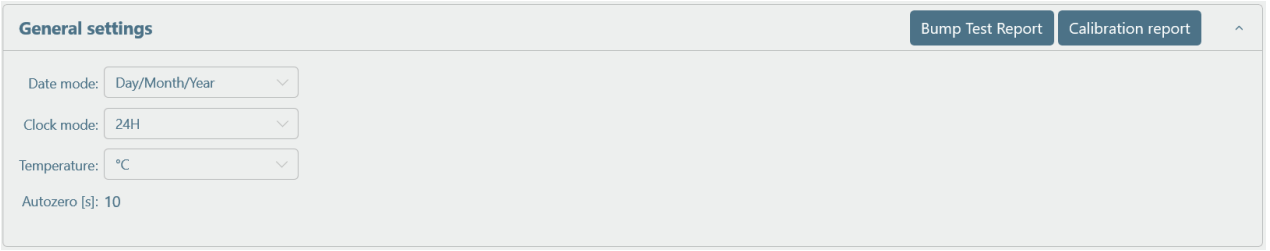
In this screen, you can configure the main device settings, view key factory data, and export configuration and Bump Test reports.

"Product Info"

The serial number of the device and the installed firmware version are displayed.



"General settings"



By clicking the buttons 

, you have the option of exporting the reports of the last successful bump test and calibration performed to a .pdf file.

Additionally, you can configure the main device settings:
Date format
Time format
Temperature unit
The instrument's autozero duration is set to 10 seconds by default and cannot be modified.

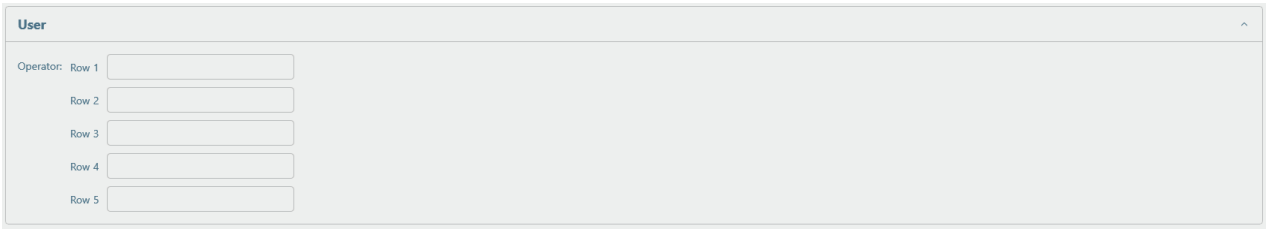
For each change made, the software prompts you to either cancel or save the changes by clicking one of the buttons that appear at the top: 

"Language"

Configure the device language.

For each change made, the software prompts you to either cancel or save the changes by clicking one of the buttons that appear at the top:

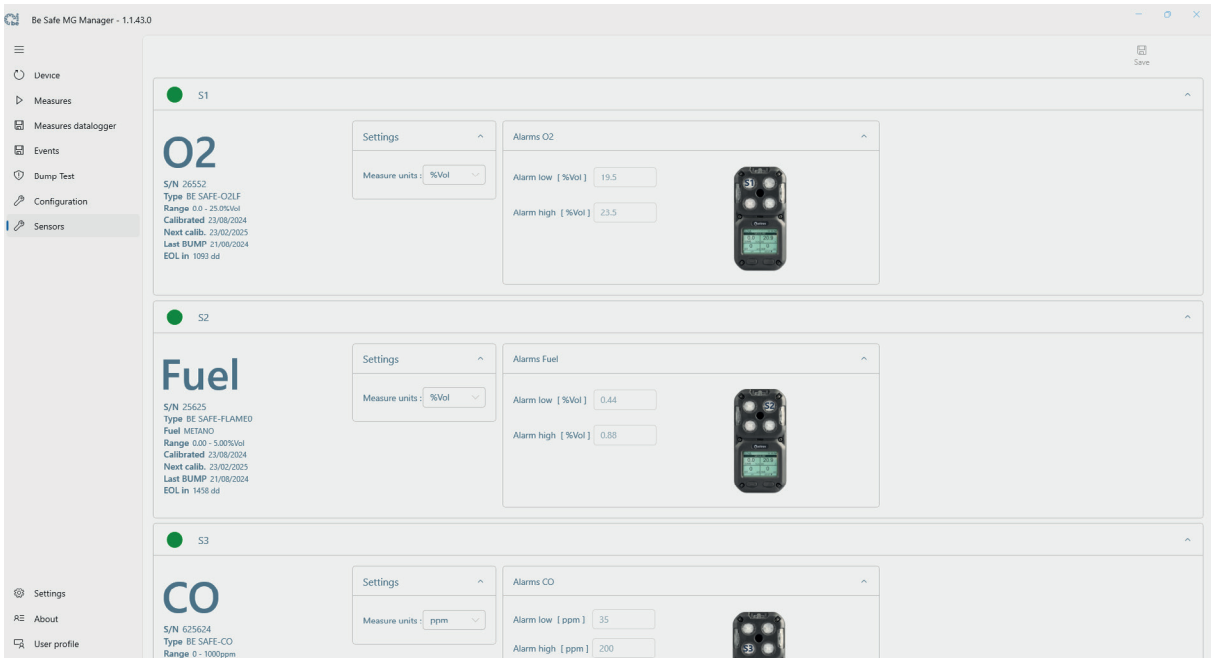
"User"



Set the name or names of the operators using the device; up to 22 characters, including spaces, are available.

For each change made, the software prompts you to either cancel or save the changes by clicking one of the buttons that appear at the top:

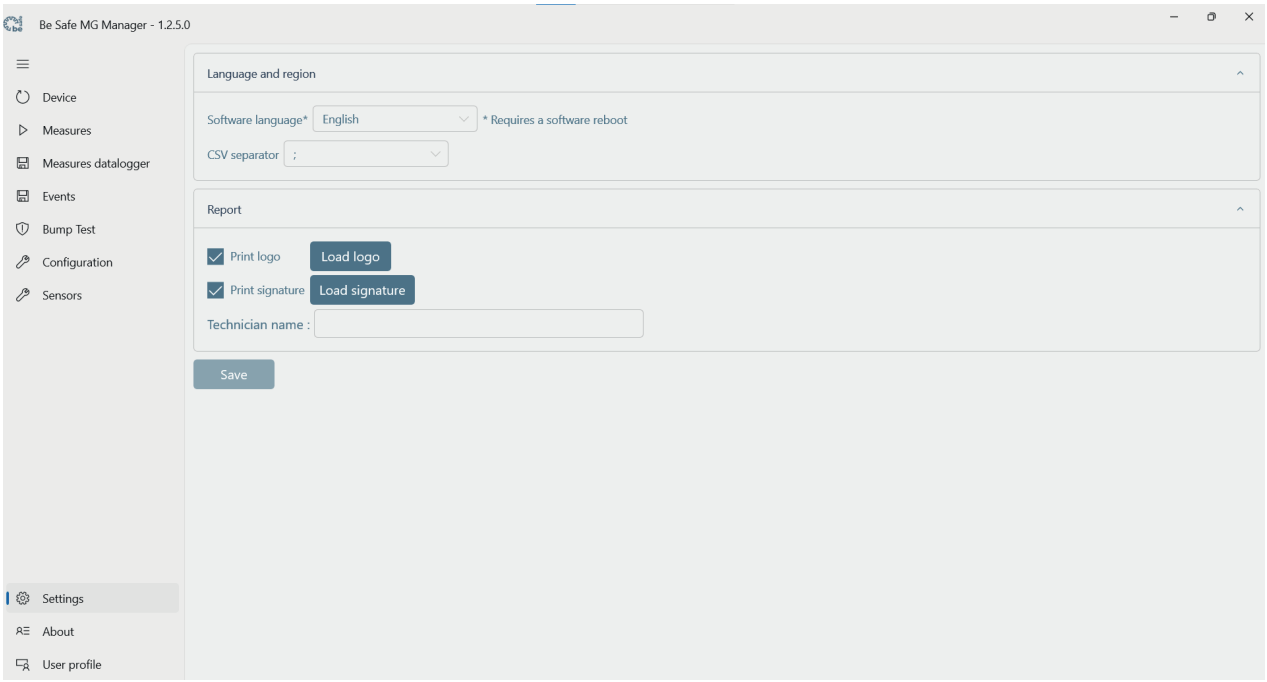
"Sensors" Screen



Displays the data for each sensor installed on the device, with the option to set the gas concentration unit of measurement.

For each change made, the software prompts you to either cancel or save the changes by clicking one of the buttons that appear at the top: 

Settings Screen:



"Language and region"

Software language Configure the language of the **Be Safe MG Manager** software.

CSV separator Select " ; " or " , " as the separator character for exporting CSV files.

"Report"

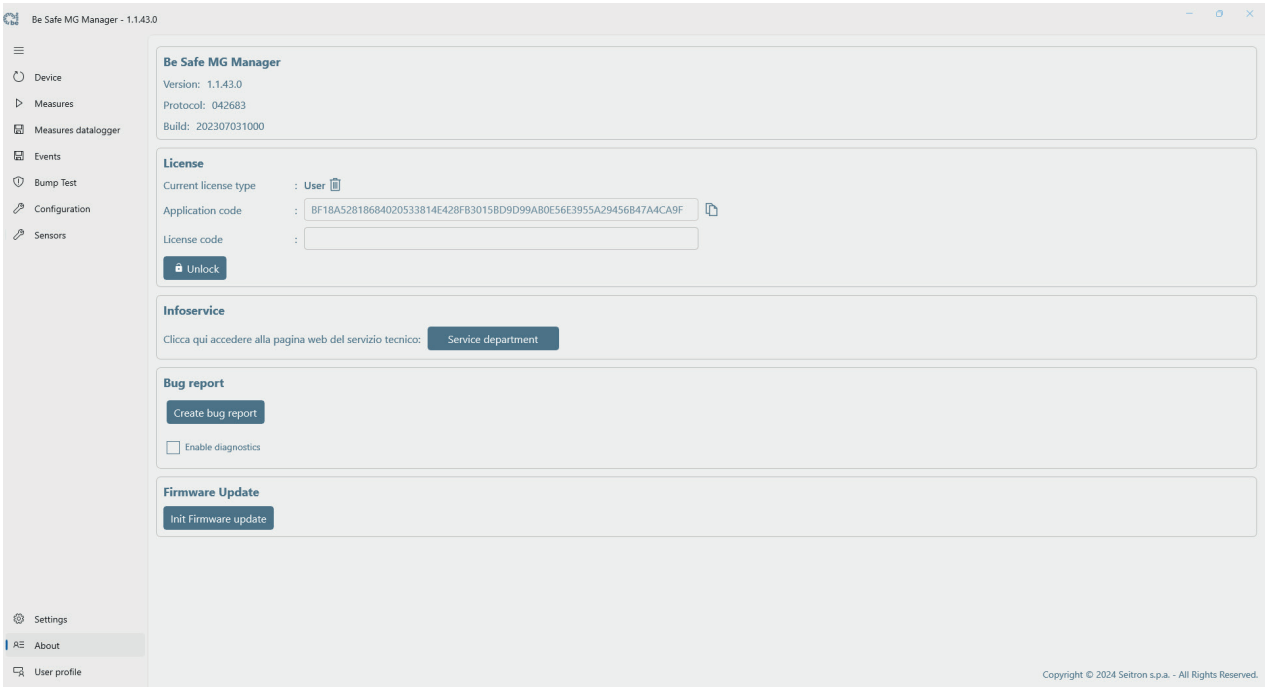
Print logo Upload the logo that will appear on the Calibration and Bump Test report.

Print signature Upload the technician's signature who performs the Bump Test and/or Calibration of the instrument, which will appear on the Calibration and Bump Test report.

Print signature Enter the name of the technician who performs the Calibration and/or Bump Test, which will be printed on the Calibration and Bump Test report.

Click the button Save to save the changes.

About screen:



Be Safe MG Manager
View Software Data.

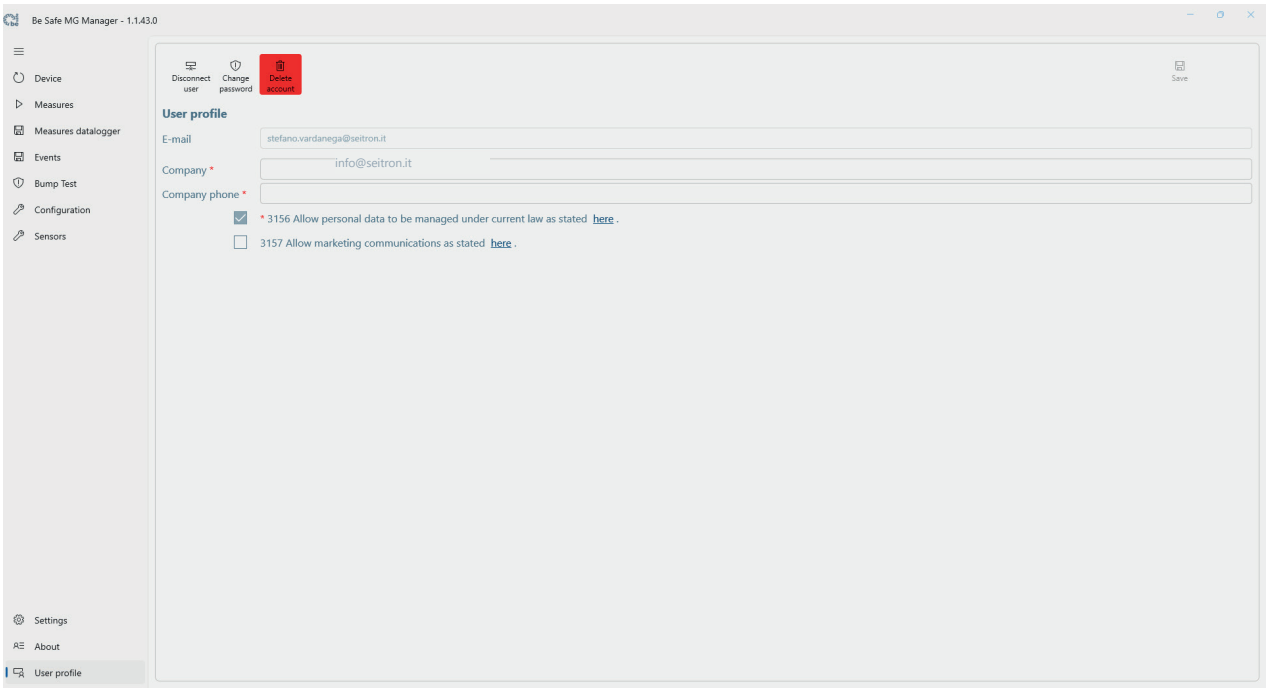
License
Reserved for service centers.

Infoservice
Click the button Service department to access the list of authorized service centers.

Bug Report
Reserved for service centers.

Firmware Update
Use this function to update the device's firmware.
Before starting the firmware update procedure, contact the service center to check for any firmware updates and obtain the latest firmware version.
Click the button Init Firmware update to begin the firmware update procedure and follow the on-screen instructions.

User Profile Screen:



Disconnect user
Signs out of the account.

Change Password
Starts the procedure to change the password.

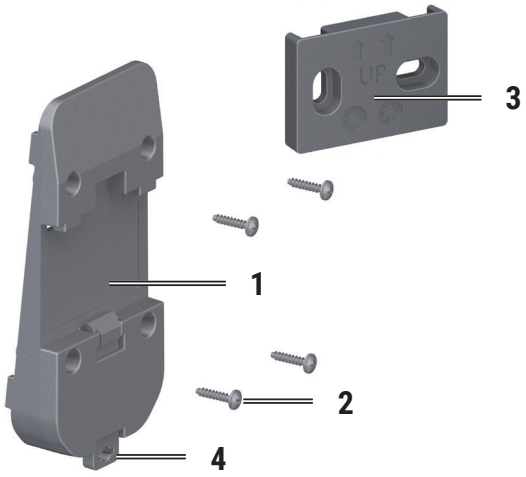
Delete account
Removes the account from the Seitron database.

In this screen, you can update the company name, phone number, and consents for privacy and commercial communications. For each change made, the software prompts you to either cancel or save the changes by clicking one of the buttons that appear at the top:

APPENDIX C AMSD01 (MOUNTING BRACKET FOR AMDS01)

Accessory for Mounting AMDS01 on DIN Rail or Wall.
Supported DIN Rails: TS35/7.5 or TS35/15

1.0 Mechanical Description



1	AMDS01 Support.
2	4 screws for attaching the support to the AMDS01.
3	Bracket for wall mounting.
4	Hook for securing the support to the DIN rail and wall bracket.

1.2 Technical Features

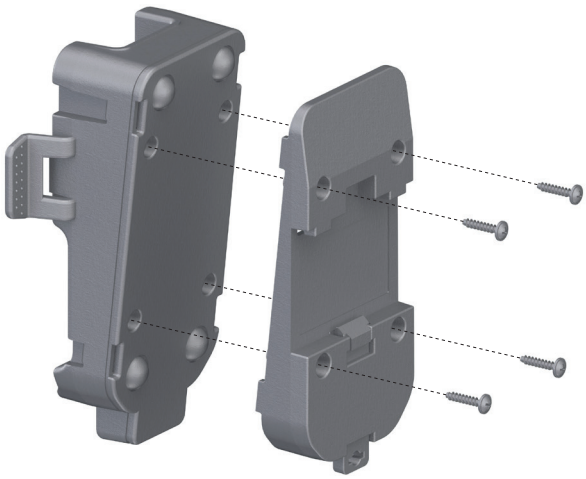
Usage conditions

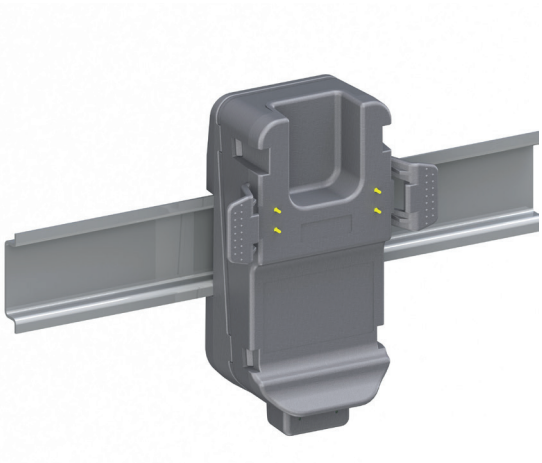
Usage:	For use indoors in safe areas.
Temperature:	-5°C .. +45°C
Humidity Range:	5% to 90% RH, non-condensing

Storage

Storage Temperature:	-20°C .. +55°C
Humidity Limit:	5% .. 90% RH

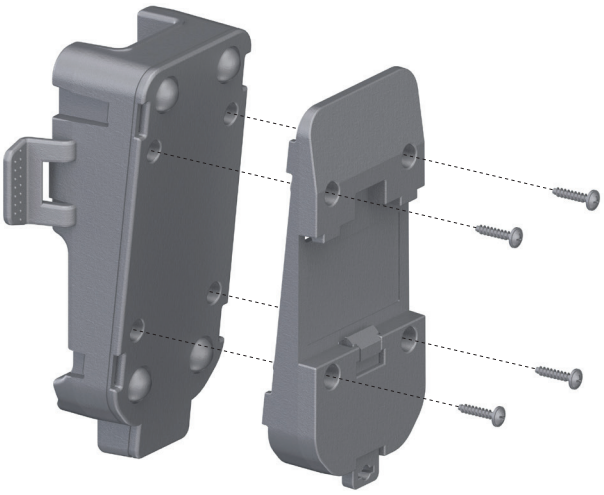
1.3 Mounting the Support on DIN Rail

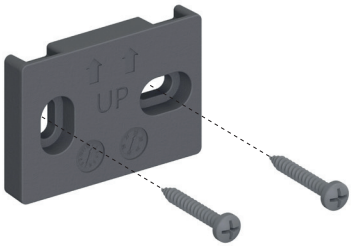




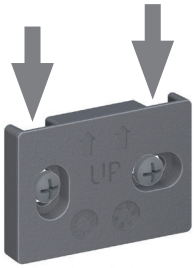
Secure the Support on the DIN Rail Using the Provided Hook

1.4 Wall mounting

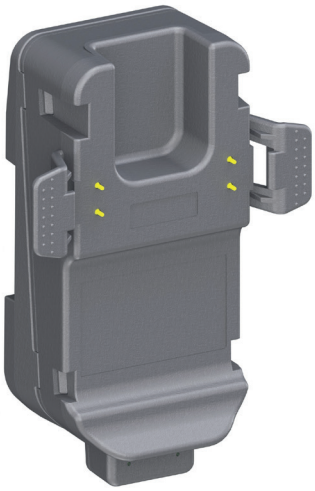




Attach the bracket to the wall with the side of the arrows and UP lettering facing the operator, keeping the arrows pointing upward



Hook the holder onto the two slots indicated by the arrows



Lock the bracket onto the wall bracket with the appropriate hook.

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