User manual
H2O2 gas sensor

Valid from:

- **Firmware version: 02v002**
- **Modem Version: 02v004**
- **Server version: 44.1**
- **Hardware version: 1.1**



201.801 | Rev.03

Microtronics
We live M2M

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Chapter 2 Declaration of conformity

EU-Konformitätserklärung

EU Declaration of Conformity / Déclaration de conformité UE

Produktbezeichnung: Product: Désignation du produit:	Stationäres Messgerät zur Aufzeichnung und Übertragung der H2O2-Konzentration, der Temperatur sowie der Luftfeuchtigkeit während eines Desinfektionszyklus.
Type : Type code: Type:	**H2O2 Gassensor & Remote Display**
Hersteller: Manufacturer : Fabricant:	**Microtronics Engineering GmbH** Hauptstrasse 7 A-3244 Ruprechtshofen

Das bezeichnete Produkt stimmt mit den folgenden Europäischen Richtlinien überein.
The designated product is in conformity with the following european directives.
Le produit décrit est conforme aux directives européennes suivantes.

		Europäische Norm	Ausgabedatum
(2014/30/EU)	**EMC Directive**	ÖVE/ÖNORM EN61326-1	2013-08
(2014/35/EU)	**LVD Directive**	ÖVE/ÖNORM EN61010-1	2011-08
(2014/53/EU)	**RED Directive**	ÖVE/ÖNORM EN301489-1 V1.9.2 ÖVE/ÖNORM EN301489-7 V1.3.1 ÖVE/ÖNORM EN301511 V9.0.2	2011-09 2006-02 2003-06
(2011/65/EU)	**RoHS Directive**	ÖVE/ÖNORM EN 50581	2013-03

Ruprechtshofen, den 19.06.2017

Ort und Datum der Ausstellung
Place and date of issue
Lieu et date d'établissement

Hans-Peter Buber, Managing Director
Unterschrift
name and signature of authorised person
Nom et signature de la personne autorisée

Chapter 3 Technical data

Voltage supply	100-240VAC , 50/60Hz
Power consumption	Power consumption of the H2O2 gas sensor : 3W $I_{in\ max}$ on the supply connector of the H2O2 gas sensor : 16A $I_{out\ max}$ on the connection plug for the disinfection device: 10A $I_{out\ max}$ on the switched connection plug for the fan: 10A ***Important note:*** *The current consumption of the disinfection device and the fan together 16A must not be exceeded!*
Backup battery	Battery pack AP413D rechargeable battery : 6 x Li-Ion - Battery cell fully fabricated with 13,2Ah
Housing	Material: Baydur 60 Weight: 2kg Protection class: IP44 Dimensions (WHD): 205x163x185mm (without connection cable)
Operating temperature	0...+40°C, 15...90%rH non-condensing
Storage temperature	-20...+45°C
Display	3-colour LED for the signalisation of the operating state on the top of the device Buzzer for the signalisation of the operating state LED for the signalisation of the connection status and the fault codes on the rear of the device
Operation	Button for starting the measurement also without connected disinfection device. i-Button connector
Antenna	The H2O2 gas sensor is equipped with an internal antenna.
Display interface	Digital interface for the connection of the Remote Display (201.100) (optional accessory)
H2O2 sensor	Measurement range: 0-70ppm Max. overload: 200ppm Resolution: 0,2ppm T_{90} response time: 60s Zero point adjustment: automatic
Combined humidity and temperature sensor	Temperature sensor • Measurement range: -20...+30°C • Resolution: 0,25°C Humidity sensor • Measurement range: 0-100% rH • Resolution: 1% rH
Data memory	Internal flash memory for up to 37.820 measurement data records

Data transmission	By means of GSM/GPRS quad-band modem to the respective myDatanet-Server
SIM	The H2O2 gas sensor is equipped with an integrated SIM chip.
Monthly volume of data	t.b.d.. Depending on the number of measurement cycles per month.

Chapter 4 General specifications

The information in this manual has been compiled with great care and to the best of our knowledge. The manufacturer, however, assumes no liability for any incorrect specifications that may be provided in this manual. The manufacturer is not responsible for direct, indirect, accidental or consequential damages which arise from errors or omissions in this manual even if advised of the possibility of such damages. In the interest of continuous product development, the manufacturer reserves the right to make improvements to this manual and the products described in it at any time and without prior notification or obligation.

> ***Note:*** *The specifications in this manual are valid as of the versions listed on the front page. Revised versions of this manual, as well as software and driver updates are available in the service area of the myDatanet server.*

4.1 Translation

For deliveries to countries in the European Economic Area, the manual must be translated into the language of the respective country. If there are any discrepancies in the translated text, the original manual (German) must be referenced or the manufacturer contacted for clarification.

4.2 Copyright

The copying and distribution of this document as well as the utilisation and communication of its contents to others without express authorisation is prohibited. Contraventions are liable to compensation. All rights reserved.

4.3 General descriptive names

The use of general descriptive names, trade names, trademarks and the like in this manual does not entitle the reader to assume they may be used freely by everyone. They are often protected registered trademarks even if not marked as such.

4.4 Safety instructions

For the connection, commissioning and operation of the H2O2 gas sensor , the following information and higher legal regulations of the country (e.g. ÖVE), such as valid EX regulations as well as the applicable safety and accident prevention regulations for the respective application case must be observed.

Read this manual completely before unpacking, setting up or operating this device. Observe all hazard, danger and warning information. Non-observance can lead to serious injuries to the operator and/or damage to the device.

Ensure that the safety equipment of this measurement instrument is not impaired. Install and use the measurement system only in the manner and method described in this manual.

> ***Important note:*** *The product is not approved for use outdoors as it does not have protection against moisture and only provides very slight protection against the ingress of dust.*

4.4.1 Use of the hazard warnings



DANGER:
Indicates a potential or threatening hazardous situation that will result in death or serious injuries if not avoided.



WARNING:
Indicates a potential or threatening hazardous situation that can result in death or serious injuries if not avoided.



CAUTION:
Indicates a potential hazardous situation that can result in minor or moderate injuries or damage to this instrument.

Important note: *Indicates a situation that can result in damages to this instrument if it is not avoided. Information that must be particularly emphasised.*

Note: *Indicates a situation that does not result in any injury to persons.*

Note: *Information that supplements the specifications in the main text.*

4.4.2 Safety and preventative measures for handling GSM/GPRS modems

The following safety and preventative measures must be observed during all phases of installation, operation, maintenance or repair of a GSM/GPRS modem. The manufacturer is not liable if the customer disregards these preventative measures.



CAUTION:
The GSM/GPRS modem connection must not be used in hazardous environments.

No guarantee of any kind, whether implicit or explicit, is given by the manufacturer and its suppliers for the use with high risk activities.

In addition to the following safety considerations, all directives of the country in which the device is installed must be complied with.

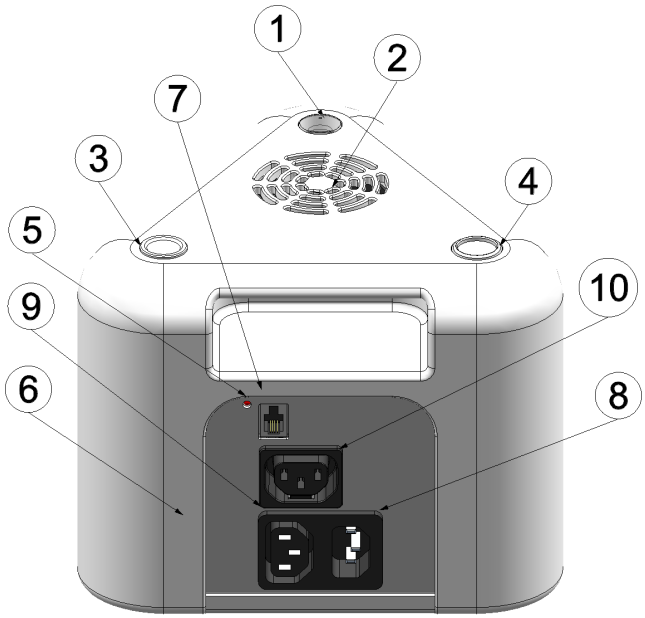
Important note: *No liability shall be assumed at any time and under no circumstances for connections via a GSM/GPRS modem for which wireless signals and networks are utilized. The GSM/GPRS modem must be switched on and operated in an area where sufficient signal strength is present.*

4.4.2.1 Safety and precautionary measures for the GSM/GPRS modem installation

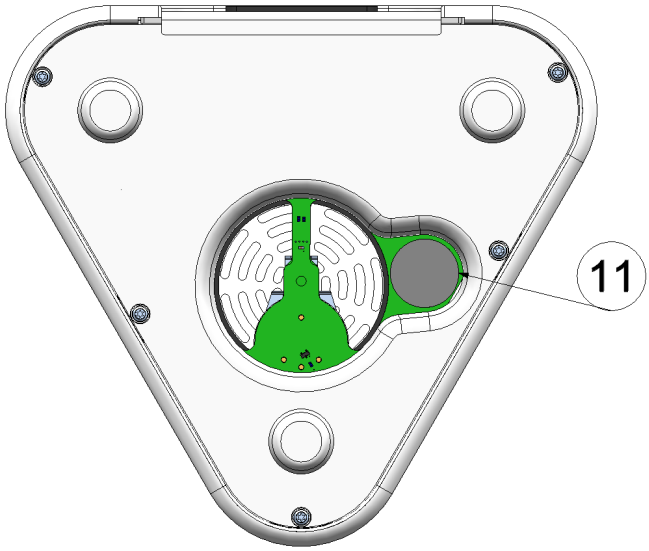
- This device may only be set up by a trained technician who applies the recognised installation practices for a radio frequency transmitter including the of external antennas.
- The device may not be near medical equipment such as heart pacemakers or hearing aids.
- The device may not be operated in highly flammable areas such as petrol filling stations, fuel storage sites, chemical factories and explosion sites.
- Do not operate the device in the vicinity of flammable gases, vapours or dusts.
- Do not subject the device to strong vibrations or impacts.
- The GSM/GPRS modem can cause interference if it is located near television equipment, radios or computers.

- Do not open the GSM/GPRS modem. Any modification to the equipment is prohibited and shall lead to loss of the operating licence.
- The use of GSM services (SMS messages/data communication/GPRS etc.) may lead to additional costs. The user alone is responsible for any damages and costs resulting through this.
- Do not install the device in any other manner than the one described in the operating instructions. An improper use will invalidate the warranty.

4.5 Overview



Rear of the H2O2 gas sensor



Bottom of the H2O2 gas sensor

1 3-colour LED (operating state)	7 Display interface
2 Intake opening	8 Supply connection
3 Button	9 Connection plug for the disinfection device
4 i-Button connector	10 Switched connection plug for the fan
5 LED (connection status/fault codes)	11 Buzzer
6 Position of the internal antenna	

4.6 Intended use

The stationary measurement device is used for the detection of the H2O2 concentration during a disinfection cycle. The device requires a continuous energy supply for the full range of functions. Measured and recorded data is stored in a nonvolatile memory medium. This stored data is sent to a central server for further processing via the cellular phone network. The device is equipped with an integrated SIM chip for this purpose. Comply with the permitted maximum limit values listed in chapter "Technical data" on page 9. The manufacturer shall not be held liable for any application cases which have not been approved by the manufacturer in writing that deviate from these limit values.

Note: *This device is exclusively intended to be used for the purposes as described before. Any other use or use beyond what is specified or a modification of the device shall be deemed to be not for the intended purpose and is not permitted without the express written consent of the manufacturer. The manufacturer shall not be held liable for any damages that may result from such unauthorised use or modification. The operator alone bears the associated risk.*

Note: *The manufacturer is not liable for data loss of any kind.*

Note: *The integrated SIM chip provides a mobile communications connection to a variety of international service providers. In order to be able to utilise all functions of the device, you must ensure that the device is located in the service area of one of these service providers. You can find a list of all supported countries and associated service providers under www.microtronics.com/footprint. A Managed Service contract with Microtronics Engineering GmbH is required for use of the mobile data transmission (see www.microtronics.com/managedservice). This includes the provisioning of the mobile communications connection via the network of the service provider included in the above-mentioned list.*

4.7 General product information

The product at hand is a stationary measurement device for recording and transmitting the H2O2 concentration, temperature and air humidity during a disinfection cycle. The H2O2 gas sensor detects the start of such a cycle either automatically using the current consumption at the connection for the disinfection device or when the user presses a button. If the peak value of the H2O2 concentration has been reached and a sufficiently strong decline (6ppm/3min.) of the H2O2 concentration is detected, the H2O2 gas sensor switches the 100-240VAC on the connection for the fan on. In addition to the measured H2O2, temperature and air humidity values, the device also records the current consumption of the disinfection device, the state of the disinfection device (on/off), the state of the mains power (on/off), the switch state of the connection for the fan (on/off) and the abrasion of the sensor in percent. All determined measurement data is temporarily saved to an internal data memory and wirelessly transferred to a central location at freely selectable intervals. The configuration of the device also occurs via this connection. The device is equipped with an integrated SIM chip

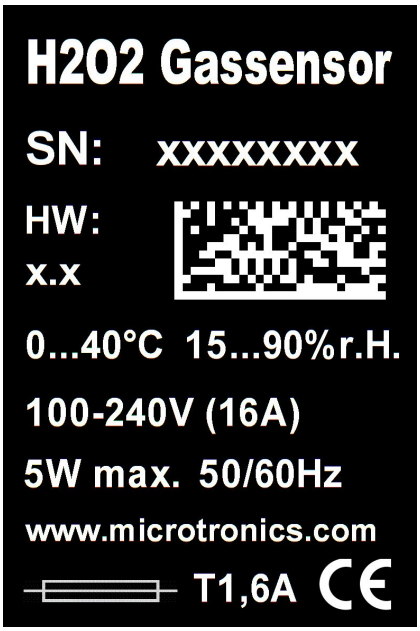
If the optional Remote Display (201.100) is connected to the display interface of the H2O2 gas sensor , the currently generated measurement values H2O2, temperature and air humidity can be displayed immediately.

4.8 Device labelling

The specifications in this manual apply exclusively to the device type H2O2 gas sensor . The type plate is located on the rear of the device and contains the following specifications:

- Type designation
- Serial number
- Hardware revision
- Environmental conditions in operation
- CE marking
- Voltage supply specifications

The correct specification of the type designation and serial number is important for all queries and replacement part orders. This enables us to process your request promptly and properly.



Type plate H2O2 gas sensor

Note: *These operating instructions are part of the device and must be available for the user at all times. Observe the safety instructions contained in it.*

DANGER:
It is strictly prohibited to disable the safety equipment or modify its mode of action.

4.9 Installation of spare and wear parts

Be advised that spare and accessory parts that have not been supplied by the manufacturer have also not been inspected or approved by the manufacturer. The installation and/or use of such products can possibly have a negative impact on the specified constructional properties of the device. The manufacturer shall not be liable for any damages that arise from the use of non-original parts and non-original accessory parts.

4.10 Safekeeping of the product

Wait until a possibly running measurement cycle has completed and the H2O2 gas sensor switches to the "Ready" operating state (see "Signalisation & operating states " on page 17), indicated by the continuous green LED of the 3-colour operating state LED. You can also manually abort a measurement cycle via Identification key (201.304), see "Signalisation & operating states " on page 17.

CAUTION:
However, always check the H2O2 concentration before you enter a room in order to end the measurement cycle of the H2O2 gas sensor manually!

If the H2O2 gas sensor is in the "Ready" state, you can disconnect it from the energy supply at any time. After you have disconnected the device from the mains power supply, disconnect the remaining cabling as well and store the H2O2 gas sensor and the available accessories in the provided compartments of the Transport Case (201.305) for safekeeping.

As the H2O2 sensor requires a continuous power supply, the device is equipped with an integrated backup battery. Even without mains power supply, a measurement data record will be generated at1h intervals and

("transmission cycle passive" see "Basic setting" on page 39), a connection to the myDatanet-Server will be established in its own configurable interval. The charge state of the backup battery can thus be checked (see "Internal channels" on page 38) and any changes possibly made to the configuration of themyDatanet-Server can be transmitted to the H2O2 gas sensor . Under normal conditions, the backup battery can supply the device 6 months without recharging. However, this time may be reduced depending on the settings for the "transmission cycle passive" and the reception quality of the mobile communications network.

> ***Note:*** *Check the charge state of the backup battery monthly (see "Internal channels" on page 38) by means of measured-value graphic (see "myDatanet Server Manual " 805002) of the myDatanet-Server. If the voltage of the backup battery falls below 3,6V, you should connect the H2O2 gas sensor for at least 28h to the mains power supply in order to recharge the backup battery. The backup battery is completely charged when 4,2V has been reached. Please note that the maximum voltage may possibly not be achieved depending on the backup battery's age.*

4.11 Obligation of the operator



WARNING:
In the EEA (European Economic Area), the national implementation of the framework directive (89/391/EEC) as well as the associated specific directives and from these in particular, the directive (2009/104/EC) about the minimum safety and health requirements for use of work equipment by workers at work, each in their respective version are to be complied with.

The operator must obtain the local operating licence and the associated documents.

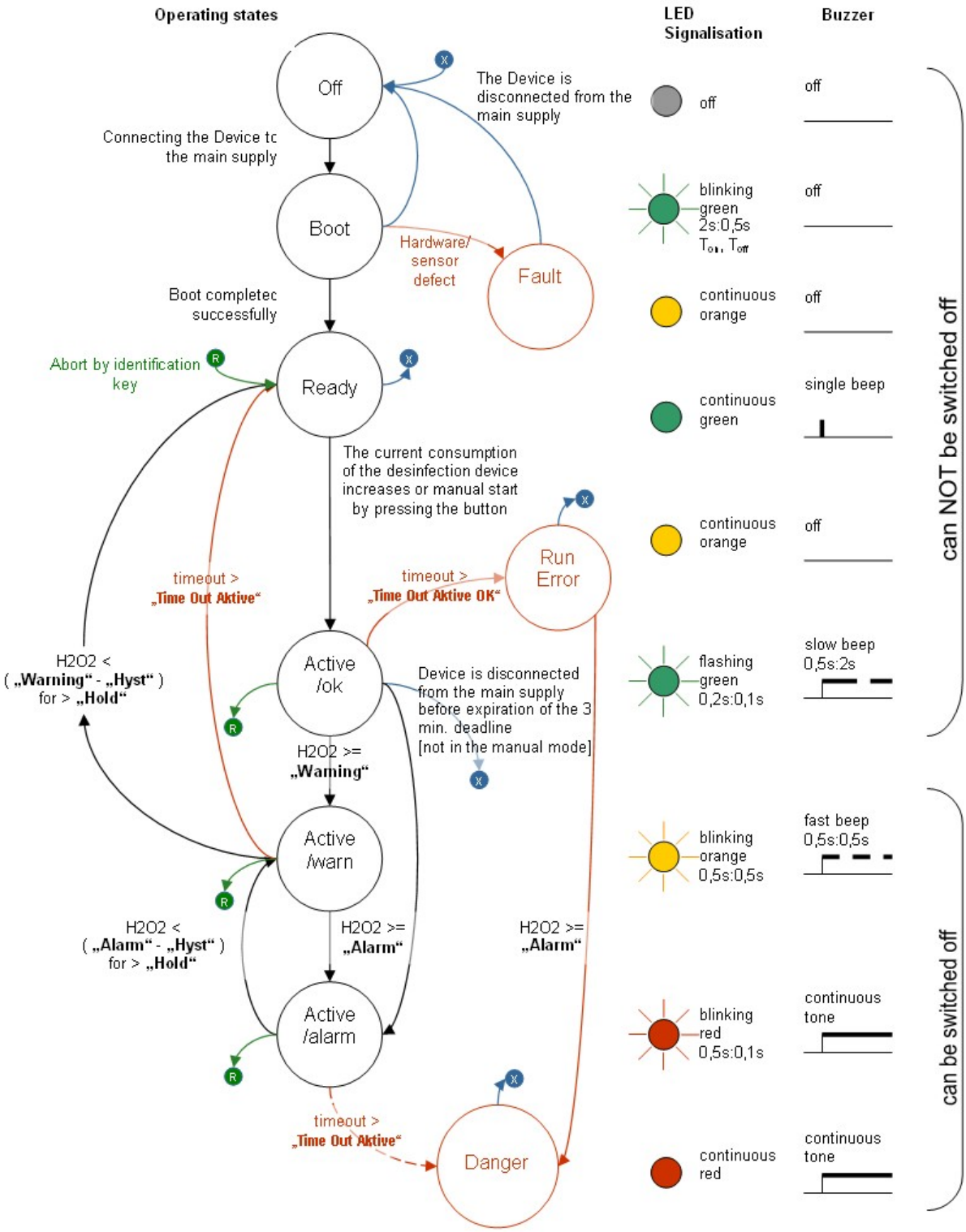
In addition, the operator must comply with the local legal requirements for

- the safety of the personnel (accident prevention measures)
- the safety of the equipment (protective equipment and maintenance)
- the product disposal (waste disposal law)
- the material disposal (waste disposal law)
- the cleaning (cleaning agents and disposal)
- and the environmental protection amendments.

Before commissioning, the operator must ensure that the installation and commissioning – provided these were performed by the operator himself – are in compliance with the local regulations.

Chapter 5 Functional Principle

5.1 Signalisation & operating states



*)Configuration parameters have been emphasised in bold in the state diagram.

5.1.1 General

For every change of operating state, a measurement data record is generated and a transmission is triggered. The current values are redetermined for the internal channels (see "Internal channels" on page 38), the measurement values (see "Measurement channels" on page 35) "Disinfection", "Power", "Biowind" and "Abrasion".

For the measurement values (see "Measurement channels" on page 35) "H2O2", "H2O2 Cal.", "H2O2 Raw.", "Humidity", "Temp" and "Current", the following applies:

- If the "Off", "Boot" or "Fault" operating states are switched to, the measurement values are replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field when downloading).
- If the "Active/ok" operating status is switch to and a measurement has still not been performed, the measurement values are replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field when downloading).
- For all other changes of state, the values determined at the last measurement time point are copied into the measurement data record.

5.1.2 Operating state "Off"

The H2O2 gas sensor is disconnected from the mains power supply. The integrated backup battery takes over the energy supply. A measurement data record will be generated at 1h intervals and in its own configurable interval ("Transmission cycle passive" see "Basic setting" on page 39), a connection to the myDatanet-Server will be established. The "H2O2" measurement value (see "Measurement channels" on page 35) is not determined in this operating state and is instead replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download). Under normal conditions, the backup battery can supply the device 6 months without recharging. However, this time may be reduced depending on the settings for the "Transmission cycle passive" and the reception quality of the mobile communications network.

The H2O2 gas sensor switches to the "Boot" operating state as soon as the mains power supply is established.

5.1.3 Operating state "Boot"

In this operating state, the H2O2 gas sensor performs a brief self test and the zero point adjustment. The boot procedure takes approx. 34 sec.

The H2O2 gas sensor switches to the "Ready" state if no problems were found during the self test. If problems were found, the "Fault" operating state is switched to. If the mains power supply fails during the boot procedure, the device switches back to the "Off" operating state.

5.1.4 Operating state "Ready"

The H2O2 gas sensor is ready for the disinfection cycle and monitors the current consumption on the connection plug for the disinfection device (see "Overview" on page 13). As long as the device is in the "Ready" operating state, the zero point reference is continuously updated (sliding averaging). A measurement data record will be generated at 1h intervals and in its own configurable interval ("Transmission cycle passive" see "Basic setting" on page 39), a connection to the myDatanet-Server will be established. The "H2O2" measurement value (see "Measurement channels" on page 35) is not determined in this operating

state and is instead replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download).

If the current consumption of the disinfection device increases above 1,1A or if the button was pressed (manual mode), the H2O2 gas sensor switches to the "Active/ok" operating state. If the mains power supply fails during the "Ready" operating state, the device switches back to the "Off" operating state.

5.1.5 Operating state "Active/ok"

The measurement data records are generated in the 5 sec. interval, which are transmitted (see "Basic setting" on page 39) to the myDatanet-Server in the "Transmission cycle active".

If the H2O2 concentration rises to or above the value specified (see "Basic setting" on page 39) under "Warning", the H2O2 gas sensor switches in the "Active/warn" operating state. If the H2O2 concentration immediately rises to or above the value specified under "Alarm" (see "Basic setting" on page 39), the "Active/warn" operating state is skipped and the "Active/alarm" operating state is switched to immediately. A running disinfection cycle can be manually aborted by means of the Identification key (201.304). The H2O2 gas sensor subsequently switches again to the "Ready" operating state.

CAUTION:
However, always check the H2O2 concentration before you enter a room in order to end the measurement cycle of the H2O2 gas sensor manually!

If the "Active/warn" operating state or "Active/alarm" operating state is not switched to within the time specified under "Timeout Active OK" (see "Basic setting" on page 39), the H2O2 gas sensor switches to the "Fault" error state.

If the mains power supply fails before expiration of the 3 min. deadline after the switch to the "Active/ok" operating state, the device switches back to the "Off" operating state. After expiration of the deadline, a failure of the mains power supply will be ignored and the monitoring of the disinfection cycle will continue to be powered by the backup battery. The fan, buzzer and the measurement of the current consumption of the disinfection device are very power-intensive components and are therefore deactivated in battery mode.

5.1.6 Operating state "Active/warn"

The measurement data records are generated in the 5 sec. interval, which are transmitted (see "Basic setting" on page 39) to the myDatanet-Server in the "Transmission cycle active".

If the H2O2 concentration rises to or above the value specified under "Alarm" (see "Basic setting" on page 39), the H2O2 gas sensor switches to the "Active/alarm" operating state. If the concentration falls below "Warning" - "Hyst" and remains for at least "Hold" below this value, the H2O2 gas sensor switches from the "Active/warn" operating state to the "Ready" operating state and the disinfection cycle is thus ended for the H2O2 gas sensor . A running disinfection cycle can be manually aborted by means of the Identification key (201.304). The H2O2 gas sensor subsequently switches again to the "Ready" operating state.

CAUTION:
However, always check the H2O2 concentration before you enter a room in order to end the measurement cycle of the H2O2 gas sensor manually!

If the device does not reach the "Ready" operating state within the "Timeout Active" time (see "Basic setting" on page 39), the "Ready" operating state is switched to and an internal fault counter is incremented. The measurement of the "Timeout Active" occurs as of the first crossing from "Active/ok" to "Active/warn", i.e. over the sum of all "Active/warn" and "Active/alarm" phases of a disinfection cycle.

A failure of the mains power supply will be ignored and the monitoring of the disinfection cycle will continue to be powered by the backup battery. The fan, buzzer and the measurement of the current consumption of the disinfection device are very power-intensive components and are therefore deactivated in battery mode.

5.1.7 Operating state "Active/alarm"

The measurement data records are generated in the 5 sec. interval, which are transmitted (see "Basic setting" on page 39) to the myDatanet-Server in the "Transmission cycle active".

If the concentration falls below "Alarm"-"Hyst" and remains for at least "Hold" below this value, the H2O2 gas sensor switches from the "Active/alarm" operating state to the "Active/warn" operating state. A running disinfection cycle can be manually aborted by means of Identification key (201.304). The H2O2 gas sensor subsequently switches again to the "Ready" operating state immediately.

CAUTION:
However, always check the H2O2 concentration before you enter a room in order to end the measurement cycle of the H2O2 gas sensor manually!

If the device does not reach the "Ready" operating state within the "Timeout Active" time (see "Basic setting" on page 39), the "Danger" operating state is switched to and an internal fault counter is incremented. The measurement of the "Timeout Active" occurs as of the first crossing from "Active/ok" to "Active/warn", i.e. over the sum of all "Active/warn" and "Active/alarm" phases of a disinfection cycle.

A failure of the mains power supply will be ignored and the monitoring of the disinfection cycle will continue to be powered by the backup battery. The fan, buzzer and the measurement of the current consumption of the disinfection device are very power-intensive components and are therefore deactivated in battery mode.

5.1.8 Operating state "Fault"

The H2O2 gas sensor has detected a problem during the self test. A measurement data record will be generated at 1h intervals and in its own configurable interval ("Transmission cycle passive" see "Basic setting" on page 39), a connection to the myDatanet-Server will be established. The "H2O2" measurement value (see "Measurement channels" on page 35) is not determined in this operating state and is instead replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download).

If the mains power supply fails during the "Fault" operating state, the device switches back to the "Off" operating state.

5.1.9 Operating state "Run Error"

The H2O2 concentration does not increase above the "Warning" or "Alarm" threshold within the "Timeout Active OK" time after the monitoring of the disinfection cycle was started (whether manually via button press or automatically via the detection of the current consumption on the connection for the disinfection device). The H2O2 gas sensor recognises this as a fault in the sequence. However, the personnel safety is presumably given. A measurement data record will be generated at 1h intervals and in its own configurable interval ("Transmission cycle passive" see "Basic setting" on page 39), a connection to the myDatanet-Server will be established. The "H2O2" measurement value (see "Measurement channels" on page 35) in this operating state is replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download).

Internally, the H2O2 concentration in the 5 sec. interval in this operating state continues to be monitored for purposes of personnel safety. If the H2O2 concentration falls to or below the value specified under "Alarm"

(see "Basic setting" on page 39), the H2O2 gas sensor switches to the "Danger" operating state. If the mains power supply fails during the "Run Error" operating state, the device switches back to the "Off" operating state.

5.1.10 Operating state "Danger"

The measurement data records are generated in the 5 sec. interval, which are transmitted (see "Basic setting" on page 39) to the myDatanet-Server in the "Transmission cycle active". The "H2O2" measurement value (see "Measurement channels" on page 35) in this operating state is replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download).

If the mains power supply fails during the "Danger" operating state, the device switches back to the "Off" operating state.

Chapter 6 Storage, delivery and transport

6.1 Inspection of incoming deliveries

Check the shipment immediately upon receipt to ensure it is complete and intact. Immediately report any discovered transport damages to the delivering carrier. Also notify Microtronics Engineering GmbHin writing about this without delay. Report any incompleteness of the delivery to the responsible representative or directly to the company headquarters of the manufacturer within two weeks (see "Contact information" on page 53).

Note: *Any claims received thereafter will not be accepted.*

6.2 Scope of supply

The H2O2 gas sensor is available in two order configurations, which only differ through the supplied accessories. All specifications in this manual refer to the accessories of the order configuration H2O2 gas sensor (201.001).

Scope of supply of the order configuration H2O2 gas sensor (201.001):

- H2O2 gas sensor
- Power Cable 5m (201.302)
- Machine cable 5m (201.303)
- Identification key (201.304)

Scope of supply of the order configuration H2O2 gas sensor kit (201.000):

- H2O2 gas sensor
- Power Cable 5m (201.302)
- Machine cable 5m (201.303)
- Identification key (201.304)
- Remote Display (201.100)
- Remote Cable (201.301)
- Transport Case (201.305)

Additional accessories depending on order. Please check this against the delivery slip.

6.3 Storage

Comply with the following storage conditions:

H2O2 gas sensor	Storage temperature	-20...+45°C
	Humidity	15...90%rH

Store the measurement technology so that it is protected against corrosive or organic solvent vapours, radioactive emissions as well as strong electromagnetic radiation.

6.4 Transport

The H2O2 gas sensor should not be subjected to heavy shocks, bumps, impacts or vibrations. The original packaging must always be used for transport.

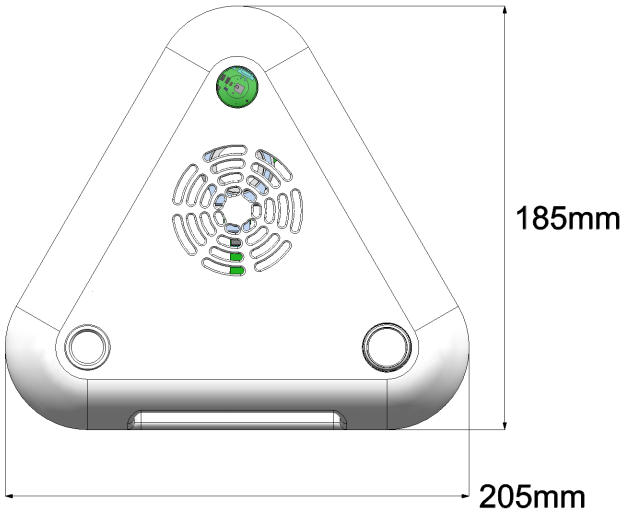
6.5 Return

Every return must be accompanied by a fully field-out return form. This return form is available in the service area of the myDatanet server. An RMA number is mandatory for any returns and can be obtained from the Support & Service Centre (see "Contact information" on page 53). The return shipment of the H2O2 gas sensor must occur in the original packaging and with freight and insurance paid to Microtronics Engineering GmbH (see "Contact information" on page 53). Insufficiently cleared return shipments will otherwise not be accepted!

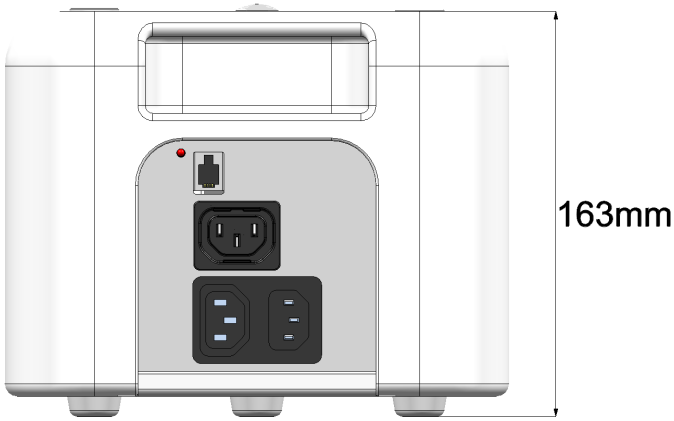
Chapter 7 Installation

DANGER:
Deadly electric shock hazard. The work described in this section of these instructions may only be performed by qualified personnel.

7.1 Dimensions



Dimensions: Width and dept



Dimensions: Height

7.2 Installing the H2O2 gas sensor

Important note:

- *Ensure a proper installation!*
- *Comply with the existing legal and/or operational directives!*
- *Improper handling can lead to injuries and/or damage to the instruments!*

The location for the installation must be selected according to specific criteria. Absolutely avoid the following conditions:

- Direct sunlight
- Objects that radiate intense heat (maximum ambient temperature: 0...+40°C)
- Objects with strong electromagnetic field (frequency converter or similar)
- Corroding chemicals or gases
- Mechanical impacts
- Vibrations
- Radioactive emissions

7.3 Safety instructions for cabling

DANGER:
Deadly electric shock hazard Always switch off the voltage supply to the device when performing electrical connections.

When connections are made to the H2O2 gas sensor , the following warnings and information must also be observed, such as the warnings and information found in the individual chapters on installation. You can find additional safety information under "Safety instructions" on page 11.

7.3.1 Information on preventing electrostatic discharges (ESD)

Important note: *Maintenance procedures that do not require the device to be connected to the power supply should only be performed once the device has been disconnected from the mains power supply to minimise hazards and ESD risks.*

The sensitive electronic components inside the device can be damaged by static electricity, which can impair the device performance or even cause the device to fail. The manufacturer recommends the following steps to prevent any damage to the device caused by electrostatic discharges:

- Discharge any static electricity present on your body before handling the electronic components of the device (such as circuit boards and components attached thereto). To do this, you can touch a grounded metallic surface such as the housing frame of a device or a metal pipe.
- Avoid any unnecessary movements to prevent the build-up of static charges.
- Use antistatic containers or packaging to transport components that are sensitive to static.
- Wear an antistatic wristband that is grounded via a cable to discharge your body and keep it free of static electricity.
- Only touch components that are sensitive to electric charges in an antistatic working area. If possible, use antistatic mats and work pads.

7.4 Electrical installation

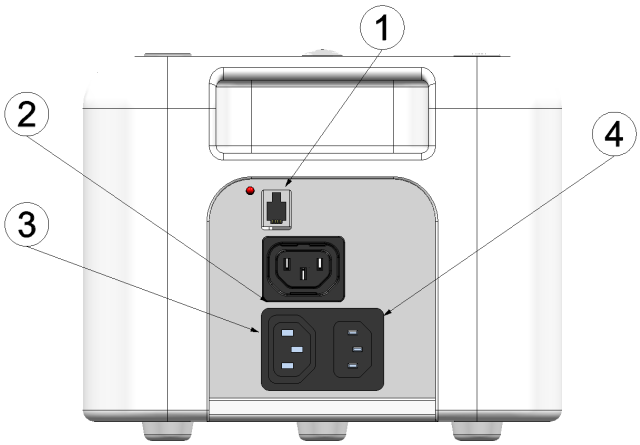


DANGER:
Deadly electric shock hazard Only qualified personnel should perform the installation described in this chapter of the operating instructions.

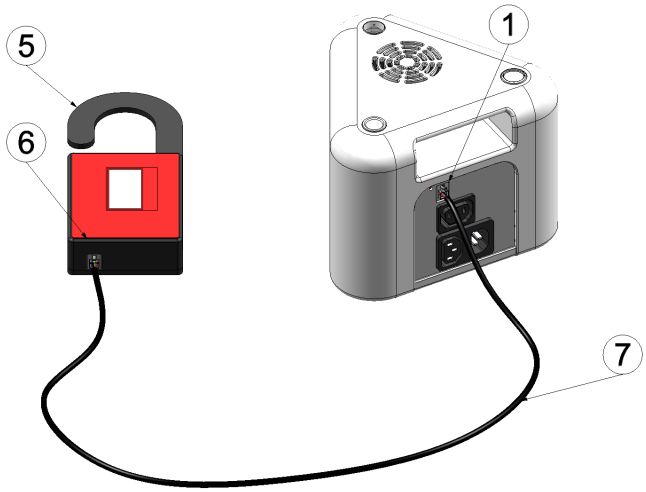
7.4.1 Device connection and supply

Important note:

- *All cabling work is to be performed in the currentless state.*
- *Ensure a proper installation!*
- *Comply with the existing legal and/or operational directives!*
- *Improper handling can lead to injuries and/or damage to the instruments!*
- *Run all data and power cables so that they do not pose a stumbling risk and so that the cables do not have any sharp bends.*



Connecting the device



Connecting the Remote Display (201.100) (optional accessories)

1 Display interface of the H2O2 gas sensor	5 Remote Display (201.100) (optional accessories)
2 Switched connection plug for the fan	6 Display interface of the Remote Display
3 Connection plug for the disinfection device	7 Remote Cable (201.301) (optional accessories)
4 Supply connection	

The following step is only required if you use the optional Remote Display (201.100):

1. First connect the Remote Cable (7) with the display interface (6) of the Remote Display and then with the display interface (1) of the H2O2 gas sensor .
2. Then, if necessary, connect the fan to the switched connection (2) of the H2O2 gas sensor .

   Important note: *The current consumption of the disinfection device and the fan together 16A must not be exceeded!*

3. Supply of the disinfection device:

   If the H2O2 gas sensor is to be able to detect the start of a disinfection cycle automatically, connect the disinfection device using the corresponding connection (3) of the H2O2 gas sensor . The energy supply of the disinfection device thus runs via the H2O2 gas sensor , which can detect that a disinfection cycle has started using the current consumption.

   If the disinfection device is not connected to the H2O2 gas sensor , the H2O2 gas sensor must be manually informed of the beginning of a disinfection cycle via button press (see "Buttons" on page 32).

   Important note: *The current consumption of the disinfection device and the fan together 16A must not be exceeded!*

4. Finally, connect the supply connection (4) of the H2O2 gas sensor with the mains power supply. The device will then run through the operating state "Boot" until it finally reaches the "Ready" operating state. The different operating states are indicated by the 3-colour operating state LED and the buzzer (see "Signalisation & operating states " on page 17). At the same time, the LED, which displays the connection status and fault codes, should begin to flicker (see "LED (connection status/fault codes)" on page 32) in order to signalise the connection establishment.

The following step is not mandatory.

5. Check whether the connection to the myDatanet-Server has functioned correctly (see"Testing communication with the device" on page 30).

7.4.2 Technical details to the connection plug for the disinfection device

The mains power supply of the H2O2 gas sensor is looped through to the connection plug for the disinfection device via the current measurement electronics. I.e. the same voltage that supplies the H2O2 gas sensor itself is also present on the connection plug. The current consumption of the disinfection device may 10A not be exceeded. The connection plug itself is not protected against short-circuit; therefore the connected disinfection device should also be protected (10A).

> ***Important note:*** *The current consumption of the disinfection device and the fan together 16A may not be exceeded!*

For the automatic detection of the start of the disinfection cycle, the disinfection device must be connected to the H2O2 gas sensor . If the H2O2 gas sensor is in the "Ready" operating state (see "Signalisation & operating states " on page 17) and the current consumption at the connection plug for the disinfection device rises above 1,1A , this will be interpreted as the start of the disinfection cycle and the device will switch to the "Active/ok" operating state. For all operating states of the device the following applies: If the current consumption of the disinfection device rises above 1,1A , the measured value of the "Disinfection" measurement channel (see "Measurement channels" on page 35) will be changed to "On". If the current consumption for the observation period (600ms) falls below 1,1A , the measured value of the "Disinfection" measurement channel will be changed to "Off".

7.4.3 Technical details to the switched connection plug for the fan

The mains power supply of the H2O2 gas sensor is looped through to the switched connection plug for the fan via a relay. I.e. when the relay has switched through, the same voltage that supplies the H2O2 gas sensor itself is also present on this connection plug. The current consumption of the fan 10A must not be exceeded. The connection plug itself is not protected against short-circuit; therefore, the connected fan should also be protected (10A).

> ***Important note:*** *The current consumption of the disinfection device and the fan together 16A may not be exceeded!*

If the peak value of the H2O2 concentration has been reached and a sufficiently strong decline (6ppm/3min.) of the H2O2 concentration is detected, the H2O2 gas sensor interconnects the mains power supply to the connection for the fan. At the same time, the measurement value of the "Biowind" measurement channel is set to "On" see "Measurement channels" on page 35). The relay is only opened again if the H2O2 gas sensor switches to the "Ready" or "Off" operating state. The measurement value of the "Biowind" measurement channel will then be switched to "Off" again.

Chapter 8 Initial Start-Up

8.1 User information

Before you connect the H2O2 gas sensor and place it into operation, you must observe and comply with the following user information!

This manual contains all information that is required for using the device.

Is intended for technically qualified personnel who have the relevant knowledge and experience in the area of measurement technology.

Read this manual carefully and completely in order to ensure the proper functioning of the H2O2 gas sensor .

Contact Microtronics Engineering GmbH(see "Contact information" on page 53) if anything is unclear or if you encounter difficulties with regard to installation, connection or configuration.

If necessary, also refer to the manuals of the accessory parts when commissioning the complete system. These manuals are included in the scope of delivery of the accessory parts.

8.2 General principles

The entire measurement system may only be placed into operation after completion and inspection of the installation. Study the manual thoroughly before placing into operation to prevent faulty or incorrect configuration.

Utilise the manual to familiarise yourself with the operation of the H2O2 gas sensor and the input screens of the myDatanet server before you begin with the configuration.

8.3 Placing the system into operation

> ***Note:*** *We recommend placing the H2O2 gas sensor into operation in the office at first. At the same time, you should already create a site for the subsequent operation on the myDatanet–Server (see "myDatanet Server Manual " 805002) and determine a site configuration (see "Site configuration" on page 34). Use the opportunity to become familiar with the functions of the device while in a stable environment.*

1. If you have performed all the steps described in chapter "Device connection and supply" on page 26, the H2O2 gas sensor is ready for operation and it should have already performed the initial connection to the myDatanet-Server.
2. Create a site for the operation on the myDatanet-Server (see "myDatanet Server Manual " 805002).
3. Configure the created site according to your requirements (see "Site configuration" on page 34).
4. Link the H2O2 gas sensor with the created site (see "Site" on page 34).
5. Initiate a transmission by briefly disconnecting the H2O2 gas sensor from the mains power supply and immediately reconnecting it so that the configuration of the site is transmitted to the H2O2 gas sensor .

8.4 Testing communication with the device

1. Create a site for operation on the myDatanetserver (see "myDatanet Server Manual " 805002).
2. In accordance with your requirements configure the site that has been created (see "Site configuration" on page 34).
3. Link the H2O2 gas sensor with the site that has been created (see "Site" on page 34).
4. Initiate a transfer by disconnecting the H2O2 gas sensor briefly from the mains power supply and reconnecting it again right away so that the configuration of the site is transferred to the H2O2 gas sensor .
5. The time of the last connection with the H2O2 gas sensor is displayed in the list of measuring instruments. Check whether this time stamp has been updated after you have initiated the transfer.



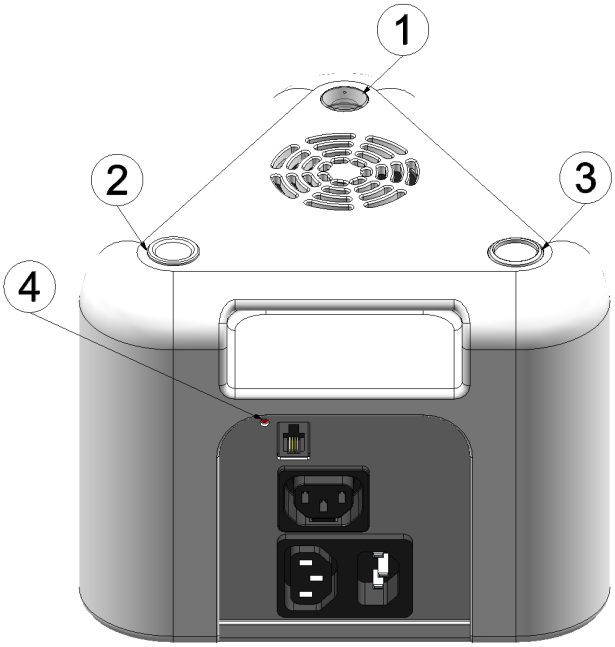
6. Check the "GSM level" on the measured value graphic (see "myDatanet Server Manual " 805002) of the myDatanetserver.

Chapter 9 User interfaces

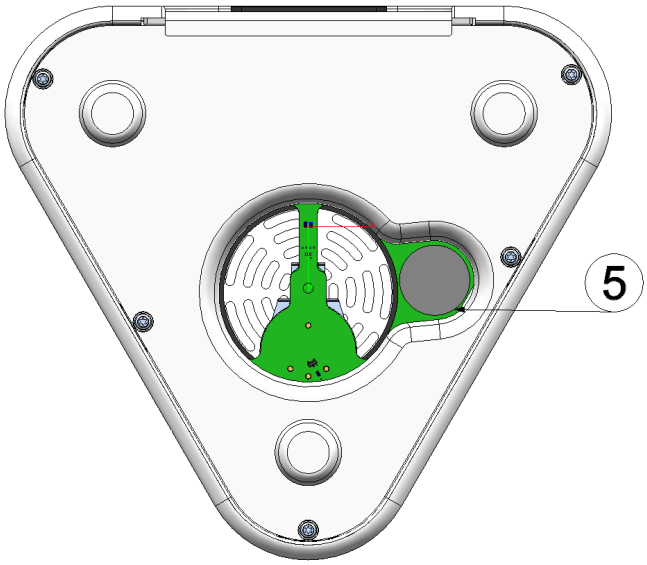
The configuration of the H2O2 gas sensor is carried out via the web interface on the myDatanet server (see "User interface on the myDatanet server" on page 34), which your responsible sales partner will provide to you.

9.1 User interface on the H2O2 gas sensor

9.1.1 Operating elements



Operating elements on the top and rear of the H2O2 gas sensor



Operating elements on the bottom of the H2O2 gas sensor

1 3-colour LED (operating state)	4 LED (connection status/fault codes)
2 Button	5 buzzer
3 i-Button connector	

9.1.1.1 3-colour LED (operating state)

The 3-colour LED on the top of the device indicates the current operating state. You can find a graphical representation of the operating states and the conditions for the switch to the operating states in the "Signalisation & operating states" chapter (see "Signalisation & operating states " on page 17).

Operating states in normal operation	LED	
	Colour	Ton, Toff
Off	off	---
Boot	blinking green	2 sec., 0.5 sec.
Ready	permanent green	---
Active/OK	flashing green	0.2 sec., 0.1 sec.
Active/warn	blinking orange	0.5 sec., 0.5 sec.
Active/alarm	blinking red	0.5 sec., 0,1 sec.

Operating states for fault	LED	
	Colour	Ton, Toff
Fault [1)]	continuous orange	---
Run Error [1)]	continuous orange	---
Danger	continuous red	---

[1)]The H2O2 gas sensor can only go into the "Fault" operating state during the booting procedure. The operating states "Fault" and "Run Error" can thus be clearly differentiated even with the same LED signalisation (see "Signalisation & operating states " on page 17).

9.1.1.2 Buttons

If the disinfection device is not connected to the H2O2 gas sensor , the H2O2 gas sensor must be manually informed of the beginning of a disinfection cycle via button press. The device must be in the "Ready" operating state in order to accept a button press. If the button is pressed, the device will switch to the "Active/ok" operating state in the same way as if it had automatically detected start of the disinfection cycle by means of the current consumption of the disinfection device.

You can find a graphical representation of the operating states and the conditions for the switch between the operating states in the "Signalisation & operating states" chapter (see "Signalisation & operating states " on page 17).

9.1.1.3 i-Button connector

If the H2O2 gas sensor is in the operating states "Active/ok", "Active/warn" or "Active/alarm", the running measurement cycle can be aborted by means of Identification key (201.304). The device subsequently switches to the "Ready" operating state and waits for the beginning of a disinfection cycle again.

CAUTION:
However, always check the H2O2 concentration before you enter a room in order to end the measurement cycle of the H2O2 gas sensor manually!

You can find a graphical representation of the operating states and the conditions for the switch between the operating states in the "Signalisation & operating states" chapter (see "Signalisation & operating states " on page 17).

9.1.1.4 LED (connection status/fault codes)

The LED is used for displaying the fault codes and the connection status. After switching from one operating state to the next, the LED, which displays the connection status and fault codes, switches to the extended

signalisation for 10 min. The connection establishment and an existing connection are only displayed in the extended signalisation mode. The fault codes are output every 3 seconds instead of every 30 seconds in extended signalisation mode.

Status/fault codes

Blink code	Description	Solution/cause
1x	Last connection OK	
2x	Last transmission faulty	Try again later
7x	Network barring/no matching provider	• Improve the antenna position [1)] • Check whether the device is located in the coverage area of a service provider that is supported by the integrated SIM chip (www.microtronics.com/footprint)
8x	No GSM network	• Try again later • Improve the antenna position [1)]
10x	No GPRS connection	Improve the antenna position [1)]
11x	No myDatanet-Server reachable	• Check whether port 51241 is enabled on the myDatanet-Server • Try again later
12x	Faulty SIM chip	Contact support

[1)]The H2O2 gas sensor is equipped with an internal antenna (see"Overview" on page 13). You can change the position of the device in the room or its alignment to improve the GSM reception.

Connection status

Status LED	Description
flickers	Connection establishment
lights up	GPRS connection established
blinks	Display of the fault code

9.1.1.5 Buzzer

The buzzer on the bottom of the device is used for acoustic signalisation of the operating states. The acoustic signalisation for a group of operating states can be switched using the input screen for the configuration of the site (see "Basic setting" on page 39).

You can find a graphical representation of the operating states and the conditions for the switch between the operating states in the "Signalisation & operating states" chapter (see "Signalisation & operating states " on page 17).

Operating states in normal operation	Buzzer	Ton, Toff	can be switched off
Off	off	---	---
Boot	single beep during hardware test	---	no
Ready	single beep	0.5 sec., ---	no
Active/OK	slow beep	0.5 sec., 2 sec.	no
Active/warn	fast beep	0.5sec., 0.5 sec.	yes
Active/alarm	continuous tone	---	yes

Operating states for fault	Buzzer	Ton, Toff	can be switched off
Fault	off	---	---
Run Error	off	---	---
Danger	continuous tone	---	yes

9.2 User interface on the myDatanet server

9.2.1 Site configuration

Note: *Several of the configuration fields in the following sub chapters may possibly be hidden depending on the respective user level. In this case, contact the myDatanet server administrator.*

Click on the name of the site in the list of sites to get to the input screen for configuring the site (see "myDatanet Server Manual " 805002).

9.2.1.1 Site

Customer
Specifies to which customer the site is assigned.

Name
Site designation (not relevant for the device or data assignment) [2-50 characters]

Device S/N
Serial number of the device that is linked to the site (device assignment!)

Application template
Name of the application template from which the site was created

Tags
List of tags that are already assigned to the site. This assignment can be cancelled by clicking on the cross next to the title of the tag. The input screen for assigning tags can be opened by clicking on the plus symbol.

9.2.1.2 Comments

Comments
Free comment field (is also displayed below the device type in the site list)

9.2.1.3 Measurement channels

9.2.1.3.1 Basis

H2O2

H2O2	Freely selectable channel designation for the measurement value of the H2O2 concentration (calibrated and with automatically adjusted 0 point)
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

H2O2 Cal.

H2O2 Cal.	Freely selectable channel designation for the measurement value of the H2O2 concentration (calibrated, no zero point reference)
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

H2O2 Raw.

H2O2 Raw.	Freely selectable channel designation for the raw measurement value of the H2O2 sensor
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

rH

rH	Freely selectable channel designation for the measurement value of the air humidity in the room
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

Temp

Temp	Freely selectable channel designation for the measurement value of the room temperature
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	Selection of the temperature unit which is used by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

Current

Current	Freely selectable channel designation for the measurement value of the current consumption of the disinfection device
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

Disinfection

Disinfection	Freely selectable channel designation for the measurement value of the state of the disinfection device (on/off)

Power

Power	Freely selectable channel designation for the measurement value of the state of the mains power (on/off)

Biowind

Biowind	Freely selectable channel designation for the measurement value of the switch state of the connection for the fan (on/off)

OP State

OFF	See "Signalisation & operating states " on page 17
BOOT	
READY	
ACTIVE OK	
ACTIVE WARN	
ACTIVE ALARM	
FAULT	
RUN ERROR	
DANGER	

Note: *There is no configuration for the measurement value "OP State". It is only visible when downloading the measurement data as tsv file and provides information about the operating state (see "Signalisation & operating states " on page 17) of the H2O2 gas sensor at the respective point in time.*

Abrasion

Abrasion	Freely selectable channel designation for the measurement value of the abrasion of the H2O2 sensor (see "Maintenance of the H2O2 sensors" on page 43)
Min	Defines the lower scale end of the pointer instruments
Max	Defines the upper scale end of the pointer instruments
Unit	String, which is used as measurement unit by all display elements of the server
Decimal places	Number of decimal places which are used by all display elements of the server

9.2.1.3.2 Alarms

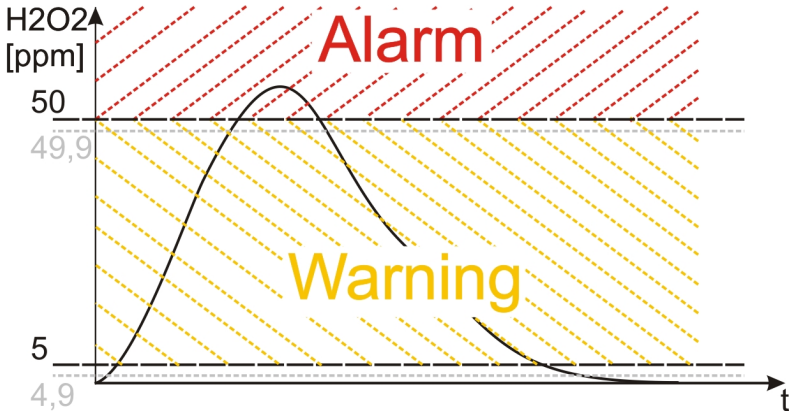
H2O2

Warning	If the measurement value increases to this level or above it, the "Active/warn" operating state is switched to.
Alarm	If the measurement value increases to this level or above it, the "Active/alarm" operating state is switched to.
Hyst	Hysteresis for the switch into the next lower "Active" operating state (e.g. Hyst = 0.1 ppm, Warning = 5 ppm, Alarm = 50 ppm, Hold = 60 sec.: Switch from "Active/alarm" to "Active/warn" if < 49.9 ppm for at least 60 sec. Switch from "Active/warn" to "Ready" if < 4.9 ppm for at least 60 sec.)
Hold	Observation period during which a limit value (Warning or Alarm) minus the Hyst must undershoot before the next lower "Active" operating state is switched to. (e.g. Hyst = 0.1 ppm, Warning = 5 ppm, Alarm = 50 ppm, Hold = 60 sec.: Switch from "Active/alarm" to "Active/warn" if < 49.9 ppm for at least 60 sec. Switch from "Active/warn" to "Ready" if < 4.9 ppm for at least 60 sec.)

Note:

Example for explaining the alarm setting:

Measurement channels ->Alarms	*Warning*	*5 ppm*
	Alarm	*50 ppm*
	Hyst	*0.1 ppm*
	Hold	*60 sec.*



If the H2O2 concentration rises to or above the value specified (5 ppm) under "Warning", the H2O2 gas sensor switches from the "Active/ok" operating state into the "Active/warn" operating state. If the concentration continues to rise above or over the value specified (50 ppm) under "Alarm", the H2O2 gas sensor switches from the operating state "Active/warn" to the operating state "Active/alarm". If the concentration subsequently falls below "Alarm"-"Hyst" (50 ppm - 0.1 ppm) and remains for at least "Hold" (60 sec.) below this value, the H2O2 gas sensor switches from the "Active/alarm" operating state to the "Active/warn" operating state. If the concentration falls further below "Warning" - "Hyst" (5 ppm -0.1 ppm) and remains for at least "Hold" (60 sec.) below this value, the H2O2 gas sensor switches from the "Active/warn" operating state to the "Ready" operating state and the disinfection cycle is thus ended for the H2O2 gas sensor .

9.2.1.4 Internal channels

9.2.1.4.1 Basis

Title battery	Freely selectable channel designation for the internal battery voltage	
	Unit	String, which is used as measurement unit by all display elements of the server
Title GSM level	Freely selectable channel designation for the GSM level	
	Unit	String, which is used as measurement unit by all display elements of the server
Title Int. temp	Freely selectable channel for the internal device temperature	
	Unit	Selection of the temperature unit which is used by all display elements of the server

9.2.1.5 Basic setting

Transmission cycle passive	Preferred transfer interval during the passive operating states "Off", "Boot", "Ready", "Fault" and "Run Error"	
Transmission cycle active	Transfer interval in the operating state "Active/ok", "Active/warn", "Active/alarm" and "Danger"	
Buzzer	Option for deactivating the buzzer for the operating states "Active/warn", "Active/alarm" and "Danger"	
Timeout Active	If the time is exceeded in the "Active/warn" state, then presumably the 0 point of the H2O2 sensor has shifted too much during the active time. The measurement of the timeout occurs as of the first crossing from "Active/ok" to "Active/warn", i.e. over the sum of all "Active/warn" and "Active/alarm" phases of a disinfection cycle. (see "Signalisation & operating states " on page 17)	
Timeout active OK	If this time is exceeded in the "Active/ok" state, then the disinfection device has not started up correctly (or has failed). (see "Signalisation & operating states " on page 17)	
Time zone	Regional setting (not relevant for raw measurement data since this is stored in the UTC)	
Daylight saving time	Configuration for automatic time adjustment	
	Standard	The configuration for the time adjustment is adopted from the global server setting (see "myDatanet Server Manual " 805002).
	off	Automatic time adjustment deactivated
	USA	Predefined setting for the American area
	EU	Predefined setting for the European area
Default report	Report, which is loaded into the map by clicking on the device link	

9.2.1.6 FTP export settings

Note: *This configuration section is only visible if the "FTP Agent Extended" licence for the myDatanet server has been enabled.*

FTP export profile	off	FTP export deactivated
	"Name of an FTP export profile"	List with the FTP export profiles that were created on the myDatanet server (for creating an FTP export profile, see "myDatanet Server Manual " 805002).
Settings of the selected profile	Shows an overview of the most important parameters of the selected FTP export profile	
FTP directory	Makes overwriting the standard directory of the selected FTP export profile possible [0-100 characters]	
Last export	Time stamp of the last FTP export	

9.2.2 Device configuration

Note: *Several of the configuration fields in the following sub chapters may possibly be hidden depending on the respective user level. In this case, contact the myDatanet server administrator.*

You can reach the input screen for configuring the device by clicking on the serial number in the site list (see "myDatanet Server Manual " 805002) or by clicking on the device name in the device name list (see "myDatanet Server Manual " 805002).

9.2.2.1 Comments

Comments

Free comment field (is also displayed below the site name in the measurement instrument list)

9.2.2.2 Instrument

Customer	Name of the customer to whom the measurement instrument is assigned
IMSI	IMSI of the used SIM chip or SIM card
Serial number	Serial number of the instrument
Instrument class	In order for an instrument to be able to be connected with a site, the instrument class of the site and the instrument must match.
Telephone number	Telephone number of the SIM card The control SMS messages (e.g. wake-up) are sent to this number. Format: +43555837465
Instrument flags	Additional instrument class information (for internal use)
Firmware version	Currently installed software version of the measurement controller
Modem version	Currently installed software version of the modem controller
OS version	OS version of the modem
Last connection establishment	in each case, the last timestamp of the affected operation
Last wake-up	
Last connection termination	
Last transfer error	
Last Aloha Connection [1)]	

Firmware update	off	Firmware update is deactivated
	on	As soon as a new version of the selected firmware type is available, this will be installed immediately.
	update even if tag is missing	Firmware is also transferred to the device if the device has not transferred the current firmware version to the server. (NOT RECOMMENDED!)
	allow downgrade	Facilitates the installation of an older firmware version than the one present on the device. (NOT RECOMMENDED!)
	once	Performs a firmware update one time. If no new firmware is available or the firmware was installed successfully, the firmware update is switched to "off" automatically.
Firmware type	Released	Only firmware versions whose internal test and field test were successful are installed (this nearly eliminates malfunctions).
	Release candidate	Only firmware versions whose internal test was successful successful are installed (malfunctions cannot be excluded).
	Beta release	Even firmware versions that have not passed all internal tests successfully are installed (malfunctions may occur).

[1)]The Aloha transmission mode is H2O2 gas sensor not supported.

9.2.2.3 GPRS

SIM tariff
Selected SIM tariff

Chapter 10 Maintenance

Important note: *To prevent any damage to the device, the work described in this section of the instructions must only be performed by qualified personnel.*

The device must be deenergised before any maintenance, cleaning and/or repair work.

10.1 General maintenance

- Inspect the H2O2 gas sensor regularly for mechanical damage.
- Check all cables for mechanical damage at regular intervals.
- Clean the H2O2 gas sensor with a soft, moist cloth. Use a mild cleaning agent, if necessary.

10.2 Fuse replacement



DANGER:
Risk of fire. An incorrect fuse can cause injuries, damages or emissions. The fuse is located inside the housing. The housing may only be opened by the manufacturer.

If you believe that the fuse of the H2O2 gas sensor is defective (see "Troubleshooting" on page 47), the device must be sent back in its original packaging to the manufacturer (see "Return" on page 24).

10.3 Maintenance of the H2O2 sensors

The H2O2 sensor of the H2O2 gas sensor is an electrochemical gas sensor which is used up over time. It must therefore be recalibrated at regular intervals (at the latest every 6 months or 100 cycles). The load through the gas (ppm/s), in addition to the number of measurement cycles and the running time since a last calibration is relevant for the abrasion of the H2O2 sensor. The "Abrasion" measurement value provides information about the degree of abrasion of the H2O2 sensor (see "Measurement channels" on page 35).

"Abrasion " measurement value

0 to 90%	OK
91 to 99%	A calibration will soon be due.
100 to 109%	Send in for calibration immediately!
110% and greater	The "H2O2" measurement value (see "Measurement channels" on page 35) is invalid and is replaced by the fault value "NaN" (interruption in the measurement value graphic or empty field in the download).

For the calibration, the H2O2 gas sensor must be sent back to the manufacturer in the original packaging (see "Return" on page 24). The maximum lifespan of the used H2O2 sensor is2 years, however, it may be shortened due to loads during operation. During the calibration process, the manufacturer will evaluate the abrasion of the sensor and inform the customer about the required replacement of the sensor, if necessary.

Chapter 11 Removal/disposal

Incorrect disposal can cause environmental hazards.

Dispose of the device components and packaging material in accordance with the locally valid environmental regulations for electronic products.

- Disconnect any charging voltage that has been used.
- Disconnect any connected cables using a suitable tool.



Logo to the EU WEEE Directive

This symbol indicates that the requirements of Directive 2012/19/EU regarding the scrap disposal of waste from electric and electronic equipment must be observed. The device includes a battery or rechargeable battery (lithium) that must be disposed of separately.

Chapter 12 Troubleshooting

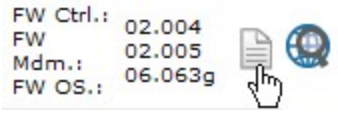
12.1 General problems

Problem	Cause/solution
Device shows no reaction (both LEDs always off after PowerOn, no signal emitted by buzzer)	• Check the cable connections (see "Device connection and supply" on page 26) • Defective fuse. Return the device to the manufacturer for replacement of the fuse (see "Return" on page 24).
Communication problems	• Evaluate the flashing code of the LED, which indicates the connection status and fault codes (see "LED (connection status/fault codes)" on page 32). • Load the device log from the myDatanet-Server and use DeviceConfig for the evaluation (see "Evaluating the device log" on page 48).
Not all or no data is available on the server	• An interruption of the connection occurred during the transmission which will be indicated by a timeout entry in the connection list (see "myDatanet Server Manual " 805002). Solution: Trigger the transmission manually by briefly disconnecting the H2O2 gas sensor from the mains power and reconnecting it immediately or wait for the next transmission cycle. • The assignment of device and site is not correct (see"Site" on page 34).
H2OS measurement value is not plausible	Check the wear of the sensor using the "Abrasion" measurement value (see "Maintenance of the H2O2 sensors" on page 43) .
Device immediately switches from the "Boot" operating state to the "Fault" operating state	The H2O2 gas sensor has detected a problem during the self test. Solution: Disconnect the device from the mains supply and retry. If the error continues to occur, send the device back to the manufacturer (see "Return" on page 24).
Device switches to the "Run Error" operating state	The H2O2 concentration has not increased above the "Warning" or "Alarm" threshold (see "Measurement channels" on page 35) within the "Timeout Active Ok" time (see "Basic setting" on page 39) after the start of the monitoring of the disinfection cycle. Possible causes: • No H2O2 concentration is actually present (check the disinfection device) • H2O2 sensor used-up ("Abrasion" measurement value, see "Maintenance of the H2O2 sensors" on page 43, check) • H2O2 sensor is damaged
Device switches to the "Danger" operating state	The "Ready" operating state (see"Signalisation & operating states " on page 17) was not switched to within the "Timeout Active" time (see "Basic setting" on page 39) after the start of the monitoring of the disinfection cycle. Possible causes: • Reduction of the H2O2 concentration actually takes longer than the time entered under "Timeout Active". • H2O2 sensor used-up ("Abrasion" measurement value, see "Maintenance of the H2O2 sensors" on page 43, check) • H2O2 sensor is damaged

12.2 Evaluating the device log

12.2.1 Evaluating the device log on the myDatanet server

The last 300 log entries on the myDatanet server can be called up via the button shown below that is located in the measurement device list. As the log entries are sent to the server in the transmission cycle in the same way as the measurement data, only the log entries up to the last server connection are available.



The manual for the server ("myDatanet Server Manual " 805002) includes a detailed description of the evaluation of the device log on the myDatanet server.

Chapter 13 Replacement parts and accessories

13.1 Cable

Description	Quantity	Order no.
Remote Cable	1	201.301
Power Cable 5m	1	201.302
Machine cable 5m	1	201.303

13.2 Other accessories

Description	Quantity	Order no.
Remote Display	1	201.100
Identification key	1	201.304
Transport Case	1	201.305

Chapter 14 Document history

Rev.	Date	Changes
03	02.11.2018	**Chapter "Declaration of conformity" on page 7** *Declaration of Conformity updated* **Chapter "Safety instructions" on page 11** *Safety instructions revised* **Chapter "Intended use" on page 13** *Information on the manufacturer's liability disclaimer regarding the loss of data has been updated.* **Chapter "Obligation of the operator" on page 16** *Reference to the guideline about the minimum health and safety requirements for use of work equipment by workers at work, has been updated* **Chapter "Site" on page 34** *Explanation of the "Application template" parameter added* *Explanation for assigning tags added* **Chapter "FTP export settings" on page 39** *Explanation of the parameter for entering the time stamp of the last FTP export added* **Chapter "Removal/disposal" on page 45** *Chapter revised*

Chapter 15 Contact information

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Certified by TÜV AUSTRIA: EN ISO 9001:2015, EN ISO 14001:2015, EN ISO 50001:2011 for myDatanet | TÜV SÜD: ATEX Directive 2014/34/EU

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