Operating manual D011-11009200C05

Valid from:

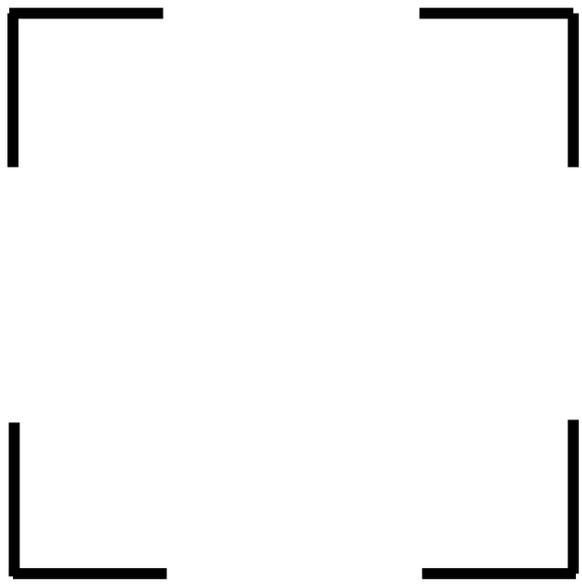
- **Firmware version: 02v009**
- **Server version: ---**
- **Hardware version: ---**



Microtronics

Quick start guide

For quick instructions please scan QR-code or type link:



This operating manual is an abridged version. The information contained herein applies to all devices based on the hardware platform "D011-11009200C05 ". The complete documentation for your device is provided in the online manual. It can be accessed via the QR code or the link above.

Chapter 1 Table of contents

Cover **1**
Quick Start Guide **3**
Chapter 1 Table of contents **5**
Chapter 2 Declaration of conformity **7**
Chapter 3 Ex certification **9**
Chapter 4 Specifications **11**
Chapter 5 General specifications **13**
5.1 Translation 13
5.2 Copyright 13
5.3 General descriptive names 13
5.4 Ex protection 14
5.5 Safety instructions 15
5.5.1 Use of the hazard warnings 15
5.5.2 Safety symbols on the device 15
5.5.3 General safety instructions 16
5.5.4 Specific safety instructions 16
5.5.5 Safety and preventative measures for handling devices with mobile network modems 16
5.5.5.1 Safety and precautionary measures for devices with mobile network modem 17
5.5.5.2 Safety measures for installing the antenna 17
5.5.6 Safety and precautionary measures when entering confined spaces and containers 17
5.6 Overview 18
5.6.1 Block diagram 19
5.7 Limitations of use 19
5.7.1 Intended use 20
5.7.2 Type of use 20
5.7.3 Field of application 20
5.7.4 Unauthorised use 20
5.8 General product information 21
5.9 Device labelling 21
5.10 Installation of spare and wear parts 22
5.11 Storage of the product 22
5.12 Warranty 22
5.13 Disclaimer 23
5.14 Obligation of the operator 23

5.15 Personnel requirements ... 24
Chapter 6 Storage, delivery and transport ... 25
6.1 Inspection of incoming deliveries ... 25
6.2 Storage ... 25
6.3 Transport ... 25
Chapter 7 Installation ... 27
7.1 Dimensions ... 27
7.2 Installing the D011-11009200C05 ... 28
7.2.1 Suspended installation ... 29
7.2.2 Wall mounting ... 30
7.3 Electrical installation ... 30
7.3.1 Connecting the mobile network antenna ... 30
7.3.1.1 Optimum antenna positioning for assembly in a shaft ... 31
7.3.1.1.1 Typical influences on the signal quality ... 31
7.3.1.1.2 Possibilities for improving the signal quality ... 31
7.3.2 Technical details about the local radio interface ... 31
Chapter 8 Operating elements ... 33
8.1 Reed switch ... 33
8.2 Display ... 34
Chapter 9 Maintenance ... 35
9.1 General maintenance ... 35
9.2 Maintenance of the D011-11009200C05 ... 35
9.3 Services ... 35
Chapter 10 Repair & return ... 37
Chapter 11 Removal & disposal ... 39
Chapter 12 Contact information ... 41

Chapter 2 Declaration of conformity

EU-Konformitätserklärung

EU Declaration of Conformity / Déclaration de conformité UE

Type: D011-11609200C05
Type code :
Type:

Microtronics

Hersteller: **Microtronics Engineering GmbH**
Manufacturer : Hauptstrasse 7
Fabricant: A-3244 Ruprechtshofen

Das bezeichnete Produkt stimmt mit den folgenden Europäischen Richtlinien überein. Eine oder mehrere der in der zugehörigen Baumusterprüfbescheinigung SIQ 25 ATEX 014 X genannten Normen wurden durch neue Ausgaben ersetzt. Der Hersteller erklärt für das vorstehend genannte Produkt auch die Übereinstimmung mit den Anforderungen der neuen Normenausgaben."
The designated product is in conformity with the following european directives. One or more of the associated listed in the Type Examination Certificate SIQ 25 ATEX 014 X standards have been replaced by new editions. The manufacturer for the above product also compliance with the requirements of the new standard editions.
Le produit décrit est conforme aux directives européennes suivantes. Une ou plusieurs des normes énumérées dans l'attestation de type concernant SIQ 25 ATEX 014 X étaient replacées par des nouvelles éditions. Le producteur déclare pour le produit décrit ci-dessus la conformité aux exigences des nouvelles éditions des normes.

		Europäische Norm	
(2014/30/EU)	**EMC Directive**		
		EN61326-1	
(2014/35/EU)	**LVD Directive**		
		EN61010-1	
(2014/53/EU)	**RED Directive**		
	Safety & Health 3.1a	EN62368-1 EN62368-1+A11:2017 EN62311	
	EMC 3.1b	EN301489-1 V2.2.3 EN301489-19 V2.2.1 EN301489-52 V1.1.0 EN301489-1 V2.1.1 EN301489-17 V3.2.4	
	Radio spectrum efficiency 3.2	EN301908-1 V15.2.1 EN301908-13 V13.2.1 EN303413 V1.2.1 EN300328 V2.2.2	
	Cybersecurity 3.3	EN18031-1	
(2014/34/EU)	**ATEX Directive**		
		EN IEC 60079-0 EN 60079-11	
(2015/863/EU)	**RoHS Directive**		
	Prevention 4.1	EN IEC 63000	
	Kennzeichnung/ Markings/ Marquage CE 0123 Ex II 2G Ex ib IIB T3 Gb		

Klaus Potzmader

Klaus Potzmader, Director Product
Unterschrift
name and signature of authorised person
Nom et signature de la personne autorisée

Stefan Pfeffer, Managing Director Finance
Unterschrift
name and signature of authorised person
Nom et signature de la personne autorisée

Martin Mayer, General Managing Director
Unterschrift
name and signature of authorised person
Nom et signature de la personne autorisée

A. Zuser

Andreas Zuser , Ex-Schutzbeauftragter
Unterschrift
name and signature of authorised person
Nom et signature de la personne autorisée

Ruprechtshofen, den 15.07.2025
Ort und Datum der Ausstellung
Place and date of issue
Lieu et date d'établissement

Chapter 3 Ex certification

(1) **EU-TYPE EXAMINATION CERTIFICATE**

(2) Product Intended for use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

SIQ 25 ATEX 014 X **Issue: 0**

(4) Product: Rugged GW closed bottom, type: D011-x1***2***05

(5) Manufacturer: Microtronics Engineering GmbH

(6) Address: Hauptstrasse 7, 3244 Ruprechtshofen, Austria

(7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) SIQ Ljubljana, Notified body number 1304 in accordance with Article 17 and Article 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive. Certification body is not accredited for notification purposes.

The examination and test results are recorded in the confidential test report TEx014/25.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 + AC:2020-02 **EN 60079-11:2012**

Where additional criteria beyond those given here have been used, they are listed at item (18) in the schedule to this certificate.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

Ex II 2 G Ex ib IIB T3 Gb

Certification body Ljubljana, 9 January 2025

Matej Žontar

Page 1/4

The EU-Type Examination Certificate is valid only if signed. The certificate may be reproduced only in full and without changes. Any extracts and changes shall be approved by SIQ Ljubljana.

SIQ Ljubljana is accredited by Slovenian Accreditation with accreditation number CP-001 in the field of certification of products, processes and services (SIST EN ISO/IEC 17065).

SIQ Ljubljana, Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, +386 1 4778 221, ex@siq.si

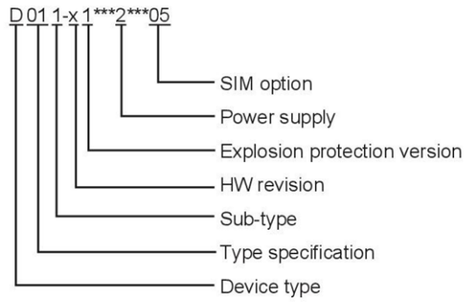
(13) **SCHEDULE**

(14) **EU-Type Examination Certificate Number SIQ 25 ATEX 014 X, Issue: 0**

(15) Description of Product

Rugged GW closed bottom, type: D011-x1***2***05, is a data logger for recording and transferring signals via wireless network. Data from external devices, e.g. sensor, is received via Local radio connection. It is designed in type of protection intrinsic safety 'ib'. Power is assured by internal batteries which are not intended to be replaced by user. Enclosure is made from plastic material with plastic protective armor. Unit has an external connector for connection of the antenna.

Type key:



An * could be any character from 0 to 9 or from A to Z and has no impact on hardware and explosion protection.

A "x" defines the revision of hardware that is placed in device and related mobile network protocol.

For details see User manual.

Specifications:

Ambient temperature range:	From -20°C to +50°C
Data transmission:	- Local radio connection 2.4 GHz: Range: 20 m (depending on the environmental conditions) Transmission rate: 120 data records/sec. - LTE-M/NB-IoT (World): M1: LTE B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B66 NB1/NB2: LTE B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66

(16) Test Report

TEx014/25 dated 9 January 2025.

The EU-Type Examination Certificate is valid only if signed. The certificate may be reproduced only in full and without changes. Any extracts and changes shall be approved by SIQ Ljubljana.

SIQ Ljubljana, Mašera-Spasićeva ulica 10, SI-1000 Ljubljana, +386 1 4778 221, ex@siq.si

Chapter 4 Specifications

Voltage supply	Battery: 2 x Li-SOCl2 cells with a total of 25,74 Ah
Housing	Material: Noryl GTX 973 / PC (housing/cover) Weight: 699 g Dimensions (WHD): 106 x 169 x 61 mm (with protective armour) Degree of protection: IP66 / IP68 / IP69; applicable for IP68: • 105 days at an immersion depth of 1 m • 35 days at an immersion depth of 4 m
Ex certification	 II 2G Ex ib IIB T3 Gb
Operating temperature	-20...+50 °C
Air humidity	15...90 % RH non-condensing
Storage and transport temperature	-20...+70 °C
Remote measurement channels	4 x sensor module (connected via local radio connection) The sensor module is not included in the standard scope of supply. Specifications of the senor module are provided in the relevant user manual.
Display	1,5" OLED display with a resolution of 128 x 128 pixels and the ability to display 262.144 different colours
Operation	Reed switch
Antenna connector	FME-M
Data memory	3 MB internal flash memory.
Data transmission	Local radio connection: Range: up to 20 m [1)] Transmission rate: 120 data records/sec. LTE-M/NB-IoT modem (world): M1: LTE B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B66 NB1/NB2: LTE B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66
SIM	Integrated SIM chip
Battery life	up to 10 years at 10 sec. measurement interval and 12 h transmission cycle

[1)] Depending on ambient and structural conditions

Chapter 5 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.

Tip: *The specifications in this manual are valid as of the versions listed on the front page.*

5.1 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.

5.2 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.

5.3 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.

5.4 Ex protection

The battery-powered, stationary D011-11009200C05 is designed for use in areas with a zone 1 explosive atmosphere.

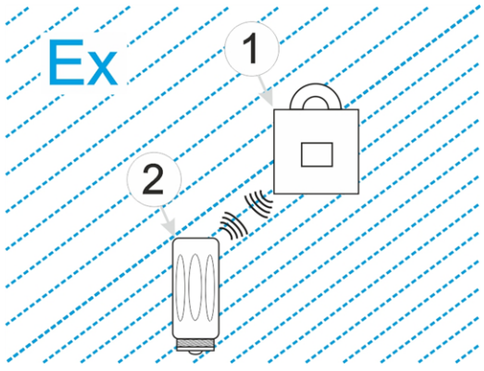
The following conditions must be observed:

- Only the manufacturer is permitted to open the housing to carry out maintenance work, which must only be completed outside the Ex area.
- Only the manufacturer's original spare parts must be used.
- The battery must only be replaced with certified identical products.
- Possible danger of electrostatic discharge build-up - clean the device with a moist or electrostatically dissipative cloth.
- A mounting distance of min. 50 mm must be maintained on all sides to prevent any impurities.
- The device must be protected from UV radiation.

II 2G Ex ib IIB T3 Gb

Important: *The Ex approval is only valid if the corresponding marking is provided on the type plate of the D011-11009200C05 .*

Important: *The certificates of conformity and any relevant test certificates from the respective authorities must be carefully observed during installation and commissioning.*



1 D011-11009200C05	**2** Sensor module approved for Ex zone 1

5.5 Safety instructions

For the connection, commissioning and operation of the D011-11009200C05 , 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. Do not make any changes to the measurement system under any circumstances.

> ***Important:*** *The manufacturer's products that are designed for use outdoors include extensive protection against penetrating moisture and dust. It is the responsibility of the operator to comply with local safety regulations.*

5.5.1 Use of the hazard warnings

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

Attention: 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: *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.*

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

5.5.2 Safety symbols on the device

	Devices marked with this symbol must be disposed of in accordance with the requirements of Directive 2012/19/EU on waste electrical and electronic equipment.
	This symbol on a device indicates the location of the earth connection.
	This symbol on a device indicates the location of a fuse or current limiting circuit.

5.5.3 General safety instructions

- This manual is intended to be used by qualified personnel (see "Personnel requirements" on page 24). Read this manual thoroughly before unpacking, setting up or operating the device..
- If you encounter difficulties in understanding the information contained in this manual (or parts thereof), please contact the manufacturer or authorised distributors (see "Contact information" on page 41).
- Keep this manual on hand so that you can refer to it whenever you need information.
- Before installation or commissioning, ensure that the device is in good condition. For this purpose, check for visible defects on all important components. Pay particular attention to fastenings, connections, cable connections, seals, moving parts (e.g. hinges or joints), battery packs, power supply units, etc., if present.
- If defects are found that jeopardise operational safety, all further work must be stopped immediately. This applies regardless of whether the defects are found before installation or commissioning, or during installation, commissioning or ongoing operation.
- Do not attempt to repair the device yourself, either mechanically or electrically. In the event of damage, return the device to the manufacturer in its original packaging (see "Repair & return" on page 37).
- The device must not be disposed of with household waste under any circumstances. Information on correct disposal can be found in the chapter "Removal & disposal" on page 39.

5.5.4 Specific safety instructions



Attention: Never use this device in areas where the use of wireless equipment is prohibited. The device must not be used in hospitals and/or in the vicinity of medical equipment, such as heart pacemakers or hearing aids, as their functionality could be compromised by the mobile network modem contained in the device.

5.5.5 Safety and preventative measures for handling devices with mobile network modems

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



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

5.5.5.1 Safety and precautionary measures for devices with mobile network modem

- This device must only be installed by a trained technician who applies the recognised installation practices for a radio frequency transmitter including the correct grounding of external antennas.
- The device must not be operated in hospitals and/or in the vicinity of medical equipment such as heart pacemakers or hearing aids.
- The device must not be subjected to strong vibrations or impacts.
- The mobile network modem can cause interferences if it is located in the vicinity of television sets, radios or computers.
- Do not open the mobile network modem. Any modification to the device is prohibited and will result in the operating licence being revoked.
- The use of mobile network services (text messages/data communication/GPRS, etc.) may incur additional costs. The user is solely responsible for any resulting damages and costs.
- Do not install the device in any other way to the one described in the operating instructions. Improper use will invalidate the warranty.

5.5.5.2 Safety measures for installing the antenna

- Only use antennas that are recommended or supplied by the manufacturer.
- The antenna must be installed at a distance of at least 20 cm from individuals.
- The antenna must not protrude beyond the lightning-protected area of buildings and must be protected against lightning strikes.

5.5.6 Safety and precautionary measures when entering confined spaces and containers

Danger: Confined spaces may only be entered by trained personnel who are familiar with evacuation and first aid procedures and are equipped with detection, protective and safety equipment. Before entering, the confined space must be ventilated and the atmosphere checked.

The employee must obtain information about the applicable safety regulations from their employer in advance. These safety regulations must be observed before entering confined spaces.

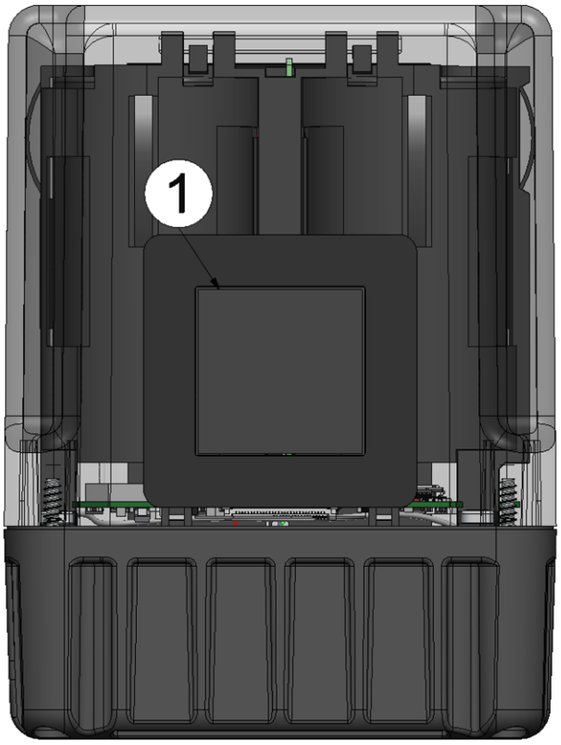
Confined spaces and containers are areas that are largely sealed off from the surrounding environment and where exchange with the ambient air is difficult or impossible. Examples include shafts, sewers, storm water overflow basins, tanks, silos, etc. A confined space is also an area that meets or could potentially meet the following conditions:

- An atmosphere containing less than 19.5% or more than 23.5% oxygen and/or a certain amount of hydrogen sulphide (i.e. H2S). As an indication, concentrations above 10 ppm of hydrogen sulphide (H_2S) are generally considered hazardous and require protective measures. Refer to the national occupational exposure limits (TWA and STEL) applicable in the country of use.
- An atmosphere that may be flammable or explosive due to gases, vapours, mists, dust or fibres.
- Toxic substances that may cause injury, incapacitation, or even death upon contact or inhalation.

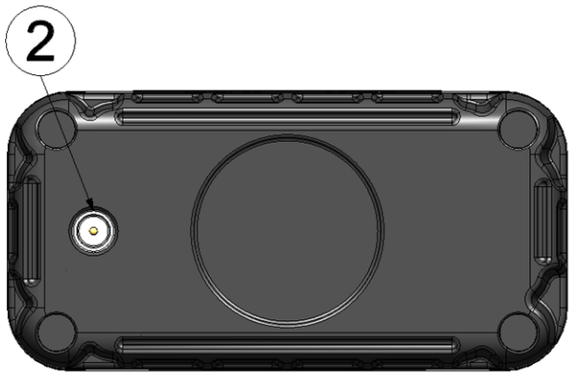
Confined spaces are not intended for permanent occupation by people. Access is restricted to certain individuals and the associated hazards are known. These include:

- Oxygen deficiency
- Risk of fire and explosion
- Hazardous and/or biological substances
- Unexpected flooding in of working materials

5.6 Overview



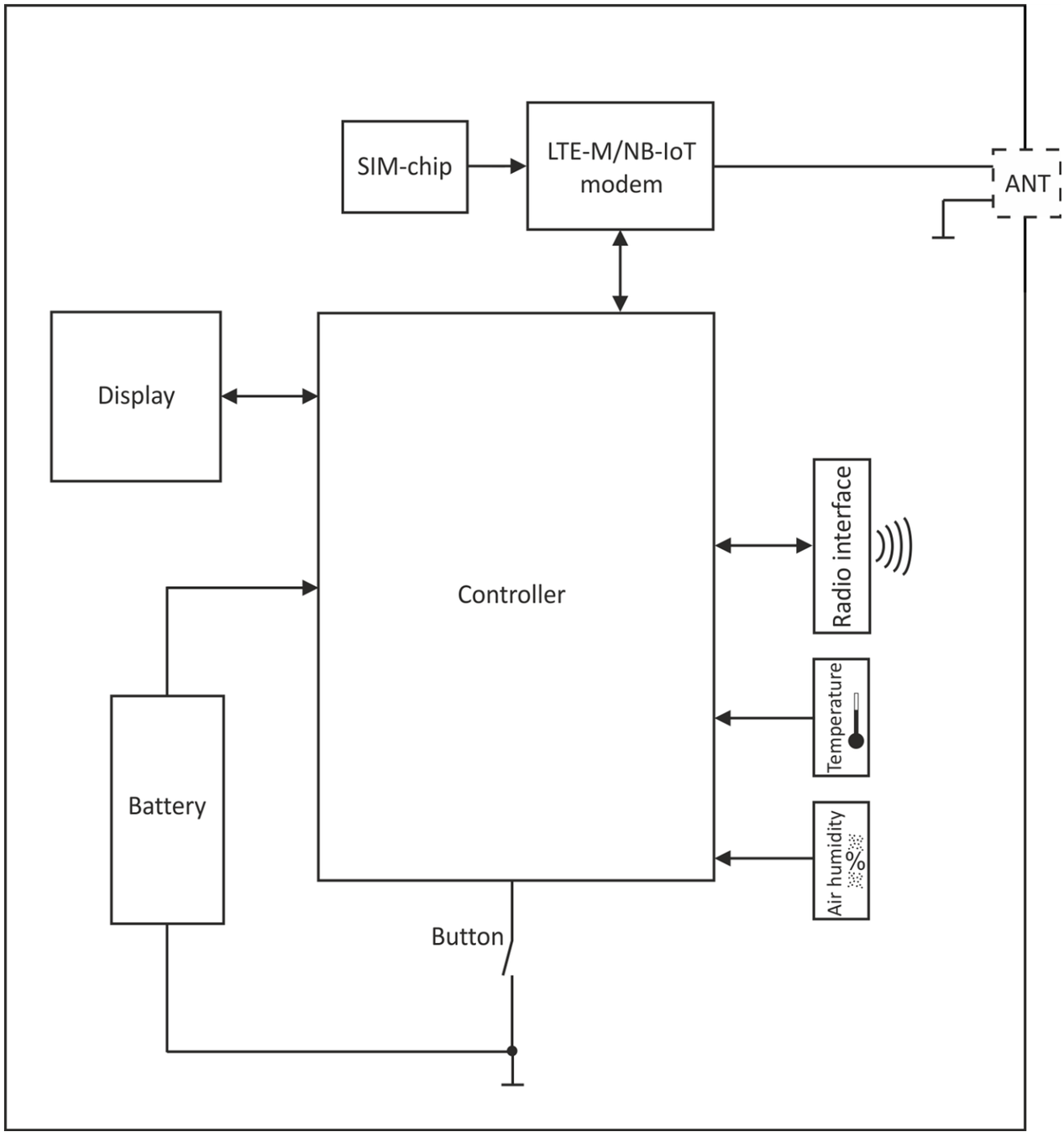
Front of the D011-11009200C05
(view without protective armour)



Bottom of the D011-11009200C05
(view without protective armour)

1 Display	**2** Antenna connector

5.6.1 Block diagram



Block diagram of the D011-11009200C05

5.7 Limitations of use

The following chapters describe the limits within which use of the device is permitted. Reasonably foreseeable misuse is also listed and the use of the device in this way is explicitly excluded.

> ***Note:*** *Any use of the device that is not specified in chapters "Intended use" on page 20, "Type of use" on page 20 and "Field of application" on page 20 is not permitted. This also applies if the device is used in a way that is not explicitly excluded as unauthorised in the chapter "Unauthorised use" on page 20. The manufacturer is not liable for any damage or consequential damage resulting from unauthorised use. The risk is borne solely by the operator.*

5.7.1 Intended use

The measuring device is used to determine, process and transmit measurement values provided by remote sensor modules. The device operates independently of the mains supply and was designed for use in areas with zone 1 explosive atmosphere. The measured and recorded data is saved on a non-volatile storage medium. This stored data can be read out the data locally via radio connection or it can be automatically forwarded via mobile network connection to a central server for further processing. The device is equipped with an integrated SIM chip for this purpose. To read out the data locally via radio connection and to simultaneously forward it to a central server, the smartphone app provided by the manufacturer can be used. The device is designed solely for operation within the limits specified in chapter "Specifications" on page 11.

> ***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. 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.*

5.7.2 Type of use

Installation, commissioning and maintenance may only be completed by qualified personnel (see "Personnel requirements" on page 24). The device is approved for use in areas with a zone 1 explosive atmosphere.

5.7.3 Field of application

It is only authorised for use in the industrial sector, business/commercial sector or in small businesses.

5.7.4 Unauthorised use

> ***Note:*** *The following describes the types of use of the device that are not permitted. This is not a complete list, but rather a list of reasonably foreseeable misuse. Only the use specified in chapters "Intended use" on page 20, "Type of use" on page 20 and "Field of application" on page 20 is permitted. The manufacturer is not liable for any damage or consequential damage resulting from unauthorised use. The risk is borne solely by the operator.*

- The device must not be exposed to direct sunlight or direct weather influences (rain, snow, ...).
- The device must not be installed in locations that are permanently flooded.
- The device must not be operated in the field without protective armour.
- The device must not be operated without antenna.
- A rod antenna must not be connected directly to the antenna connection. The "multiband antenna with bracket" or another antenna with a connection cable must be used.
- When using antennas with a connection cable, neither the device nor the antenna may be suspended from the antenna cable.
- The device must not be mounted lying down or upside down. The antenna connector must always be aligned pointing downwards.

5.8 General product information

The D011-11009200C05 is a compact, programmable, battery operated, stationary measurement instrument designed for recording and transmitting measurement values which are provided by remote sensor modules. Communication between the sensor module and the D011-11009200C05 is realised via a local radio connection. Depending on the ambient conditions, the bridgeable distance can be up to 20 m . The D011-11009200C05 is furthermore equipped with a 1,5" OLED display and can be operated using a reed switch.

The measurement data can be recorded in the internal 3 MB data memory. The recorded data can be read out locally via a local radio connection or transmitted automatically to a central myDatanet server via a mobile network connection. The device is equipped with an integrated SIM chip for this purpose. To read out the data locally via radio connection and to simultaneously forward it to a central myDatanet server, the "OnSite Companion" smartphone app can be used. The myDatanet server provides a variety of options for managing and displaying the data. More information is provided in the server manual ("myDatanet Server Manual " 805002). The device is configured via the interface of the relevant myDatanet server.

5.9 Device labelling

The specifications in this user manual apply exclusively to the D011-11009200C05 device type. The type plate is located on the rear side of the device and contains the following specifications:

- Product designation
- Serial number
- Item number
- Type key
- Ex marking as specified in chapter "Declaration of conformity" on page 7
- Hazard note regarding electrostatic charge build-up
- CE marking
- Logo for the EU WEEE Directive
- Environmental conditions during operation
- Protection class[1)]
- Week and year of production
- Hardware revision
- Name and address of the manufacturer



Type plate D011-11009200C05

[1)] Only the highest of the protection classes for which the device has been tested is indicated on the type plate. A list of all protection classes for which the device has been tested can be found in chapter "Specifications" on page 11.

The correct specification of the type designation and serial number is important for all queries and spare part orders. Only then can we process requests promptly and properly.

> ***Note:*** *These operating instructions are part of the device and must be available to the user at all times. The safety instructions contained therein must be observed.*

> ***Attention: It is strictly prohibited to disable the safety equipment or modify its mode of operation.***

5.10 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.

> ***Note:*** *The use of spare and wear parts that are not approved by the manufacturer shall void the Ex approval.*

5.11 Storage of the product

To store the D011-11009200C05 , ensure that all relevant data was transferred to the myDatanet server. If necessary, initiate a transmission directly on the device or wait until the next scheduled data transmission for all of the data to be sent to the myDatanet server. Then check again to make sure all of the relevant data has been transferred and deactivate data transmission and measurement. The antenna can be removed as soon as the mobile network connection has been terminated. Store the D011-11009200C05 in the original packaging. Do not remove the protective armour during this process.

By deactivating data transmission and measurement, the D011-11009200C05 is placed in a very energy-saving mode. However, it may still occur that the batteries are fully discharged if the device is stored for very long periods. In any case the configuration and the most recently recorded data are always retained.

5.12 Warranty

The device has been functionally tested before delivery. If it is used as intended (see "Intended use" on page 20) and the operating instructions, the applicable documents and the safety notes and instructions contained therein, are observed, no functional restrictions are to be expected and perfect operation should be possible.

> ***Tip:*** *Please also note in this regard the next chapter "Disclaimer" on page 23.*
>
> ***Note: Limitation of warranty***
>
> *In the event of non-compliance with the safety instructions and instructions in this document, the manufacturer reserves the right to limit the warranty.*

5.13 Disclaimer

The manufacturer assumes no liability

- for damages owing to **a change** of this document. The manufacturer reserves the right to change the contents of this document and this disclaimer at any time and without any notice.
- for damages to persons or objects resulting from **failure to comply** with applicable **regulations**. For connection, commissioning and operation of the devices/sensors all available information and higher local legal regulations (e.g. in Austria ÖVE guidelines) such as applicable Ex regulations as well as safety requirements and regulations in order to avoid accidents shall be adhered to.
- for damages to persons or objects resulting from **improper use**. For safety and warranty reasons, all internal work on the instruments beyond from that involved in normal installation and connection, must be carried out only by qualified Microtronics personnel or persons or companies authorised by Microtronics .
- for damages to persons or objects resulting from the use of instruments in technically **imperfect** condition.
- for damages to persons or objects resulting from the use of instruments **not in accordance with the requirements**.
- for damages to persons or objects resulting from **failure to comply** with **safety information** contained within this instruction manual.
- for missing or incorrect measurement values or resulting consequential damages due to **improper installation** or **incorrect parameterisation/programming**.

5.14 Obligation of the operator



Attention: 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.

5.15 Personnel requirements

Installation, commissioning and maintenance may only be completed by personnel who meet the following conditions:

- Qualified specialist personnel with the relevant training
- Authorised by the facility operator

Tip: Qualified personnel

In the context of these instructions and the warnings on the product itself, individuals responsible for the setup, installation, commissioning and operation of the product must have gained relevant qualifications relating to their activities, including, for example:

- *Training, instruction and authorisation to activate/deactivate, ground and label electric circuits and devices/systems in accordance with the standards of safety engineering.*
- *Training or instruction on the maintenance and use of suitable safety equipment in accordance with the standards of safety engineering.*
- *First aid training*

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 41).

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

6.2 Storage

The following storage conditions must be adhered to:

D011-11009200C05	Storage temperature	-20...+70 °C
	Humidity	15...90 % RH

Note: *The battery remains in the D011-11009200C05 during storage.*

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

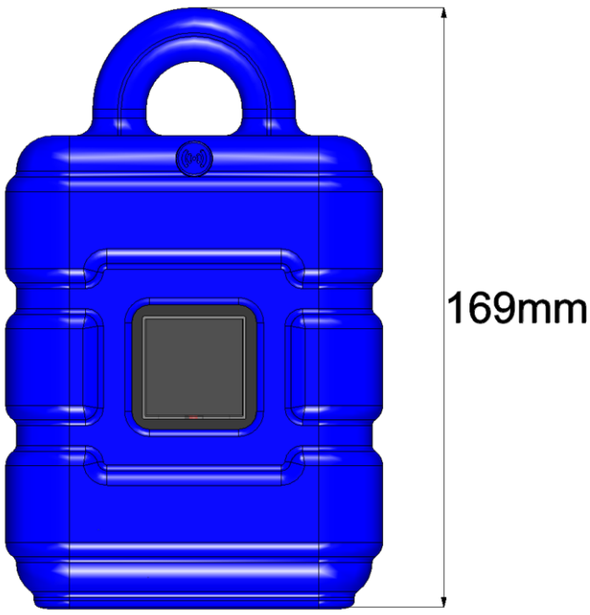
6.3 Transport

Protect the D011-11009200C05 against heavy shocks, bumps, impacts or vibrations. The original packaging must always be used for transport.

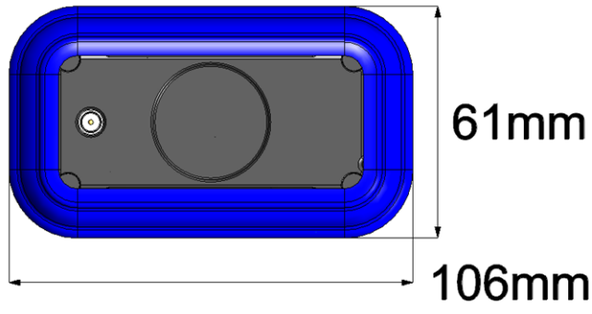
Chapter 7 Installation

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

7.1 Dimensions



Dimensions: Height
(view with protective armour)



Dimensions: Width and depth
(view with protective armour)

7.2 Installing the D011-11009200C05

Important:

- *Ensure installation is completed correctly.*
- *Comply with existing legal and/or operational directives.*
- *Improper handling can cause injuries and/or damage to the devices.*
- *The D011-11009200C05 must not be operated in the field without a protective armour.*
- *Due to the electrostatic effects, the protective armour must not be rubbed with cloths in the Ex zone.*
- *When using metallic mounting fixtures, these have to be integrated in the grounding concept in a suitable manner.*
- *Impact resistance note: Only install in areas with a low risk of mechanical damage. Otherwise, protect the device from mechanical damage.*

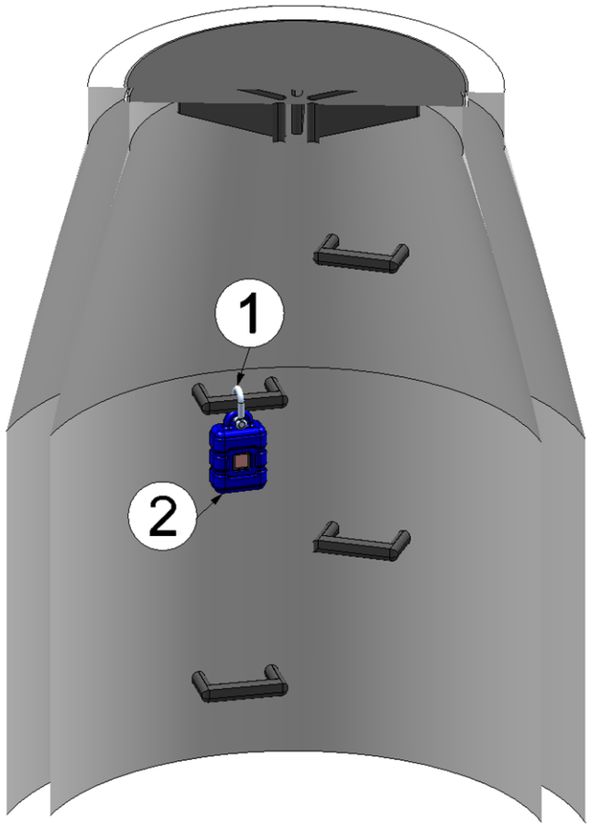
The installation site must be selected according to specific criteria. The following conditions must be avoided in any case:

- Direct sunlight
- Direct influence of weather (rain, snow, ...)
- Objects that radiate intense heat (maximum ambient temperature: -20...+50 °C)
- Objects with a strong electromagnetic field (frequency converter or similar)
- Corrosive chemicals or gases
- Mechanical impacts
- Direct installation on paths or roads
- Vibrations
- Radioactive emissions

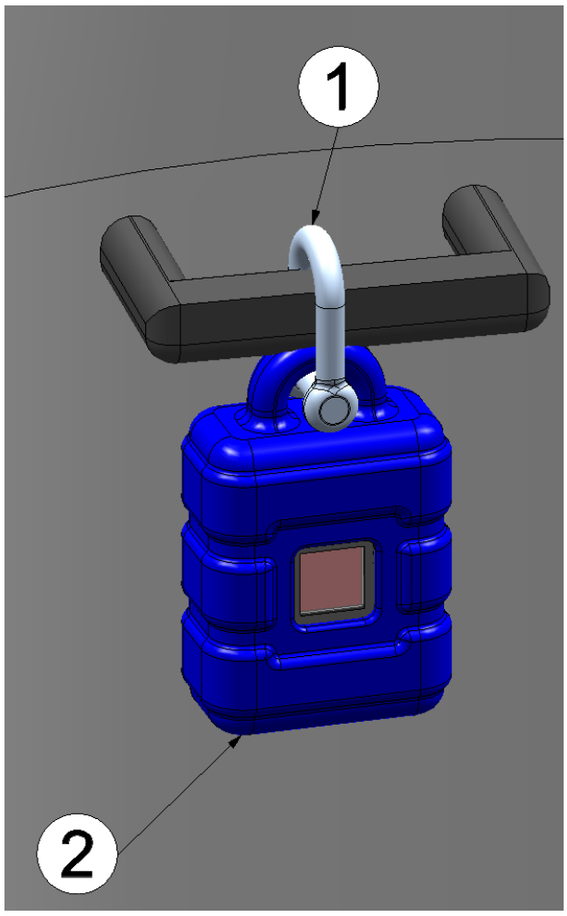
Tip: *Leave sufficient space at the lower end to mount the antenna. The space required depends on the antenna used. Generally, a space of approx. 15 cm must be left beneath the device. Further information regarding the installation dimensions can be found in the relevant sub-chapter.*

7.2.1 Suspended installation

The optional "Niro shackle (206.330)" equipment is required for suspended installations.



Suspended installation



Detailed view of a suspended installation

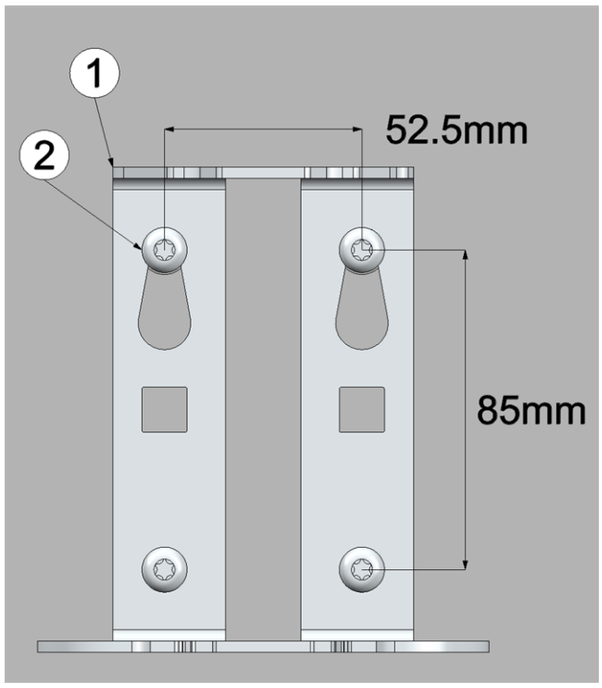
1 Niro shackle (206.330)	**2** D011-11009200C05

1. Use the Niro shackle (206.330), to attach the D011-11009200C05 to a rung of the channel ladder or a similar fastening point in accordance with the figure "Detailed view of a suspended installation " on page 29.

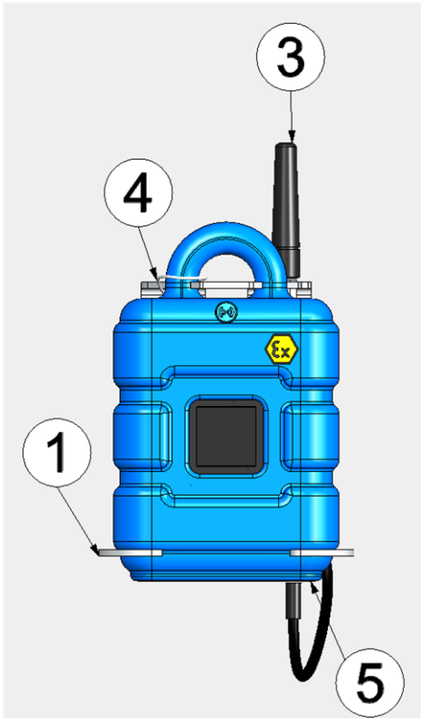
7.2.2 Wall mounting

The following optional accessory sets are required for wall mounting:

- 1 x Wall bracket for Jellox with protection casing (400109)
- 1 x Multi band rod antenna with connection cable 250 mm (400110)



Wall mounting step 1



Wall mounting step 2

1	Mounting bracket (included in the scope of supply of 400109)
2	Pan head screw with sheet metal screw thread ST6,3x60 Torx 30 (included in the scope of supply of 400109)
3	Multi band rod antenna with connection cable 250 mm (400110)
4	Seal for detecting tampering (optional)
5	D011-11009200C05

7.3 Electrical installation

Important: *Only qualified personnel should undertake the installation described in this chapter of the operating instructions to avoid any damage to the device.*

7.3.1 Connecting the mobile network antenna

Important:

- *To ensure the correct functionality, only use antennas that are supplied by the manufacturer.*
- *When using extension cables, the total lenght of the cable connection for the antenna must not exceed 30 m.*

The standard antenna is directly connected to the antenna connector (see "Front of the D011-11009200C05 " on page 18) of the D011-11009200C05 .

7.3.1.1 Optimum antenna positioning for assembly in a shaft

7.3.1.1.1 Typical influences on the signal quality

Signal losses compared to the reference measurement

Steel cover	up to -30 dB
Concrete cover	approx. -10 dB
Environmental influences	up to -15 dB
Installation height of the antenna	approx. -5 dB / 15 cm depth
Vertical/horizontal alignment	approx. -10 dB
Horizontal alignment	up to -15 dB
Centre/edge of the shaft	approx. -10 dB
Other influences	Transmission power of the network operator

Tip: *Practical example:*

	Mobile signal level	***Position***
	*-67 dBm*	*Reference measurement outside the shaft*
	*-103 dBm*	*Measurement at a depth of 1.20 m*
	*-95 dBm*	*Vertically on the edge of the shaft at a depth of approx. 15 cm*
	*-83 dBm*	*Centre of the shaft, horizontal on the steel fitting*
	*-89 dBm*	*Antenna turned by 90°*
	*-78 dBm*	*Centre of the shaft, vertical*
	*-75 dBm*	*Plastic pipe used instead of steel fitting*

7.3.1.1.2 Possibilities for improving the signal quality

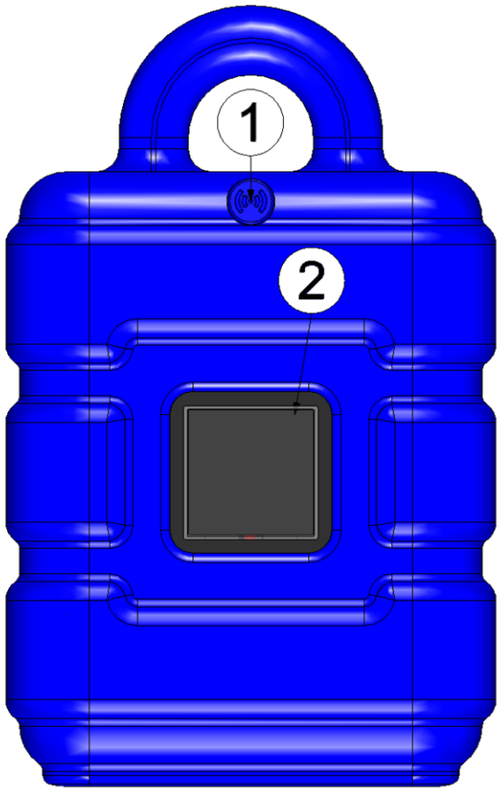
- Drill a duct for the connection cable of the antenna into the concrete ring on the shaft to avoid the steel cover
- Insert the connection cable of the antenna in an existing ventilation or supply pipe
- Use special types of antennas

7.3.2 Technical details about the local radio interface

The connection to a compatible smartphone is established via the local radio interface. Communication is only possible via the "OnSite Companion" smartphone app. However, the application can also be accessed as a progressive web app at the following address:

https://companion.microtronics.com/

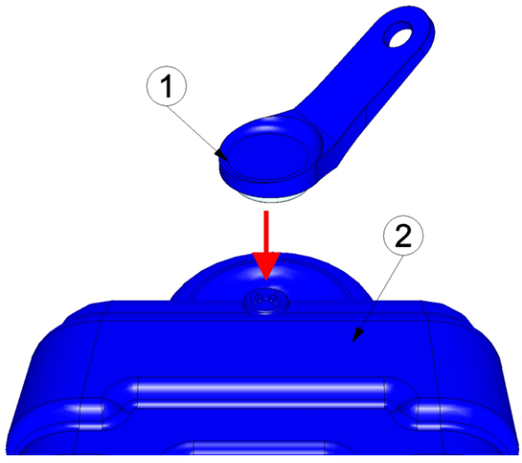
Chapter 8 Operating elements



Operating elements

1 Reed switch	**2** Display

8.1 Reed switch



Operating the reed switch

1 MDN Magnet (206.803)	**2** D011-11009200C05

8.2 Display

Important:

- *Do not touch the display with sharp objects, such as the tip of a pen.*
- *Do not stand or place any objects on the display as this could scratch it.*

The display of the D011-11009200C05 is only designed to show information. The device cannot be operated via the display.

Chapter 9 Maintenance

Important: *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.

9.1 General maintenance

- Regularly check the D011-11009200C05 for mechanical damage.
- Clean the D011-11009200C05 with a soft, moist cloth. Use a mild cleaning agent, if necessary.

Important: *Due to the electrostatic effects, the D011-11009200C05 must not be rubbed with cloths in the Ex zone.*

9.2 Maintenance of the D011-11009200C05

Important: *Only the manufacturer is permitted to open the enclosure to carry out maintenance work, which must also be completed strictly outside the Ex area.*

The D011-11009200C05 itself does not require any cyclic maintenance work other than the actions listed in chapter "General maintenance" on page 35 and replacement of the batteries after max. 10 years. In the event of unfavourable environmental conditions (e.g. low temperatures), it may occur that the battery capacity is depleted before this period of time has elapsed. The batteries must only be replaced by the manufacturer (see "Contact information" on page 41) or a certified service partner. The device must be returned in its original packaging for this purpose. Dehumidification (i.e. reduction of humidity in the housing) is always carried out as part of the battery replacement process.

The current humidity level inside the housing can be checked at any time using the internal "rH" measurement value. If it exceeds 95 %, the Dehumidification (301736) service can be used as a separate service from the battery replacement. This service is offered by the manufacturer (see "Contact information" on page 41) and certified service partners. The device must be returned in its original packaging for this purpose.

9.3 Services

Microtronics Engineering GmbH offers the following maintenance services for the D011-11009200C05 :

Description	Order number
Inspection fee	206.395
Cleaning flat	206.355
Software Update	206.555
Battery replacement	300661
HLC replacement	301078
Display replacement	300964
Sensor holder replacement	301181
Replacement of housing cover with display window	301396
Dehumidification	301736

Chapter 10 Repair & return

Microtronics products are manufactured using quality-assured processes. The Microtronics Engineering GmbH production site is ISO 90001 certified. All products are tested and/or calibrated before being shipped to the customer. This ensures that Microtronics Engineering GmbH products perform to their full capacity upon delivery.

Despite Microtronics Engineering GmbH's most rigurous quality assurance measures, malfunctions may occur as well within as outside the warranty period. In some cases, however, it is not necessary to return the product. Some issues can be resolved remotely by the Support & Service Centre (e.g. via OTA firmware update). If your device shows unexpected behaviour or malfunctions, please proceed as follows:

1. Contact the support & service center (support.microtronics.com)

   In the Microtronics Help Center, select the category "Technical support (device)" to create a ticket. Please describe the problem in as much detail as possible to help our staff diagnose the issue. One of our staff members will then contact you and attempt to resolve the problem remotely with you.

2. Wait for the completed RMA form you will receive in response

   If it was not possible to resolve the problem remotely, you will receive a completed RMA form that you must enclose with the return shipment. At the bottom of the form, you will also find more detailed information on how to return the product.

3. Return the D011-11009200C05

   Do not dispatch the device until you have received the RMA form and the RMA number noted on it. Microtronics will not reject shipments that arrive without a clearly indicated RMA number or without the enclosed RMA form. However, processing will take significantly longer in such cases.

If you return the D011-11009200C05 for repair under warranty or outside of warranty, check with your national customs/tax authorities for applicable regulations, procedures and necessary documentation for tax-free return of products. Special customs tariff numbers are usually available to confirm that the item is being returned for repair and has no commercial value.

The customs invoice/shipping documents should clearly state: "Goods being returned to manufacturer for repair – No commercial value". It is mandatory that any returned goods are accompanied by a commercial invoice on headed paper. Microtronics reserves the right to charge the customer for time spent rectifying incorrect customs documents.

> ***Note:*** *Ensure that the D011-11009200C05 is packed carefully and securely. Damage incurred during transport is not covered by the warranty and may be subject to a charge.*

Chapter 11 Removal & disposal

Material separation only by qualified personnel!

- Be careful when disassembling the device, you may injure yourself.
- Take the separated components to the appropriate recycling.

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 (e.g. according to European waste code 16 02 14).



Logo of 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. Microtronics Engineering GmbH supports and promotes recycling and environmentally friendly, separate collection/disposal of waste from electric and electronic equipment in order to protect the environment and human health. Observe the local laws and regulations on disposal of electronic waste at all times.

Microtronics Engineering GmbH releases goods brought onto the market in Austria from the obligations via ERA, which means that collection points that cooperate with ERA Elektro Recycling Austria GmbH (https://www.era-gmbh.at/) can be used for disposal in Austria.

The device includes a battery or rechargeable battery (lithium) that must be disposed of separately.

Chapter 12 Contact information

Support & Service:
Microtronics Engineering GmbH
Hauptstrasse 7
3244 Ruprechtshofen
Austria, Europe
Tel. +43 (0)2756 7718023
support@microtronics.com
www.microtronics.com

Microtronics Engineering GmbH
(Headquarters)
Hauptstrasse 7
3244 Ruprechtshofen
Austria, Europe
Tel. +43 (0)2756 77180
Fax. +43 (0)2756 7718033
office@microtronics.com
www.microtronics.com



Certified by TÜV AUSTRIA: EN ISO 9001:2015, EN ISO 14001:2015, ISO/IEC 27001:2013, EN ISO 50001:2011 for myDatanet | TÜV SÜD: ATEX Directive 2014/34/EU

© Microtronics Engineering GmbH. All rights reserved. Photos: Microtronics, shutterstock.com

Microtronics Engineering GmbH | www.microtronics.com
Hauptstrasse 7 | 3244 Ruprechtshofen | Austria | +43 2756 77180 | office@microtronics.com