ENVITEC
by Honeywell

Oxygen measuring device MySign® O

Operating manual

065-07-1001825_MySignO_GB-2.pdf GB Subject to technical changes!

Contents

This manual was created with great care - should you nevertheless find conflicting details during use of the system, we request that you inform us in a brief message so that we can correct the discrepancies as quickly as possible.

We reserve the right to make changes to the product due to advancements in optical or other technologies that are not reflected in the information and figures in these operating manual. All trademarks mentioned in the text are registered trademarks of the respective owners and are recognised as protected.

This manual is subject to revision by EnviteC-Wismar GmbH.

The latest edition of this operating manual can be downloaded from our web page, www.envitec.com.

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1 Safety instructions

The system may only be used by operators with sufficient knowledge of said equipment and this operating manual. The system must only be used for the purpose described.

- **Do not operate this system in explosive areas!**
  This system is not approved for use in explosive areas.
- Please note the potential risks when dealing with flammable gases such as oxygen or anaesthetic gases, for example.
  Anaesthetic gases and oxygen gas mixtures are flammable at higher concentrations.
- Portable and mobile HF communication devices can interfere with and disrupt electrical medical devices.
- The device must not be operated in connection with a defibrillator.
- When using the system with patients, the system may not be connected to a computer by the data cable.

Commissioning

Always note whether there is any damage to the system, sensor or spiral cable before starting the system it up. Never use devices that are damaged!

Maintenance

The oxygen monitor must only be maintained and serviced by the hospital/retailer's technical service personal or by EnviteC-Wismar GmbH staff.

Symbols used in this manual

Danger of death, serious injury or considerable material damage if the relevant safety measures are not observed.

Important information about the product or a specific part of the manual which should be read with particular attention.

Disposal

In accordance with Directive 2002/96/EC (WEEE), the manufacturer will accept the return of the electrical and electronic device for proper disposal after dismantling!

1.1 Storage and packaging

The MySign® O and O_2 sensors must be stored in their original packaging at temperatures between -20 °C … 50 °C.

1.2 Oxygen sensor

- Do not cause any mechanical damage to the sensor!
  Never use products that are damaged or use products for purposes other than their intended purpose.
- Do not disinfect using liquids.
- Clean using a soft and damp disposable cloth.
- MySign® O must only be used with the EnviteC oxygen sensor, type OOM111 (Part No.: 01-00-0114), which is extremely reliable and stable and has been especially adapted for use with the MySign® O monitor.

Hazards to people and the environment

- Lead/lead compounds: Toxic if ingested, when inhaled as dust or absorbed through the skin. → Protective measures specified under TRGS 505 (6/88)
- Potassium hydrate solution: Corrosive on contact with skin and eyes.

Disposal

Dispose of properly via incineration in a special waste incinerator. Do not dispose of the substance as domestic waste.

Observe the relevant local and government rules and regulations!

1.3 Battery

- Do not throw into fires!
- Do not damage or change the battery's structure in any way.
- Do not allow to come into contact with fluids.
- Do not store with other metallic objects as this could cause the battery to short-circuit.

Disposal

Do not dispose of batteries as household waste!

2 Designated use and description

Area of application / Intended Use

The oxygen measuring device MySign® O is designed for continuous or spot monitoring of inspired oxygen concentrations in breathing gas.
MySign® O can be used for monitoring the breathing gases dispensed by the following devices:

- Anaesthesia breathing systems
- Respiratory equipment
- Infant incubators
- Oxygen therapy systems

The system is suitable for use inside hospitals as well as during transport (except by air) and emergencies.

User profile

The oxygen monitor must be used only be correspondingly trained specialist medical hospital staff (or relevant clinical staff). This system comes with the latest technologies for avoiding incorrect measurements and for guaranteeing the highest possible level of measuring accuracy. As a consequence, it constantly monitors the following functions and components.

- Signal transmitter
- LED
- Battery
- Oxygen sensor
- Internal memory

The system comes with a data memory module and a USB port. The data can be transferred to a computer with the software “PC Software MySign®” and a data cable and analysed.

For more information, please see the section “PC software” in this manual and the topic “PC software MySign®” in the online help.

Symbols on the label

	Follow the instructions given in the operating manual!
	Date of manufacture
PN	Product number
	Manufacturer
	Corrosive
SN	Serial number
	The system is a BF type system and is susceptible to damage from defibrillators.
	Follow the disposal instructions!
IP54	Protected against water streams and dust

Symbols shown on the display

	Key lock ON
	Key lock OFF
	View
	Data memory
	Alarm setting
	Calibration
	General setting
	Help
	Up
	Down
	Sound OFF
	Pause sound

	Battery symbol
	Mains operation / charge
	Connecting the system to a computer
	Flag for marking within a dataset
	Error
	Information
	Info
!	Low level priority warning
!!	Medium level priority warning
!!!	High level priority warning

3 Commissioning

3.1 Installation

Screw the oxygen sensor ② in clockwise direction into the flow diverter ③ and insert into the T piece ④. When doing so, make sure that the connections are leak-proof. Now insert the connection cable ① in the correct position into the MySign® O ⑤ and connect the oxygen sensor ②.

3.2 Charging the battery

The battery must be fully charged before using the MySign® O for the first time. It can be charged either at an external power supply or a USB port on a computer.

3.2.1 Charging the battery at an external power supply

The battery can only be charged at an external power supply using a suitable wall power supply with a USB port (EnviteC Part No.: 1001829). When using the EnviteC external power supply, charging the battery takes around 4 hours and is completed as soon as the battery symbol is shown as full.

3.2.2 Charging the battery at a USB port

To charge the battery at a USB port, connect it to the USB port on the computer using the enclosed cable. As the charge current at the port is only around 500 mA, it can take up to 6 hours to charge the battery at a computer.

- Only use power supplies that correspond to the system's specifications (see “Specifications”)!
- For more information on the position of the battery indicator, see section “Display”.

To charge the battery, open the cover on the USB port of the MySign® O, insert the USB connection cable (Part No. 1001830) and connect it to the USB port on a computer or an external power supply.

Switching the system ON

To switch on the system, press the ON/OFF button for about 1 second. Once the unit has been switched on for the first time, it has to be calibrated.

- For more information on switching on the unit, see the section “Switching the system ON / OFF”.
- For more information on the calibration, see the section “Calibration”.

3.3 Set up / mounting

The MySign® O must be set up / mounted as per the requirements at the place of use, on an even surface or using the clamp MySign an universal holder for all profiles.

Fold out the support provided on the MySign® O ② and set up the unit.

Hold the fixed tension arm against the bed frame, for example, and attach the holder by turning the threaded spindle ① in a clockwise direction.

Now insert the holder's mounting plate into the guide ② on the back of the MySign® O and fasten by turning the hand wheel ③ in a counter-clockwise direction.

4 Operation

The system is operated using the membrane keys on the front. These keys can be cleaned with a damp cloth in order to comply with hygiene requirements. All of the system's status and error messages are shown in plain text on the illuminated screen.

Front

Back

No.	Description	No.	Description
1	Housing	6	ON/OFF button
2	Display	7	Sensor socket
3	Operating buttons	8	Sound emitter
4	USB port	9	Support
5	Alarm LED red/yellow		

4.1 Keys and LEDs

Soft keys 1 + 2 (depending on menu)

Example:

Function 1 Function 2

Select button UP

For selecting menu items and changing parameters

Select button DOWN

For selecting menu items and changing parameters

Main menu or home button

Opens the main menu or brings you back to the main screen

Alarm OFF buttons with yellow LED

Acknowledges an alarm ➔ Mutes it for 120 seconds

Pressing this button briefly twice (double-click) fully switches off the current audio alarm.

LED on ➔ as soon as the audio alarm has been switched off.
LED flashes ➔ if the reminder signal has also been switched off.

ON/OFF button

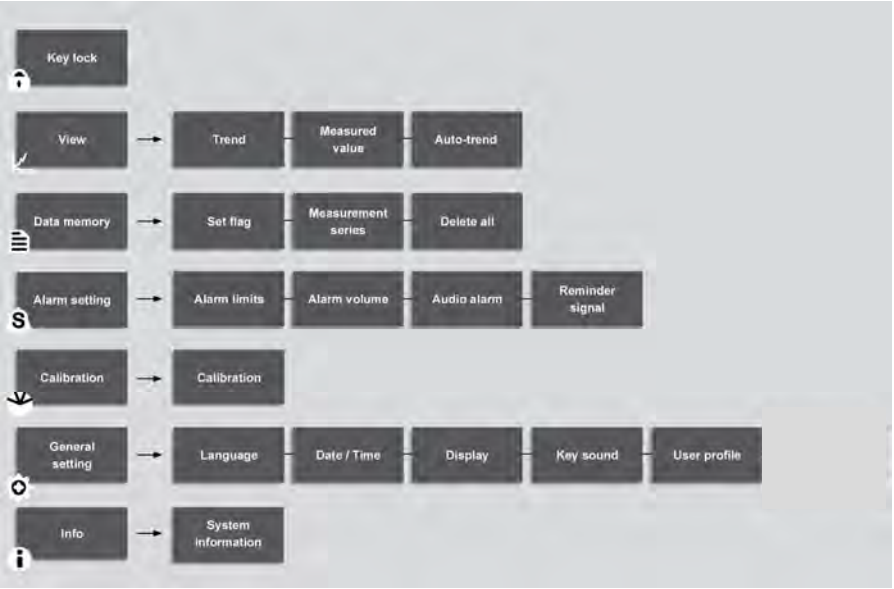
For switching the unit on / off

Alarm LED red/yellow

Visual signals, see “Alarm signals”

4.2 Operating menu (overview)

Main menu



4.3 Display

No.	Description
1	Date and time indicator
2	Measurement ID (consecutive numbers)
3	Battery status indicator
4	Currently measured value
5	Upper alarm limit
6	Lower alarm limit
7	Current information
8	Description of the soft keys

4.4 Switching the unit on / off

Once the unit has been switched on, it will automatically test all of its internal functions and components. While performing these tests, the unit will display its software version, hardware version and serial number for around 2 seconds on the screen.

Switching on the unit

Hold the button pressed for around 1 second

The unit will be ready to take measurements after approx. 5 seconds.

Example: Information displayed while the unit is being switched on:

If the measurement data have been personalised using the computer's software, the screen will display a prompt asking whether this data is to be copied over after the unit has been switched on.

If this prompt regarding copying the personalised measurement data is not confirmed within 2 minutes, they are not copied. In that case, the system will generate a new measurement series record.

Switching off the unit

The will show a countdown for the shutdown process, starting with the number 3. If the ON/OFF button is released at any time during the countdown, the countdown is stopped and the unit stays on.

➔ **Hold the button pressed for about 3 seconds**

Example: Information displayed while the unit is being switched off:

Once the unit has been switched off, the data from the measurements that have been performed are stored inside the unit's memory and can be viewed again at a later time.

4.5 Key lock

Select “Key lock” from the main menu.

Deactivate the key lock by pressing “Unlock ?”.

Confirm the subsequent query by pressing “OK”.

The keys are now unlocked and can be used to operate the unit.

4.6 View

The measurement display mode can be changed in the “View” menu. The modes available are “Trend”, “Measured value” and “Auto-Trend”.

Select “View” in the main menu.

Once this menu has opened, you will be able to select from any of the above modes.

4.6.1 Trend

In this mode, the system will show the current measurement and a time line showing the trend of the measurements taken over the past three hours. This gives a comprehensive overview of any changes in the measurements.

Select “Trend” from the “View” in the menu.

Horizontal position ➔ Trend view

When holding the unit horizontally, it will extend the measurement period shown to 4 hours.

4.6.2 Measured value

In this mode, the system will show the current oxygen concentration. To view an overview of the measurements that have already been performed, go to “Measurement series” in the “Data memory” menu.

Select “Measured value” from the “View” menu.

Horizontal position ➔ Measured value view

When holding the unit horizontally, the measured value will also be displayed horizontally.

4.6.3 Auto-Trend

In this mode, the unit will show both the “Trend” and “Measured value”. When holding the unit horizontally, the view mode will automatically switch from “Measured value” to “Trend”.

Select “Auto-trend” from the “View” menu.

Horizontal position ➔ Trend view

4.7 Data memory

The memory contains the data from previous measurements. These recordings are listed by ID or chronologically by start and end date.

Select “Data memory” from the main menu.

Once the “Data memory” menu has opened, you will be able to select from a number of different functions.

Changing the battery does not affect the data stored in the data memory.

4.7.1 Setting flags

This function can be used to insert flags into the data memory in order to, for example, document a change to the settings on the respiratory equipment.

Select “Set flag” from the “Data memory” menu.

Flagged

4.7.2 Measurement series

A measurement series comprises all of the oxygen concentration measurements that are taken during one measuring cycle. A new measuring cycle is started every time the unit is switched off and on, and each new series of measurements is assigned a separate ID.

Measurements are always taken at intervals of one second. The data the system stores in the memory is the average oxygen concentration measured per minute.

Select “Measurement series” from the “Data memory” menu.

Low level priority warning
(e.g. low battery charge)

Medium level priority warning
(e.g. upper alarm limit has been exceeded)

High level priority warning
(e.g. oxygen concentration is less than 18%)

Flagged

For additional information on the priority levels, see section “Alarm messages”.

4.7.3 Delete all

Deletes all of the measurement data stored in the device and starts a new oxygen concentration measurement.

Select “Delete all” from the “Data memory” menu.

4.8 Alarm setting

The alarms for signalling excessive and insufficient oxygen concentrations can be configured in the “Alarm setting” menu.

Select “Alarm setting” from the main menu.

Once the “Alarm setting” menu has opened, you will be able to select from a number of different options.

4.8.1 Alarm limits

The alarm limits are the highest and lowest oxygen concentration values that, when exceeded, will cause an integrated sound emitter to signal an alarm.

Select “Alarm setting” from the “Alarm limits” menu using the select button.

Now use the soft keys to select either “Autoset” or “Manual”.

The lowest value that can be entered is “18”!

Autoset

Automatically sets the upper and lower limit to +/- 3% of the currently shown measured value, e.g.:

- Currently measured value → 24% O_2
- Upper limit → 27 %
- Lower limit → 21 %

Manual

When configuring the alarm limits manually, the corresponding value must be selected and edited using the selection buttons once it starts flashing. Once it has been set, confirm the set value by pressing the right soft key. Press the Home button to return to the measuring mode.

Caution! Danger!
The oxygen concentration of the breathing air supply must not be lower than 18%.

4.8.2 Alarm volume

This function can be used to individually adjust the volume for the audio alarms.

Select “Alarm volume” from the “Alarm setting” menu.

Use the selection keys to adjust the alarm volume.

Then confirm by pressing the right function key.

Setting the alarm limits to extreme values can render the alarm system useless!

The auditory alarm signal sound pressure can be adjusted between 50 dB(A) and 60 dB(A).

4.8.3 Audio alarm

This is where the audio alarm for all messages can be switched on and off.

Select “Audio alarm” from the “Alarm setting” menu.

Use the selecting keys to switch the audio alarm function on or off.

We advise against switching the audio alarm off.

The audio alarm can also be switched off directly on the device for 120 seconds by pressing the "Alarm OFF" button or switched off completely by double-clicking this button.

As soon as the audio alarm has been switched off, the alarm off button LED will **light up** and the symbol  will be shown.

4.8.4 Reminder signal

If the reminder signal is switched on, the unit will sound an audio signal every 4 minutes. This function can be activated and deactivated under “Reminder signal”.

Select “Reminder signal” from the “Alarm setting” menu.

If the reminder signal has been switched off, the alarm off button LED will **flash**.

Reminder signal inactivation is restricted to responsible organization aware of the risk associated.

4.9 Calibration

The system must be calibrated in accordance with its use, in clean ambient air and at an oxygen concentration of 21% or using pure oxygen (oxygen cylinder, oxygen supply system) at an oxygen concentration of 100%.

- Ambient air → 21%
- Pure oxygen → 100%

Press the relevant function key depending on the application.

We advise calibrating the system in air or 100% oxygen before every new measurement or once per day to ensure that the measurements are correct in the event ambient conditions have changed.

4.9.1 Errors during calibration and recording the measured value

The measured value fluctuates by more than 1% by vol. O_2 ➔ Possible cause:

- The sensor temperature must be the same as the ambient temperature
- Avoid exposing the sensor to heat from hands
- Observe the sensor's setting time specifications (see sensor label)
- The sensor opening must be clean and dry
- Mixing with ambient gasses during calibration
- Internal electrical fault inside the unit ➔ Call your dealer!

The unit does not show the expected measured value ➔ Possible cause:

- The gas mixture calculations are wrong
- The manometer is faulty
- The unit has not been calibrated
- The sensor temperature differs from the ambient temperature
- Mixtures of ambient gasses

The oxygen sensor runs down while operating even when the unit is switched off. If the unit no longer displays the 20.9% O_2 - or 100% O_2 values during calibration or if the measured value does not make sense after checking all other potential causes, replace the sensor.

4.9.2 Influencing factors

The effects of gas pressure and measured gas humidity

The oxygen sensor measures the partial pressure of the oxygen in the gas mixture, but the unit only shows the oxygen concentration and therefore needs to be calibrated.

When being calibrated, the partial pressure of the oxygen in dry ambient air is equated with a concentration by volume of 20.9% O_2. The percentage of oxygen (partial pressure of the oxygen) contained in the gas will vary slightly depending on the absolute humidity of the measured gas. The effects of the humidity do not need to be taken into account since the error for the entire operating temperature range between absolutely dry and saturated gas is less than 1% O_2.

The unit should always be calibrated in the same pressure conditions in which the measurements are performed so as to compensate for the potential effects caused by pressure differences. The relevant pressure conditions during the measurement are the gas mixture pressure or current air pressure, which takes into account the elevation above sea level at the measuring location.

Ambient temperature

The measuring unit will compensate for any effects arising from changes in the ambient temperature.

However, the measuring unit with the oxygen sensor must still be adapted to the ambient temperature. Brief but significant gas temperature fluctuations can temporarily affect the accuracy of the oxygen readings.

Water

The sensor and jack socket must never be fully wetted with water. Any water on the oxygen sensor's gas inlet area will affect the measurement result.

If the unit becomes wet for any reason, its surface can be wiped dry with a cloth. In this case, we advise waiting until the sensor has dried before switching the unit on.

4.10 General setting

The unit's main settings can be configured in the “General setting” menu. The settings can also be configured using the supplied software.

Select “General setting” from the main menu.

Once the “General setting” menu has opened, you will be able to select from a number of different options.

4.10.1 Language

This menu item can be used to select the required language.

Select “Language” from the “General setting” menu.

Now select the corresponding language.

4.10.2 Date/Time

The date and time are shown in the international format.

- Date: → YYYY-MM-DD
- Time: → HH:MM

Select “Date/Time” from the “General setting” menu. Pressing the button again will enable you to change the next value.

Use the selecting keys to switch between the different values.

4.10.3 Display

This menu can be used to adjust the brightness settings, activate the automatic display shut-off and auto-rotation (rotation of the display when the unit is rotated).

Select “Display” from the “General setting” menu. The corresponding menu item can be opened using the selection keys and pressing function key 2 again.

Use the selection keys to configure these functions.

4.10.4 Key sound

This menu can be used to switch on or off the audio signal that is sounded when a button is pressed.

Select “Key sound” from the “General setting” menu.

4.10.5 User profiles

The user profiles can be used, for example, for assigning the unit to a particular ward or department and can be reset to the factory settings at any time.

Select “User profiles” from the “General setting” menu.

4.11 Info

This menu can be used to call up information about the unit and the sensor.

Select “Info” in the main menu.

Once the “Info” menu has opened, you will be able to select from a number of different options.

4.11.1 System information

The system information menu contains the most important data about the system:

MySign® O

- Software
- Hardware
- Serial number

Select “System information” from the “Info” menu.

5 Servicing / Maintenance / Cleaning

The system is maintenance-free and therefore does not need to be inspected at specific intervals with regard to its measuring function or safety. The system automatically tests all of its functions every time it is switched on and will show any faults it detects. The system also continuously monitors all of its functions while operating.

We advise calibrating the system in air or 100% oxygen before every new measurement to ensure that the measurements are correct.

Always check the unit, the sensor, the charging equipment and all cables for external damage before use.

The system may only be serviced by EnviteC or service personnel that have been trained by EnviteC.

Repairs

In the unlikely event that your system will need to be repaired, please contact your dealer or send the system and all of its accessories to the following address:

EnviteC-Wismar GmbH
Service
Alter Holzhafen 18
D-23966 Wismar

To speed up the repair process, please obtain an RMA (Return Material Authorisation) number through our website, www.envitec.com, under Service / Returns.

Please state your RMA number in all your correspondence!

Disinfecting MySign® O

The unit may only be disinfected by wiping it gently with a soft, disposable cloth soaked in isopropyl alcohol as specified under EN 60601-1 (check that the labels are firmly affixed).

Cleaning the oxygen sensor

Only clean by gently wiping it with a soft, disposable cloth soaked with a mild cleaning agent.

Cleaning the T-piece and flow diverter

Clean the T-piece and flow diverter by wiping with a soft cloth moistened in a detergent solution or immerse in a bath of the solution. Remove any deposits with a soft disposable cloth. The recommended cleaning agent is an alkaline/enzymatic cleaner Prolystica® 2x (1).

To disinfect, wipe with or immerse in 70% isopropyl alcohol. For high level disinfection, we recommend CIDEX® OPA (2). Follow the manufacturer's instruction for use.

1. Prolystica® is a registered trademark of Steris Corporation.
2. CIDEX® OPA is a registered trademark of Johnson and Johnson Corporation.

The T-piece and flow diverter accessories have been tested to meet performance specifications after 50 cycles of cleaning/disinfection with the specified agents.

Keep the battery cover closed when cleaning and disinfecting the unit! Do not allow any moisture to enter the device.

The electrical contacts inside the unit (battery) and at the USB port must be clean and dry at all times to ensure that the unit will function properly.

5.1 Replacing the battery

This unit must not be operated with disposable batteries, only rechargeable batteries (Part No. 1001734), model:

- Li-Ion 3.6 V DC
- 2900 mAh

To replace a faulty battery, remove the screw ① and push down the cover ②. Now take off the cover and remove the battery connection cable ③ and the battery ④.

The battery connection cable has reverse polarity protection.

Disposing of the unit, oxygen sensor, battery

Do not dispose of the unit, oxygen sensor or battery as household waste. Please return all of them to EnviteC clearly labelled with "Please dispose of".

EnviteC-Wismar GmbH
Alter Holzhafen 18
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Germany

Danger of explosion!
Do not throw batteries into fire or force them open.

5.2 Replacing the sensor

1. Remove the sensor
2. Return the sensor
3. Connect a new sensor and check its functions
4. Calibrate the sensor.

The oxygen measuring device MySign®O may only be used with the oxygen sensor type OOM111 (Part No. 01-00-0114) in order to guarantee the stated specifications.

6 PC software

The integrated USB port can be used for exchanging data between a computer and MySign® O. The steps for connecting the relevant cables for exchanging data and for charging the battery from the computer port are identical (see section “Commissioning”).

It is only possible to transfer data to a computer once the software has been installed.

The software can be used to:

- Read-out/analyse measured data
- Save and upload measured data
- Maintain patient data
- Configuring the MySign® O

Please refer to the “Help” section of the PC software for more information on operation and the functions of the PC software.

Connecting the MySign® O monitor to the PC software

- Start up the software application
- Connect the PC to the MySign® O monitor with a USB cable
- Switch on the monitor

Press “OK” to connect the monitor to the PC software.

Connecting the monitor to the PC software will interrupt the current measurement! It is not possible to conduct any measurements while connected to the PC.

7 Alarm messages

Visual signals		Audio signals	Description	Priorities
	Steady yellow	---	**Battery charge too low** The battery must be charged as soon as possible	!
	Flashing red	3 x (🔔) every 20 seconds	**Battery charge is critically low** Alarm occurs the equipment can be used at least 15 min. The battery must be charged immediately	!!
	Steady yellow	3 x (🔔) every 20 seconds	**No sensor connected** Check the sensor cable and connector. If necessary, replace the sensor or cable.	!!
 + lower alarm limit	Flashing red	5 x (🔔) every 10 seconds	**Oxygen concentration is less than 18%** Check the patient's oxygen supply and the unit's calibration as well as the MySign® O sensor.	!!!
 + lower alarm limit	Flashing yellow	3 x (🔔) every 20 seconds	**The oxygen concentration is too low** Check the patient's oxygen supply and the unit's calibration as well as the MySign® O sensor.	!!
 + upper alarm limit	Flashing yellow	3 x (🔔) every 20 seconds	**The oxygen concentration is too high** Check the patient's oxygen supply and the unit's calibration as well as the MySign® O sensor.	!!

The gas detection alarm delay time is determined by the response time of the oxygen sensor, see section 9.

Description of the priorities

! Low level priority warning

!! Medium level priority warning

!!! High level priority warning

8 Error descriptions and remedies

Fault indicator	Possible cause	Remedy
User error		
Sensor	There is no connection to the oxygen sensor	Check the connection to the oxygen sensor and replace if necessary.
Calibration	Calibration is not OK	Calibrate the unit again. Also see section “Calibration”.
Self-test (critical)		
Hardware	Internal hardware fault	Switch the unit off and then on again. If the fault persists, please contact customer service.
Sensor	Error during signal processing → No or incorrect measurement values	The unit can only be used with the original sensor OOM111. Check the sensor and the spiral cable to make sure they are properly connected or contact customer service.
Battery	Battery charge too low, no battery connected or battery faulty	Check the battery and replace if necessary.
Self-test (non-critical)		
Time	Internal clock (RTC) faulty	Switch the unit off and then on again. If the fault persists, please contact customer service.
Memory	Internal memory error	Switch the unit off and then on again. If the fault persists, please contact customer service.

Critical errors jeopardize the unit's reliability, which is why it will switch itself off. In all other cases, it will still be possible to continue to use it, although with restrictions.

9 Technical specifications

All of the specifications apply to the following standard conditions: Ambient temperature of 1013 hPa, 25°C dry ambient air.

Measuring range	:	0-100% oxygen
Display precision	:	0.1% oxygen
Precision	:	< 1% by vol. O_2, when calibrated on 100% by vol. O_2
Offset	:	< 1% by vol. O_2 in 100% N2
Response time	:	< 12 seconds to 90% of the final value
Linearity error	:	< 3% relative
Drift	:	< 1% by vol. O_2 over 8 hours
Cross-sensitivity	:	DIN EN ISO 21647 compliant
Operating humidity	:	0 - 99% rel. humidity (non-condensing)
Effects of moisture	:	0.03% relative per % RH
Ambient pressure	:	750 to 1250 hPa
Effects of pressure	:	Proportional to the change in the oxygen partial pressure
Impact sensitivity	:	< 1% relative after a drop from 1 m height
Operating temperature	:	0°C – 50°C
Temperature compensation	:	NTC compensator integrated into sensor
Storage temperature	:	-20°C – 70°C (unit) -20°C – 50°C (sensor)
Storage recommendations (sensor)	:	5°C – 15°C
Sensor type	:	OOM 111 (galvanic oxygen sensor)
Sensor life span	:	> 1,000,000 % O2 hours
Battery	:	Li-Ion 3.6 V 2900 mAh
Operating time per charge	:	> 24 hours (standard settings)
Charger	:	Mini-USB type B, protection class II Input: AC 110V - 230V / 50 – 60 Hz / 125 mA Output: DC 5V / ≥ 1 A / < 15 W IEC 60601-1 / IEC 60950-1
Charging time	:	Approx. 4 hours
Display	:	2.8" multicolour TFT
Dimensions (unit)	:	160 x 72 x 39 mm (L x W x H)
Cable length	:	Spiral cable 0.5 m (max. 2.5 m)
Protection class	:	IP 54
Impact resistance	:	IK 05
Weight	:	330 g (with sensor)

Interface	:	USB 2.0 (socket Mini-USB type B)
Alarm functions	:	Monitoring the alarm limits and unit functions (visual and audio)
Alarm limits	:	Can be adjusted to between Upper limit: 21% - 103% Lower limit: 18% - 97%
Data memory	:	Max. 96 hours Measured value, date, time, alarm limits, events
Personalisation	:	Unit and dataset (e.g. name, ward, patient ID)
Protection class	:	II, type BF
Class	:	IIa
CE marking	:	CE 0123
Standards	:	This unit complies with the requirements of MDD 93/42/EEC concerning medical devices and the corresponding standards. It also complies with: DIN EN 1789 Medical vehicles and their equipment - Ambulances

Subject to technical changes!

10 Warranty

As of the purchase date, EnviteC offers a two year warranty for faults arising from material or manufacturing defects. Faults that are covered by warranty will be corrected within the framework of our warranty conditions. EnviteC offers no warranty if the operator endangers the functioning of the device through failure to heed this operating manual, inappropriate handling, improper use or unauthorised modifications or repair attempts. In these cases, the liability is transferred to the operator!
Transport to customer service and back for repairs not covered under warranty takes place at the customer's expense.

Please contact your dealer if you wish to make a warranty claim!

To return the unit directly to EnviteC under the warranty, you will need an RMA (Return Material Authorisation) number (please always state this number in all of your correspondence!).

This number can be obtained from our website, www.envitec.com, under Service / Returns. Once you have obtained this number, please send the unit along with all accessories to the following address:

EnviteC-Wismar GmbH
Service
Alter Holzhafen 18
D-23966 Wismar
Germany

Warranty claims are only accepted on presentation of the purchase receipt!

11 Order information

Description	Part number
MySign® O [1)]	1001825
Accessories	
Oxygen sensor OOM111	01-00-0114
T-adapter (22mm/15mm)	46-006005
Flow diverter	01-002173
Hose adapter (22mm/6mm)	46-000087 (optional)
Data cable (USB)	1001815
Battery MySign	1001734
Power supply MySign® (mini USB 5 V / 1.5 A)	1001829 (optional)
Clamp MySign®	1001801 (optional)
CD MySign®	1001830

[1)] The power supply (Part No. 1001829) is not included and must be ordered separately if needed.

EnviteC-Wismar GmbH a Honeywell Company

Alter Holzhafen 18
23966 Wismar, Germany
Website: www.envitec.com

Phone: 49 - (0) 3841 360-200
Fax: 49 - (0) 3841 360-222

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