

Quick Guide

myDatasensH2S

 **Bluetooth**
SMART



3G

NEU!



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H2S
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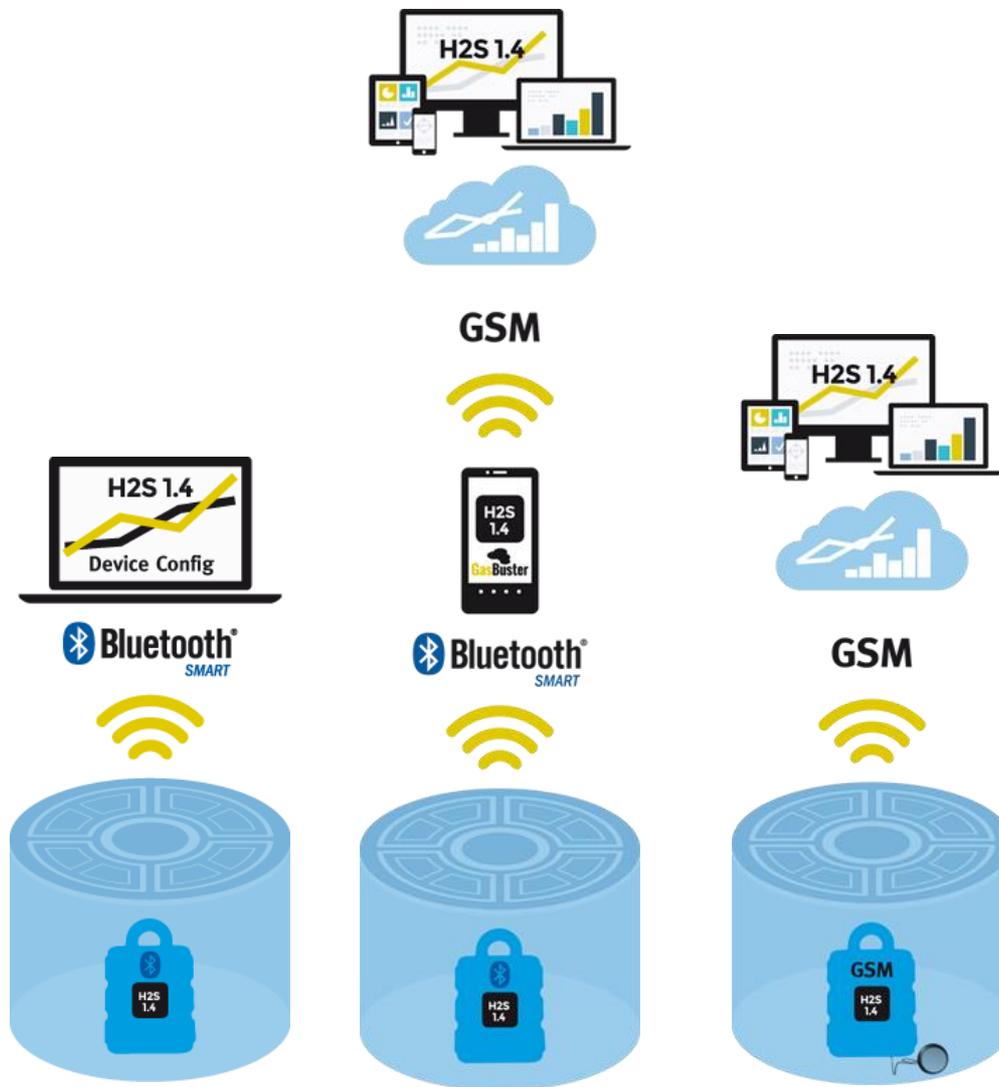
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1 Introduction

The myDatasensH2S is used to record and transmit H2S concentrations in sewers. The system consists of a BLE Gateway, an H2S sensor and the central cloud system.



left - BLE option, middle - Smartphone App, right - GSM option

Depending on the device options the data is transmitted via BLE and Laptop (internet available), via Smartphone App or directly via GSM to the cloud (see above). The cloud system enables the access to the measured data as well as the data processing for e.g. pump control to reduce H2S concentration.

Option A “Data transmission via GSM“

The data is transmitted completely automatically between myDatasensH2S and cloud server via GSM (by default every 4h).

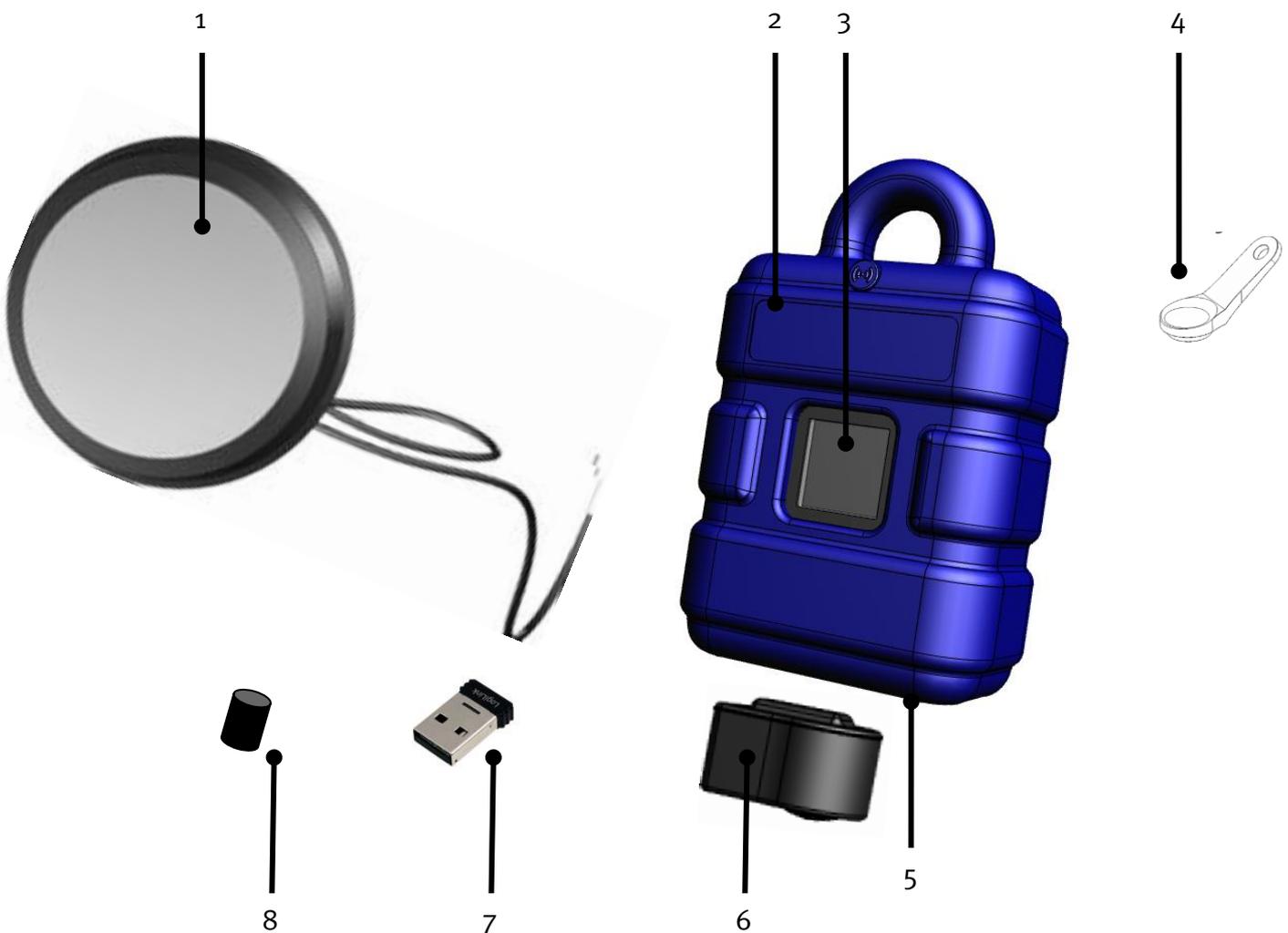
Option B „ Data transmission via BLE“

The data recorded are transmitted between the myDatasensH2S and a local personal computer via BLE (BLE stick). The visualisation is realised by the included software “DeviceConfig”. If required, data can also be sent from the personal computer to the cloud by using the pc’s internet connection.

Smartphone-App „GasBuster“

As an option data can also be transmitted to the server via smart phone App (BLE enabled).

1.1 Overview

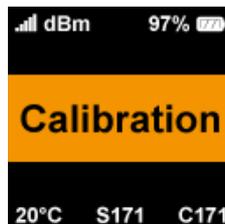


1. Antenna (Option A)
2. Protective armour
3. Display
4. Magnet

5. Antenna connector
6. Sensor
7. BLE stick
8. Plug for antenna connector

2 Calibration and Maintenance

The H₂S measurement system uses electrochemical sensors to determine the concentration of gas. To determine valid gas values the sensor has to be calibrated every 6 months. For this the sensor has to be sent to the manufacturer or a service partner. The display of the device indicates the exceedance of the calibration interval or the remaining days until the next calibration in the bottom right corner of the display (see below).



2.1 Replacement of the sensor

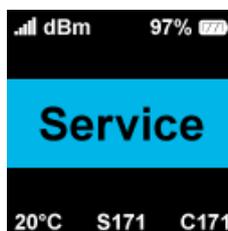
The innovative H₂S measurement system by Microtronics enables the replacement of the sensor without opening the device and without data gaps.

To replace the sensor only pull the current sensor out of its magnetic holding. The device switches automatically to transport mode. As soon as the new sensor is inserted the device connects automatically to the gateway.

Note: When pulling or inserting the sensor a connection (Option A) to the server is established. All data are transmitted.

2.2 Maintenance

The H₂S measurement system is battery powered and has to be sent to the manufacturer for maintenance and battery replacement at least after 2 years. The display of the device indicates the exceedance of the maintenance interval or the remaining days until the next maintenance in the bottom of the display (see display below "S..." in the middle).



3 Transport and storage mode

The transport mode is used to save the battery during transport and storage:

Deactivating the device (transport mode): When the sensor is removed the device automatically switches to the transport mode. The data transmission as well as the measurement is deactivated and thus the capacity of the battery is conserved.

Activation of the device (normal operating mode): When inserting the sensor the device automatically switches to the operating mode and thus the transmitting via GSM or BLE respectively the measurement is activated.

The myDatasensH2S is delivered in transport mode (measurement and transmission “off”) and should always be stored in this mode.

Note: When pulling or inserting the sensor a connection (Option A) to the server is established. Data is transmitted.

4 Installation

4.1 Option A – data transmission via GSM

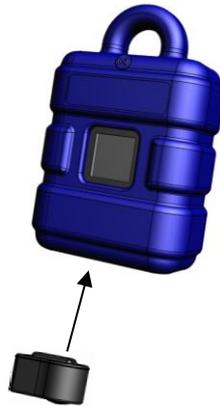
4.1.1 Preparation

The following steps should be done in the office before moving the device to the place of use. Folgende

1. Create, if necessary, a customer on the server (e.g. cloud).
2. Create a measurement site for this customer.
3. Configure the created measurement site according to you requirements e.g. setting of the recording and measurement intervals in “Site configuration”.
4. Connect the antenna.



5. Insert the sensor in the designated opening in the gateway. The device switches from the transport mode to the operating mode automatically.



The first connection to the server is established. The display on the device is activated and indicates the following two views alternately:

- a) BLE connection between the sensor and the gateway is establishing:



- b) If the BLE connection was successful, a connection into the GSM network is established:



- c) Data is synchronised with the server (data transmission):



6. The device is now indicated in the server pool. Shift the myDatasensH2S from the pool to the desired customer.
7. Link the myDatasensH2S to the created site.

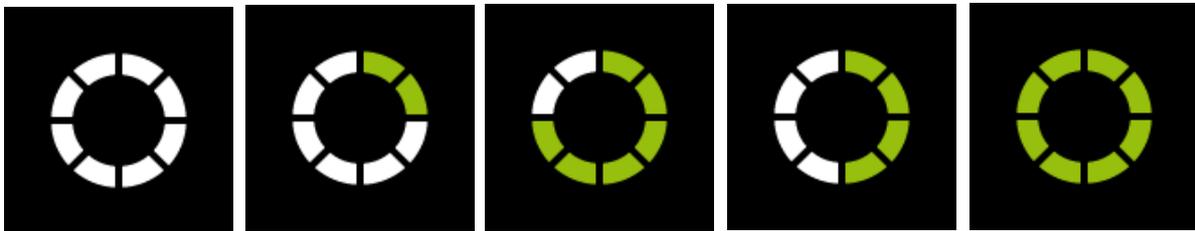
4.1.2 Installation in the sewer

The following tasks are executed directly at the place of use of the device.

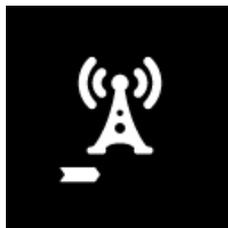
Before you exit the sewer, you should ensure that the device is able to get a GPRS-connection on its final place of use when the manhole cover is closed. You can execute this test by using the “setup mode”.

4.1.3 Setup mode

1. Trigger setup mode by putting the magnet to the solenoid switch for 3s.

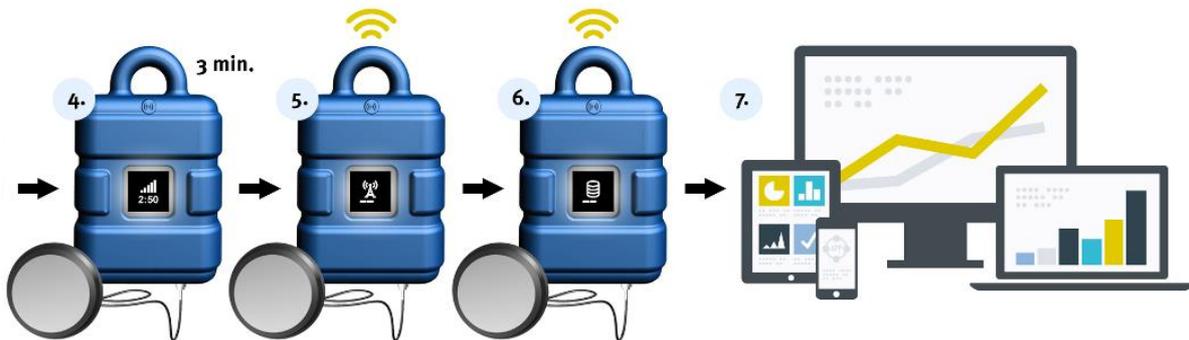


2. Bring the device and the antenna in the final mounting position (manhole cover still open).
3. A connection to the server is establishing. Wait until the device indicates the symbol for connection establishing.



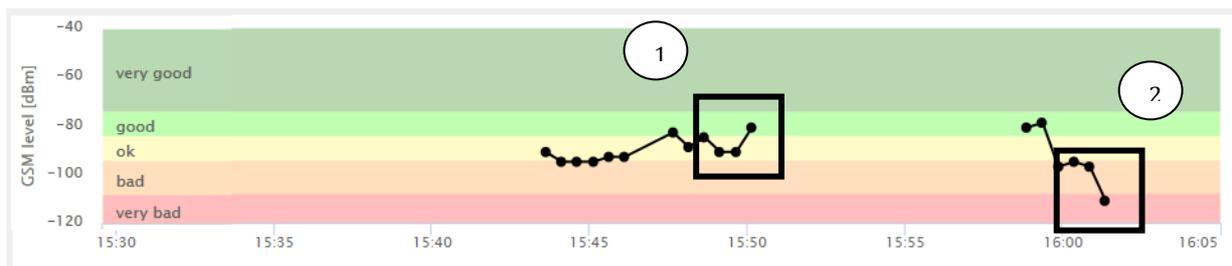
4. Close the manhole cover.
5. Open the tab “Setup data” at the site configuration.

Phase 1: For later evaluation of the connection quality in the sewer the GSM field strength is recorded for 3 min (see graph phase 1/2 data recording x min) -> see image below step 4.



After the recording of the GSM field strength in the sewer at closed manhole cover the connection to the server is re-established.

If the connection was established successfully the setup is ok. The graph shows values in the area coloured in yellow till dark green (see graph below).



If the connection was successful but the recorded GSM field strength is not ok, repeat the set up mode with changed antenna position.

Phase 2: If no GSM connection can be established (after expiration of a time out of 5 min), the setup mode failed. After improving the antenna position another try is possible.

4.2 Installation Option B – BLE

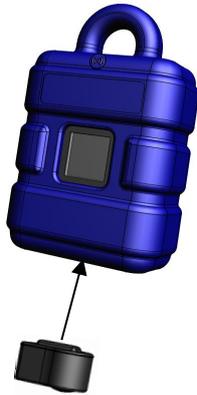
4.2.1 Preparation

For the installation of the device as a local H₂S gateway without automatic transmission of the measurement data via GSM no preparations are necessary.

If a data transmission from PC to cloud is intended, the following stapes are recommended:

4.2.1.1 Preparations for intended data transmission via PC to the cloud

1. If necessary, create a client on the server (e.g. cloud).
2. Create a measurement site for this customer.
3. Configure the created measurement site according to your requirements e.g. setting of the recording and measurement intervals in "Site configuration".
4. Insert the sensor in the designated opening in the gateway.



The transport lock is deactivated and the display is on.

8. Install as indicated in 5.2.1 the software „DeviceConfig“ and trigger a synchronisation with the platform. The device is thus installed on the desired server.
9. Shift the myDatasensH2S from the pool to the desired customer (details see server manual).
10. Link the myDatasensH2S to the created measurement site (details see server manual).
11. Trigger another synchronisation via PC and DeviceConfig. This is necessary to assign the myDatasensH2S to the measuring site. Otherwise no data is recorded until the first synchronisation.

4.3 Putting into operation in the sewer

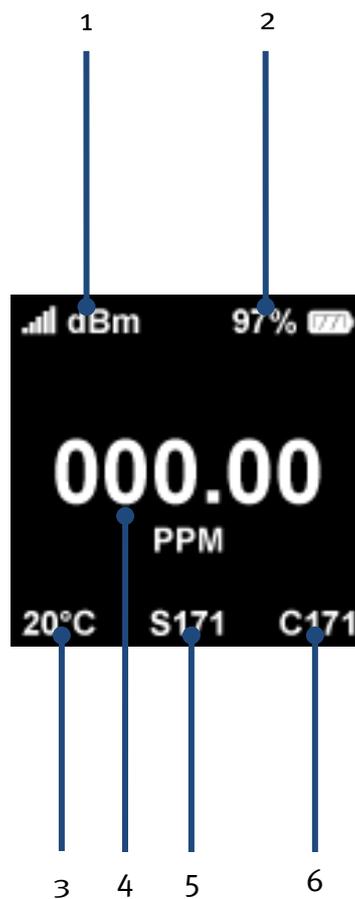
Install the myDatasensH2S in the final mounting position and insert the sensor.

5 Operation

5.1 Option A – data transmission via GSM

In operation the device measures the concentration of the H₂S gas in the set measurement interval (default: 1 min) and transmits the data in the set transmission cycle (default: 4 min) via GSM.

The display on the device shows:



- | | |
|-------------------------------------------|------------------------------------------|
| 1. Display of the last GSM field strength | 4. Last gas measurement value |
| 2. Current state of charge (SOC) | 5. Remaining days until next maintenance |
| 3. Sensor temperature (°C) | 6. Remaining days until next calibration |

5.1.1 Reports

To access the measurement values the standard report can be used. It is opened by choosing the symbol indicated below:



5.2 Option B – local data transmission via BLE

In operation the device measures the concentration of the H₂S gas in the set measurement interval (default: 1 min). The measurement values are stored locally on the device. To read out the measurement values, the software “DeviceConfig” is necessary. The measurement values can also be transmitted to the server via smart phone app.

Download and installation see DeviceConfig:

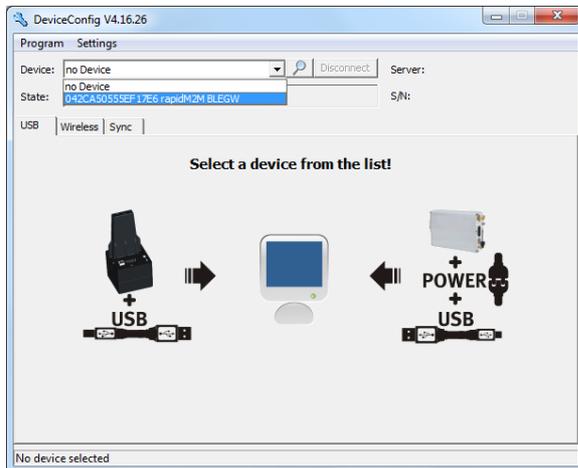
<https://www.microtronics.at/en/service/deviceconfig.html>

5.2.1 Reading the measurement values via DeviceConfig

After successful installation of the DeviceConfig Software (BLE stick is automatically installed at the same time) a connection between gateway and PC can be established.

“Selecting of the gateway“

If a gateway is in reach of the BLE stick, it is listed with its device serial number. The serial number of a device can be found on its back side.



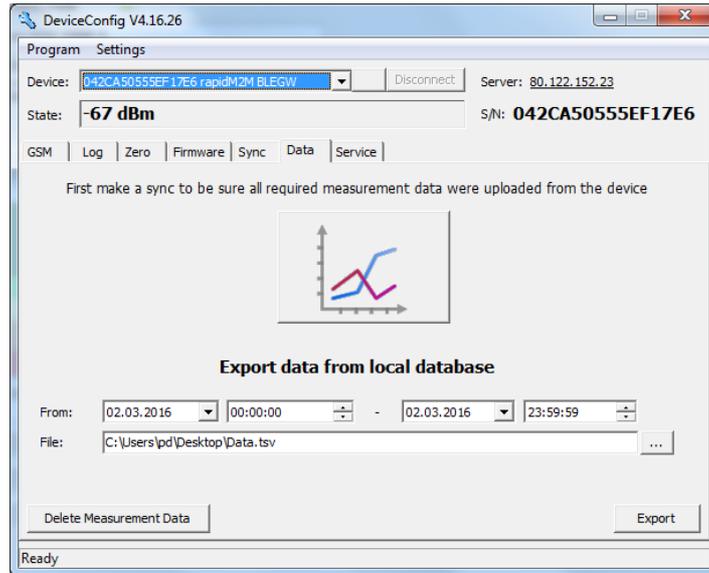
“Transmitting of the data from the device to the pc (or server)“

When selecting the device, a tab named “Sync” appears. By clicking on the  symbol a synchronisation of the data to the PC is triggered. Via the internet connection of the PC also a synchronisation to the server is made. The data is transmitted to the previously created measurement site (see o).



This information can be accessed to at the server.

View of the Data in the DeviceConfig



By clicking on the icon  synchronized data can be viewed locally in the DeviceConfig.

Data export

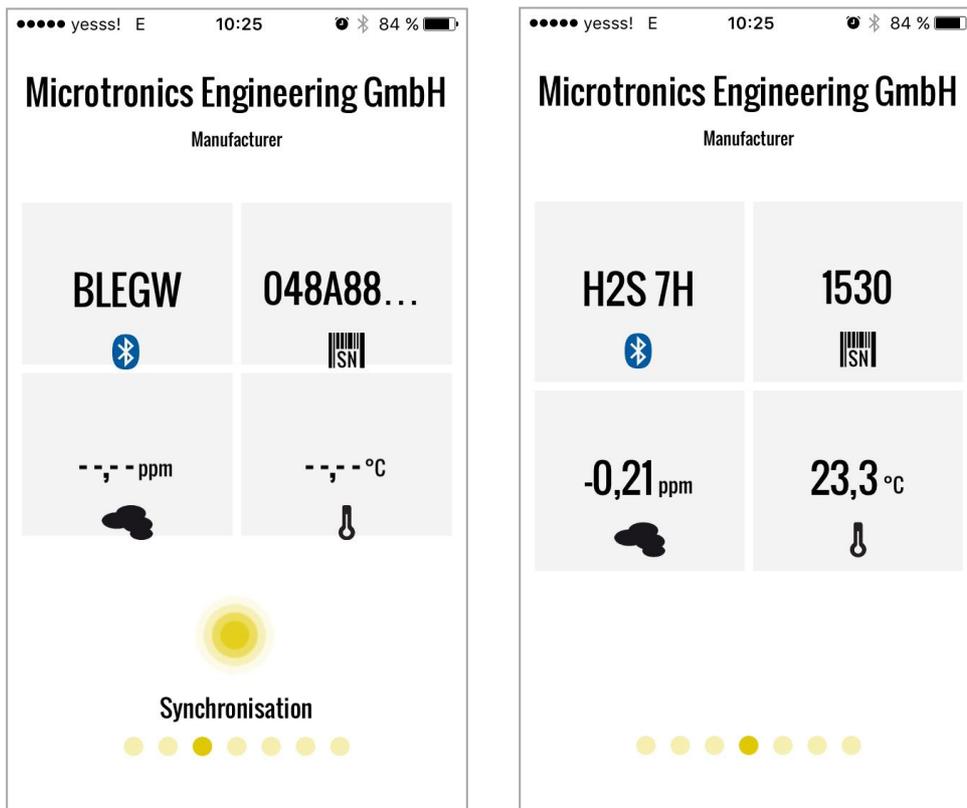
To view the data in an external programme, data can be exported. Therefore the time range and the saving location can be selected. The export is started by clicking on “export”.

6 GasBuster App

Besides the possibility to synchronize the data via PC software (DeviceConfig) to the server, there is also the possibility to use the smart phone for this.

6.1 Selection of the device

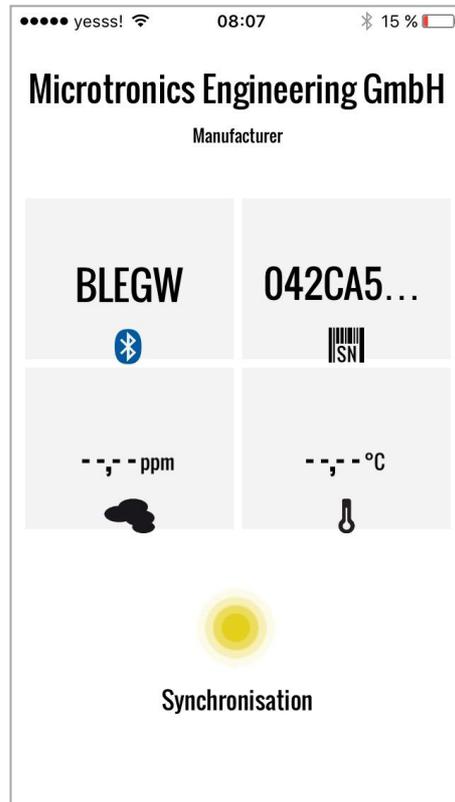
Via the device selection the visible BLE nodes can be selected by wiping. A difference is made between BLE gateway (left image) and H2S sensor (right image).



6.2 Synchronization via App

The information locally stored on the device can be transmitted to the server directly via App. When selecting a device in the App a “Synchronization” button appears. The synchronization starts when pushing the button.

Therefore a measurement site has already to exist on the server.



6.3 Download

The smart phone app named „GasBuster“ can be downloaded via GooglePlay oder AppStore (Apple).

7 User interfaces

7.1 Solenoid switch

To use the solenoid switch the magnet delivered with the device is necessary. The solenoid switch (see overview No. 4) can also be used as trigger for several processes:

7.1.1 „Short staying – for max. 2s“

The display on the device is activated for 20s.

7.1.2 „Staying at least for 3s“

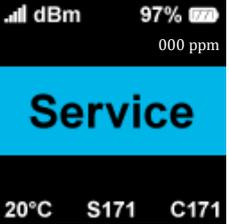
If you put the magnet to the solenoid switch the display is activated. The display shows a circle and fills it within these 3s. When the circle is filled, the “setup mode” is triggered (see 4.1.3).



7.2 Display

The display is activated for 20s by touching the solenoid switch. The following views are possible:

	<p>Display state in transport mode, no sensor is inserted</p>
	<p>Display state in normal operating mode. Display of information as indicated in 5.1</p>
	<p>Display state at BLE connection establishment between sensor and gateway</p>

			Display state at connection establishment to the mobile network
			Running data synchronisation with the server
			Display state in set up mode during connection establishment (see 4.1.2)
			Display state in setup mode during the GSM measurement (see 4.1.2)
			Display state when calibration cycle is exceeded
			Display state at errors E002 ... last connection failed E003 ... last measurement failed <ul style="list-style-type: none"> • BLE Pairing faulty • Sensor battery discharged (SensorFlag set)
			Display state when service cycle is exceeded

8 Contact information

Support and Service

Microtronics Engineering GmbH
Hauptstrasse 7
3244 Ruprechtshofen
Tel.: +43 2756 77 180-23

E-Mail: support@microtronics.at
www.microtronics.at