User manual
myDatalogNANOamr

Valid from:

- **Firmware version: 03v010**
- **Modem Version: 03v007**
- **Server version: 47.28**
- **Hardware version: 1.10**



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Chapter 2 Declaration of conformity

EU-Konformitätserklärung

EU Declaration of Conformity / Déclaration de conformité UE

Produktbezeichnung: Product: Désignation du produit:	Kompakter, portabler 5-Kanal-Datenlogger zur Erfassung und Übertragung von analogen und digitalen Signalen
Type : Type code: Type:	**myDatalogNANO**
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	Battery pack BP713RLC Battery : 2 x Li-SOCl2 cells fully fabricated with 13Ah
Housing	Material: Luran/PC Weight: 600g (incl. battery) Protection class: IP68 (max. immersion depth 1m for max. 24h) Dimensions (WHD): 86 x 155 x 64mm (without connection cable)
Operating temperature	-20...+60°C, 15...90%rH non-condensing
Storage temperature	-30...+85°C
Display	LED for indicating the operating state and error codes
Operation	Solenoid switch for initiating Aloha transmission mode
Inputs	4 x meters Minimum pulse length: >1ms Additional information is provided in "Technical details about the meter inputs" on page 43.
Data memory	Internal flash memory for up to 17.056 measurement cycles
Data type	s64 (64 Bit signed)
Data transmission	By means of GSM/GPRS quad-band modem to the respective myDatanet server
SIM	The myDatalogNANOamr is equipped with an integrated SIM chip.
Monthly data volume	t.b.d. at two-minute measurement cycle and 120-minute transmission cycle
Device operating time	With the default settings (1 channel, 200 ms reader type, 6 h transmission cycle) up to 3,76 years Additional information is provided in "Technical details about the device operating time" on page 44.

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 myDatalogNANOamr , 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 manufacturer's products that are designed for use outdoors include extensive protection against penetrating moisture and dust. The operator is responsible for protecting the joint between the product's sensor cable and the sensor against penetrating moisture and dust in a suitable way and complying with local safety regulations.*

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 General safety instructions

WARNING:
Ensure that the device is fully deactivated and cannot activate automatically when sending/returning it as air freight. Information on this is provided in chapter "Storage of the product" on page 18. If you have any unanswered questions, contact the manufacturer (see "Contact information" on page 113).

WARNING:
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 GSM/GPRS modem contained in the device.

WARNING:
Never use this device in potentially explosive atmospheres and in the vicinity of highly combustible areas (fuel stations, storage areas for combustible material, chemical plants and detonation sites) or in the vicinity of flammable gases, vapours or dust.

4.4.3 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.*

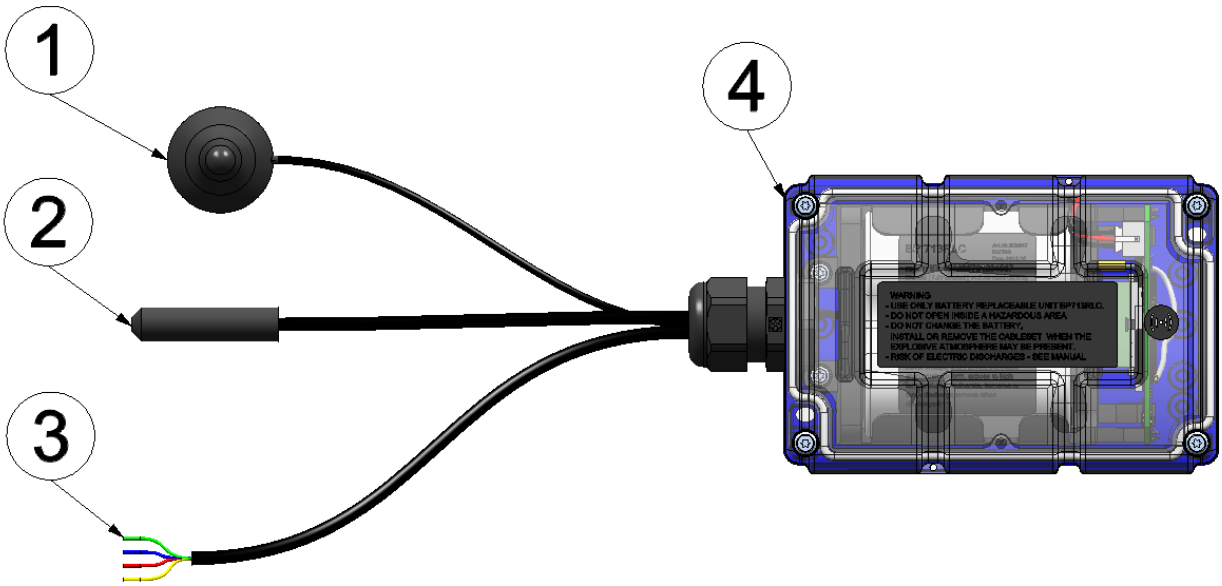
4.4.3.1 Safety and precautionary measures for the installation of the GSM/GPRS modem

- 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 operated in highly flammable areas such as petrol filling stations, fuel storage sites, chemical factories and explosion sites.
- The device must not be operated in the vicinity of flammable gases, vapours or dusts.
- The device must not be subjected to strong vibrations or impacts.
- The GSM/GPRS modem can cause interferences if it is located in the vicinity of television sets, radios or computers.
- Do not open the GSM/GPRS modem. Any modification to the equipment is prohibited and will result in the operating licence being revoked.
- The use of GSM services (SMS 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.

4.4.3.2 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!

4.5 Overview



Overview myDatalogNANOamr

1 Magnetic antenna	**3** Sensor cable with open ends (channel 1 and channel 2)
2 Sealed sensor cable (channel 3 and channel 4)	**4** Housing cover

4.6 Intended use

The portable measurement instrument is used to record meter readings. The device can operate without mains power. The measured and recorded data is stored on a non-volatile memory medium. This stored data is sent via the mobile network to a central server for further processing. The device is equipped with an integrated SIM chip for this purpose. The maximum permissible limit values specified in chapter "Technical data " on page 11 must be observed. The manufacturer shall not be liable for any operational cases that deviate from these limit values and have not been approved by the manufacturer in writing.

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

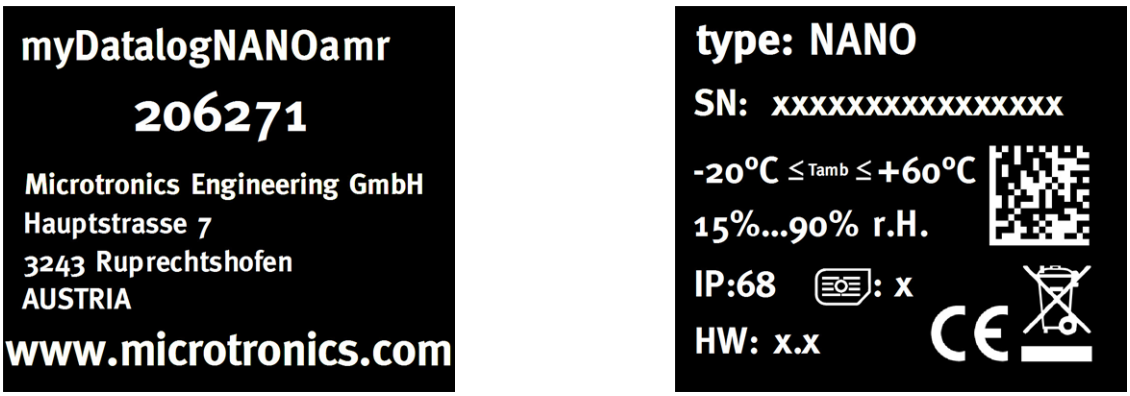
The device is a compact, portable device for recording and transferring meter pulses. The energy supply is provided via an integrated, replaceable battery pack, that facilitates a device operating time of up to 3,76 years (see "Technical details about the device operating time" on page 44) using the default configuration (1 channel, 200 ms reader type, 6 h transmission cycle). 4 inputs are available to which a meter contact can be connected without an additional energy supply (see "Technical details about the meter inputs" on page 43). The internal "Battery" and "GSM level" measurement values (see "Internal channels" on page 61) are also determined. All of the generated measurement data is temporarily saved on an internal data memory and is then wirelessly transferred to a central location at a freely selected interval. The device is also configured via this connection. The device is equipped with an integrated SIM chip.

4.8 Device labelling

The specifications in this user manual apply exclusively to the myDatalogNANOamr device type. The type plates are located on the right side of the device and contain the following specifications:

- Type designation
- Item number
- Manufacturer's address
- Specification of the device range
- Serial number
- Environmental conditions during operation
- Protection class
- Country list profile of the SIM chip
- Hardware revision
- CE marking

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.



Type plates myDatalogNANOamr

Note: *This symbol indicates the country list profile (see www.microtronics.com/footprint) of the SIM chip installed in the device.*

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.*

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

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 Storage of the product

To store the myDatalogNANOamr , activate the transport lock, by setting the "Operation mode" in the input screen of the myDatanet server for configuring the device (see "Device-specific settings" on page 65) to "OFF". Then activate ALOHA transmission mode (see "Aloha transmission mode" on page 23) via the solenoid switch so that the amended configuration is transferred to the myDatalogNANOamr . During this process, all of the data that has not yet been transferred to the myDatanet server is transferred. The cables can be removed as soon as the GPRS connection has been deactivated - indicated by the status LED going out (see "Status LED" on page 50). Store the myDatalogNANOamr in its original packaging. The battery pack remains in the device.

> ***Important note:*** *When storing the myDatalogNANOamr , ensure that the magnetic base antenna is not positioned in the vicinity of the solenoid switch for initiating ALOHA transmission mode as this could accidentally deactivate the transport lock.*

The myDatalogNANOamr is placed in energy-saving mode by activating the transport lock. However, it may still occur that the battery pack is fully discharged if the device is stored for very long periods. Although the configuration and the most recently determined data are always retained. The transport lock is deactivated again by re-initiating ALOHA transmission mode (see "Aloha transmission mode" on page 23) and the myDatalogNANOamr resumes operation according to the configuration.

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.

4.12 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

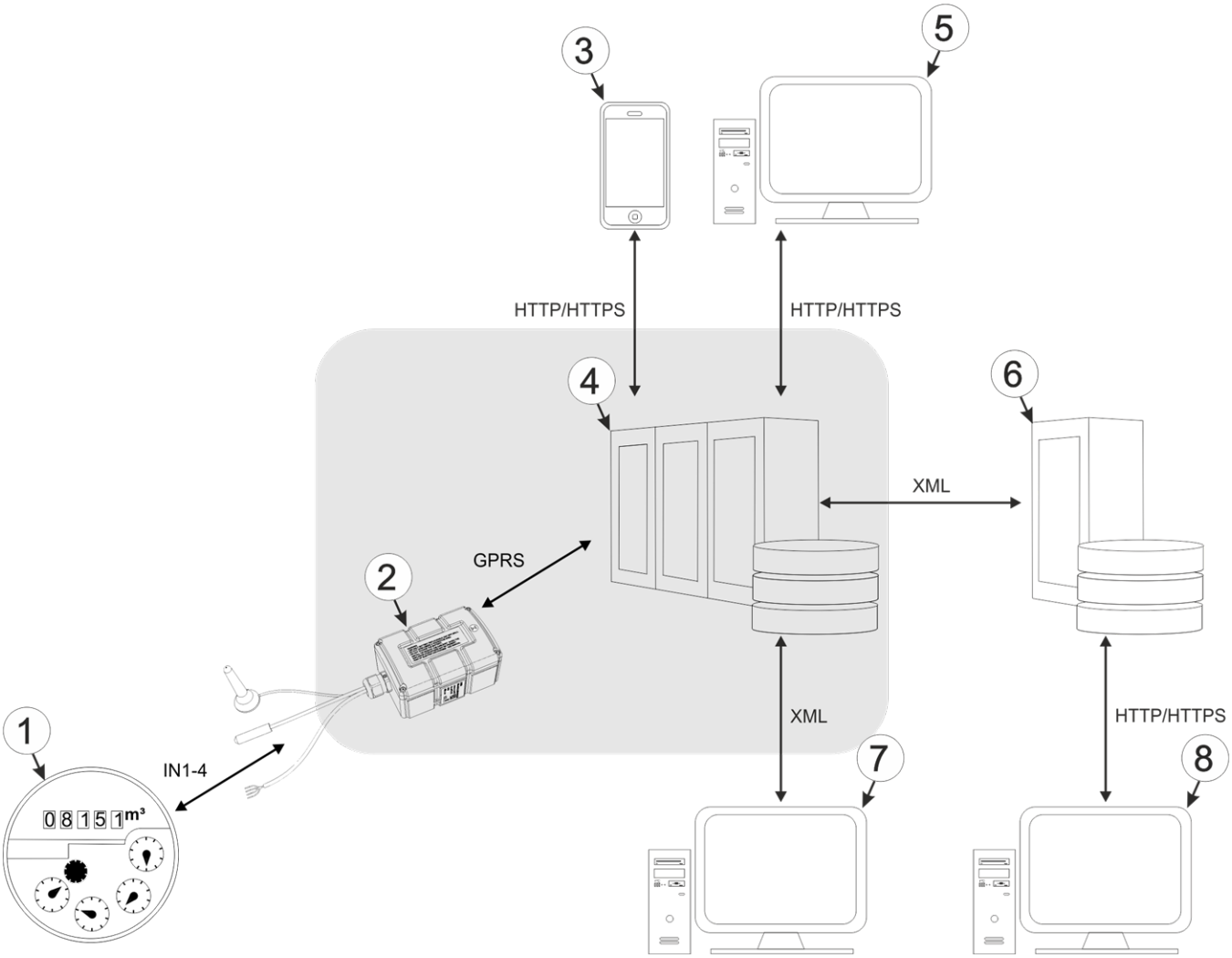
Note: Qualified personnel

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 5 Functioning principle

In the graphic below, all of the components that are part of the myDatanet are illustrated in grey. All of the other components must be supplied/produced by the customer.



Functional principle of recording meter readings

1	Meter with pulse output (switch contact)
2	myDatalogNANOamr with integrated managed service SIM chip including data transmission
3	Client who access the WebApp via a smartphone
4	myDatanet server to which the data is transferred
5	Client that accesses the interface of the myDatanet server via the web browser
6	Customer-specific server that provides clients with their own interface. The customer-specific server obtains the data via the API of the myDatanet server (see "API" on page 87).
7	Client, on which a PC program is running, that obtains its data via the API of the myDatanet server (see "API" on page 87)
8	Client that accesses the interface of the customer-specific server via the web browser

Functions and components provided by myDatanet :

- myDatalogNANOamr

  The myDatalogNANOamr is a compact portable device for connecting the meters (IN1-4) to the myDatanet server (GPRS).

- Managed Service

  Managed Service is the basis for operating your devices and provides you with a wide range of services. Managed Service includes updates for device firmware, mobile data transmission on a global scale and free support - providing you with one contact person for the entire solution.

- myDatanet server:

  Database for saving the measurement data and configurations. Data is either accessed via the API of the server (see "API" on page 87) or web interface of the server. The WebApp (see "WebApp " on page 75) has a web interface that is optimised for the displays of smartphones making it accessible via these devices. However, this is only displayed if a Level 1 or 2 user has logged in. Users with a higher access level always access the standard web interface even via a smartphone.

Functions and components provided by the customer:

- Meter with pulse output:

  Meter that includes a switch contact that is compatible with the specifications listed in the chapter "Technical details about the meter inputs" (see "Technical details about the meter inputs" on page 43)

- Customer-specific server with web interface for the clients (optional):

  It is therefore possible to create an individual web interface for the clients. Using this method, the data is read out of the myDatanet server via the API (see "API" on page 87) by the customer-specific server.

5.1 Aloha transmission mode

Aloha transmission mode is a special connection mode whereby the myDatalogNANOamr establishes a connection to the myDatanet server for a period of time configured via the "Basic settings" configuration section (see "Aloha/wakeup duration" in chapter "Basic setting" on page 62).

There are three options for triggering Aloha transmission mode:

- Directly on the device using the solenoid switch (see "Solenoid switch" on page 49). The GSM network is re-selected during this process. This means that a list of all of the GSM networks in the receiving range of the device is created from which the strongest GSM network is then selected that is not on the "Ban list" (see "Ban list" on page 24) and that is part of one of the service providers supported by the integrated SIM chip (see www.microtronics.at/footprint). The internal error counter is pre-initialised in such a way that if it was not possible to log into the selected GSM network, it is immediately added to the "Ban list". In this case, the next GSM network from the previously created list is used immediately. If the connection with all of the available GSM networks fails, the ban list is deleted and the connection attempt is aborted. If Aloha transmission mode is then initiated again, the ban list is empty and all of the GSM networks in the receiving range, that are part of one of the service providers supported by the integrated SIM chip, are taken into consideration when selecting the network. The network selection also takes into consideration whether GPRS is available on the selected GSM network.
- Via the myDatanet server if the "Interval & wakeup" connection type has been selected (see "Basic setting" on page 62).



- By setting the "Start Aloha" checkbox located in the "Basic settings" configuration section (see "Basic setting" on page 62). Aloha transmission mode is then started immediately after the next connection. This process is particularly suitable if the "Interval" connection type has been selected and Aloha mode should be activated via the myDatanet server.

A speech bubble in the measurement instrument list (see "myDatanet Server Manual " 805002) with the title "Aloha" indicates that a device is in Aloha transmission mode.



Clicking on the speech bubble with the "Aloha" title opens the Aloha data window (see "myDatanet Server Manual " 805002). It comprises the internal "GSM level" and "battery" measurement values, as well as the measurement values of the 4 meter inputs. The measurement values for the last thirty minutes are always shown in the Aloha data window, which means that data from a previous Aloha transmission may be included. The Aloha data is generated every three seconds independently of the normal measurement values and is thus not saved with the standard measurement data.

If a measurement dataset is recorded during Aloha transmission mode, it is immediately transmitted to the myDatanet server and saved in the standard measurement data.

5.2 Automatic selection of the GSM network

The GSM network to which the device should register must be selected, as the myDatalogNANOamr is equipped with a SIM chip that provides a mobile connection via a variety of international service providers (see www.microtronics.com/footprint). This is completed automatically by the device. During this process it is taken into consideration if a connection to a certain GSM network is possible although the use of this GSM network repeatedly causes transmission errors. Such a GSM network is added to a ban list and is ignored during the next login attempt.

The following conditions ensure that the myDatalogNANOamr logs itself into a GSM network:

- PowerOn
- Initiation of ALOHA transmission mode (see "Aloha transmission mode" on page 23)
- Expiry of the transmission cycle if the "Interval" connection type was selected (see "Basic setting" on page 62)

1. The myDatalogNANOamr checks whether any errors occurred during the last login attempt.

   No errors:

   The myDatalogNANOamr logs into the same GSM network that was also used during the last attempt.

   Error:

   Continue with step 2

   > ***Note:*** *A transmission error is not the same as an error that occurs when logging into the GSM network. It is possible for the login to the GSM network to work correctly but that a transmission error still occurs.*

The following steps are only completed if an error was detected during step 1:

2. The device searches for GSM networks within its receiving range and creates a list of available GSM networks.
3. A search of the list of available GSM networks is completed and the strongest GSM network is selected that is not on the "ban list" and is assigned to one of the service providers supported by the integrated SIM chip (see www.microtronics.com/footprint).

   > ***Note:*** *An explanation detailing the conditions when a GSM network is added to the "ban list" is provided in "Ban list" on page 24.*

5.2.1 Ban list

The ban list provides space for 5 entries and is not saved in a volatile memory. This means that it is also still available following a PowerOn.

If there is a GPRS error (see error codes -975 to -993 in chapter "Modem error" on page 101), then an internal counter is increased by 2 . If a transmission was completed without errors, i.e. all of the data was transferred, this internal counter is reduced by 1 . The current GSM network is added to the ban list if the internal counter reaches the value 6 . The relevant GSM network is automatically added to the ban list, if the "MODEM CMME ERROR" error occurs (see "Modem error" on page 101) with parameter 32 (NETWORK NOT ALLOWED) or 529 (MODEM CMME ERROR). The ban list is deleted if no GSM network can be selected from the list of available GSM networks in the receiving range taking the ban list into consideration. Another search for GSM networks in the receiving range is completed once the ban list is deleted and the

network selection is completed with the ban list that is now empty (see step 3 in chapter "Automatic selection of the GSM network" on page 24).

The quality of the data transfer is monitored in addition to the establishment of the GPRS connection. If the data transmission fails 10 times in succession despite an existing GPRS connection, the currently selected GSM network is also added to the ban list. The same applies in this case, which means that if, when taking the ban list into consideration, there is no further GSM network available, the ban list is deleted and selection of the strongest GSM network is restarted.

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 113).

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

6.2 Scope of supply

The standard scope of supply of the myDatalogNANOamr (206.271) includes:

- myDatalogNANOamr
- BP713RLC Battery (300247)[1)]

1) The battery pack (BP713RLC Battery) was already inserted in the myDatalogNANOamr during production.

Additional accessories such as internal expansions, assembly sets, antennas, accu or battery pack, sensors, power supply, charging devices, etc., depending on the order. Please check these against the delivery slip.

6.3 Storage

The following storage conditions must be observed:

myDatalogNANOamr	Storage temperature	-30...+85°C
	Humidity	15...90%rH

Note: *The battery pack remains in the myDatalogNANOamr during storage.*

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

6.4 Transport

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

WARNING:
The myDatalogNANOamr as well as the replacement battery pack "BP713RLC Battery " (300247) are classified as hazardous goods due to the installed batteries for which the following conditions must be observed during transport.

The guidelines that must be observed when transporting hazardous goods are dependent on the selected transport route and are designed as follows:

- Transport by road: ADR Directive
- Transport by air: IATA guideline
- Transport by rail: RID guideline
- Transport by ship: IMGA guideline

The following parties must observe these guidelines:

- Shipping and packaging company
- Haulage contractors
- Air carriers and ground handling service providers (only if the IATA guideline is applied)
- Security personnel (particularly if the IATA guideline is applied)

When it comes to transporting hazardous goods, the most important tasks of the shipping and packaging company are:

- Classification / identification
- Packaging
- Marking and labelling (e.g. transport stickers)
- Documentation (e.g. ADR transport documents or Dangerous Goods Declaration)

The energy stores of the myDatalogNANOamr as well as the replacement battery pack are lithium batteries. The following points must therefore be observed in conjunction with transporting lithium batteries:

- Type of lithium battery
  - Lithium ion battery
  - Lithium metal battery
- Battery energy content
  - If the energy content is within the "exempt" level, this will make the transportation process easier.
  - If the energy content is above the "exempt" level, the battery is classed as a "complete" hazardous material in accordance with the relevant guideline.
- Scope of the delivered package
  - Battery packed individually
  - Battery packed with or in the equipment

Other matters that must be taken into consideration during transport preparation and processing:

- Net weight per package
- Involved air carrier (only if the IATA guideline is applied)
- Destination country (only if the IATA guideline is applied)

> ***Important note:*** *All of these points must be observed when compiling each delivery (including the interdependencies).*

The "shipping and packaging company" can refer to the information provided in the following table to classify the myDatalogNANOamr respectively the replacement battery pack and determine which transport guideline to apply.

Title of the PSU	Order number	Type of lithium battery	Energy [Wh]	Lithium content [g]	UN number
myDatalogNANOamr	206.271	Lithium metal		6,6g	UN3091
BP713RLC Battery	300247	Lithium metal		6,6g	UN3090

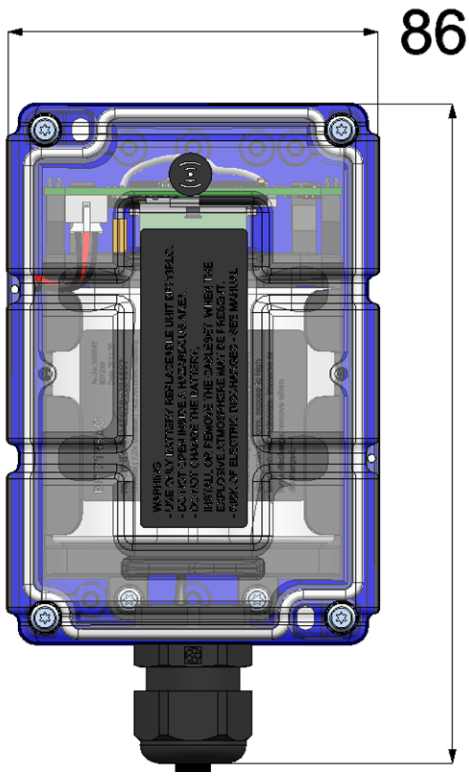
6.5 Return

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 113). The return shipment of the myDatalogNANOamr must occur in the original packaging and with freight and insurance paid to Microtronics Engineering GmbH (see "Contact information" on page 113). Insufficiently cleared return shipments will otherwise not be accepted!

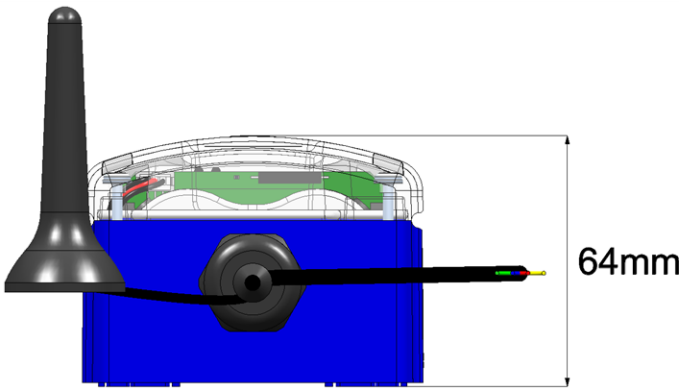
Chapter 7 Installation

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.*

7.1 Dimensions



Dimensions: Width and height



Dimensions: Depth

7.2 Installing the myDatalogNANOamr

Important note:

- *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 myDatalogNANOamr must not be operated in the field with the lid open.*

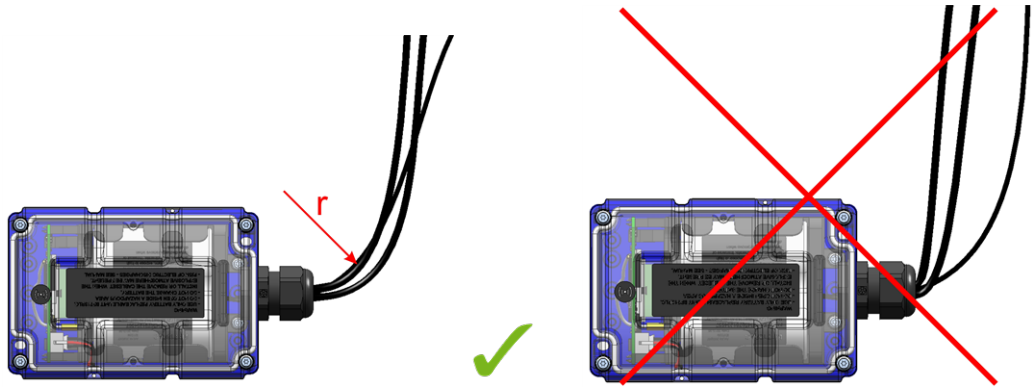
The installation site must be selected according to specific criteria. The following conditions must be avoided in any case:

- Direct sunlight
- Direct weather exposure (rain, snow, etc.)
- Objects that radiate intense heat (maximum ambient temperature: -20...+60°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

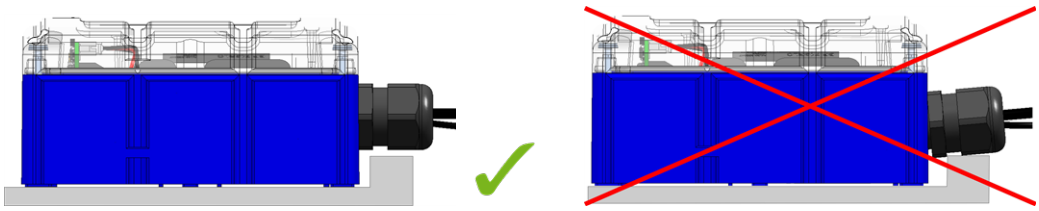
Note: *Approx. 15 cm of space should be left beneath the device for the cable connections. Further information about the installation dimensions can be found in the relevant sub-chapter.*

7.2.1 Guidelines for correct installation

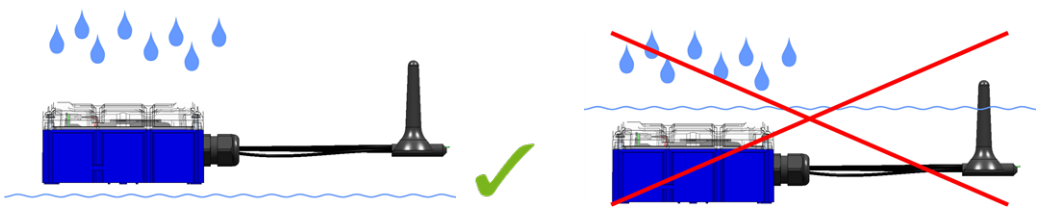
- Observe the maximum permissible bend radius (r) of 40mm for the sensor cable and the antenna cable. The maximum permissible bend radius applies to the full length of the cable.



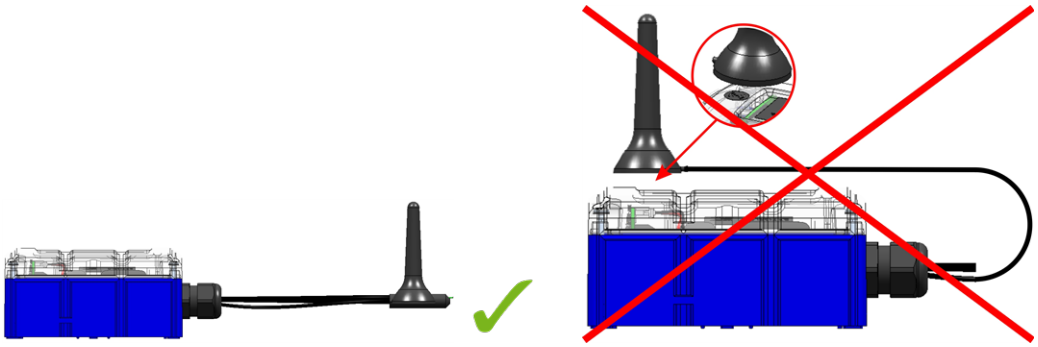
- No clamping force must be applied to the cable screw connection from which the sensor cable and the antenna cable protrude when installed.



- The myDatalogNANOamr and the magnetic base antenna must not be installed in areas that are constantly flooded (IP68 , max. immersion depth 1m for max. 24h).



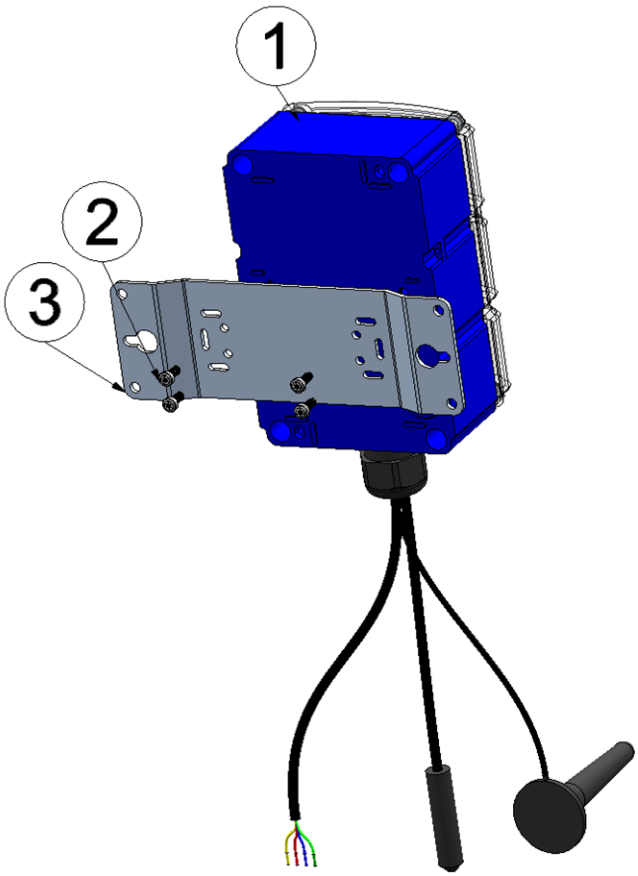
- The magnetic base antenna must not be installed in the vicinity of the solenoid switch for initiating ALOHA transmission mode, as this can result in the occasionally initiation of ALOHA transmission mode. This would increase the energy consumption of the myDatalogNANOamr and thus considerably reduce the operating time of the device. Further information on the optimum installation of the antenna is provided in chapter "Optimum antenna positioning for assembly in a shaft" on page 41.



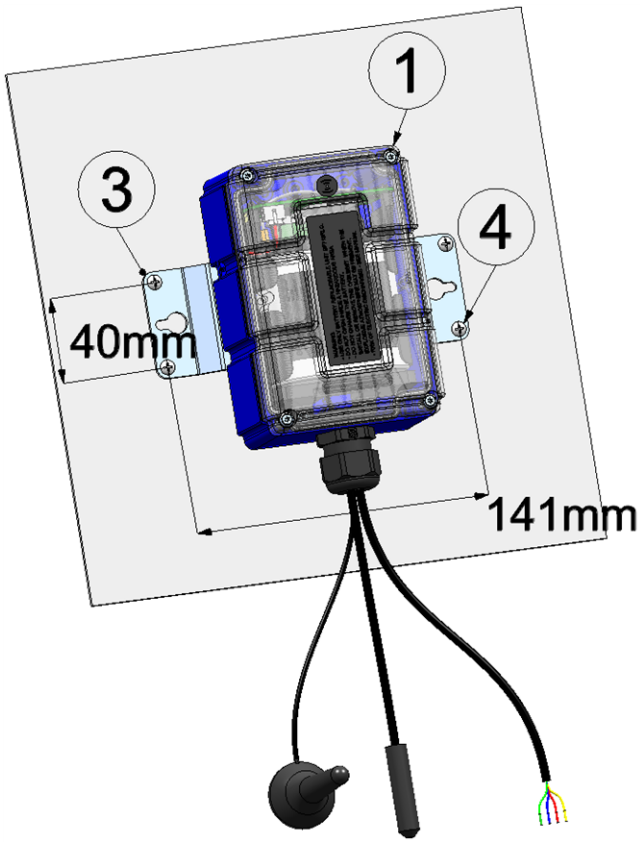
- No traction force must be applied to the sensor cable or the antenna cable when installed. It is not permissible to install the myDatalogNANOamr in such a way that the weight of the device is applied to the connection cable.
- Use suitable means to protect the joint between the sensor cable and meter or connection cable of the meter against the penetration of moisture and dust. Please note that the myDatalogNANOamr is only protected against damage to the external cable sheath relating to the penetration of moisture. If the cable sheath of the wires is also damaged or the joint is not sealed suitably, protection against the penetration of moisture can no longer be guaranteed.

7.2.2 Wall mounting

For wall mounting the optional "Universal bracket for housing myDatanet 86x126 (206.640)" equipment is required.



Step 1 of the wall mounting



Step 2 of the wall mounting

1	myDatalogNANOamr	**3**	Assembly loop (included in the delivery scope of 206.640)
2	Delta PT M3.5x8 Torx 15 (included in the delivery scope of 206.640)	**4**	Raised head tapping screw 3.5x32 (included in the delivery scope of 206.640)

1. First attach the assembly loop (3) using the screws (2) included in the "Universal bracket for housing myDatanet 86x126 (206.640)" equipment set to the myDatalogNANOamr (see "Step 1 of the wall mounting" on page 34).
2. Drilling the holes for mounting:

   If you want to use the tapping screws (4) included in the equipment set to secure the assembly loop (3) to the wall, drill four 6-mm holes in the wall using the drill template as a guide in accordance with the dimensions in the diagram "Step 2 of the wall mounting" on page 34.

   If you want to use your own fastening screws you can use the drill guide provided in the equipment set to determine the position of the holes. The diameters are then determined by the screws that are being used and any wall plugs that may be required.

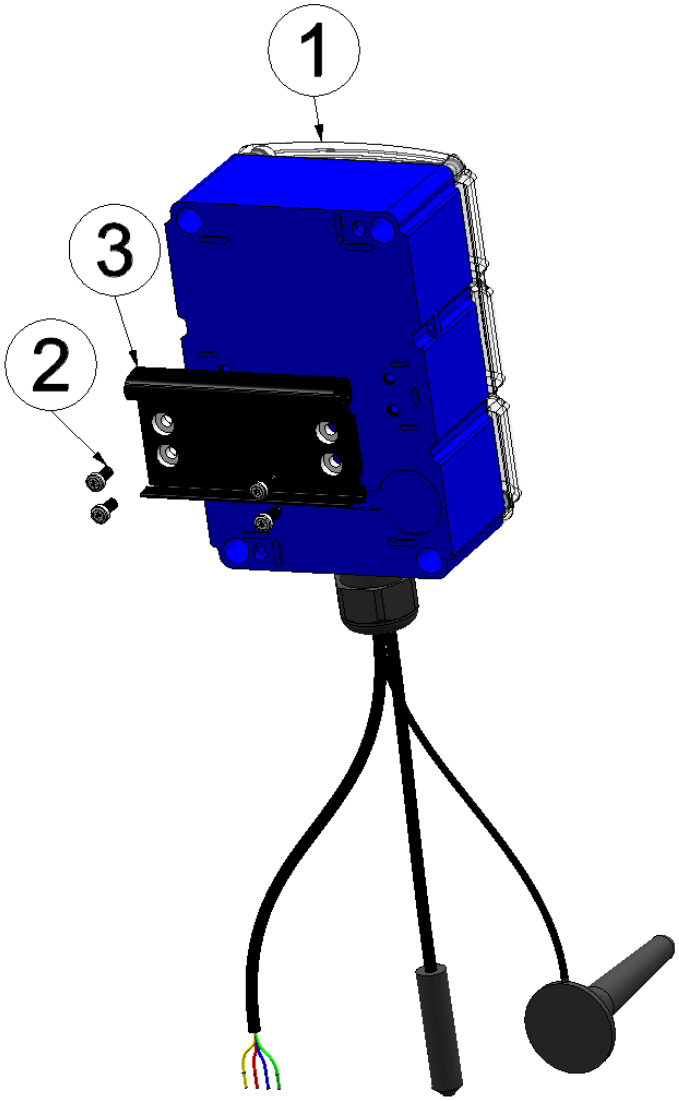
3. Securing the myDatalogNANOamr to the wall:

   If you want to use the tapping screws (4) included in the equipment set, first of all insert the supplied wall plugs into each of the four drill holes before screwing the myDatalogNANOamr with the attached assembly loop (3) to the wall (see "Step 2 of the wall mounting" on page 34).

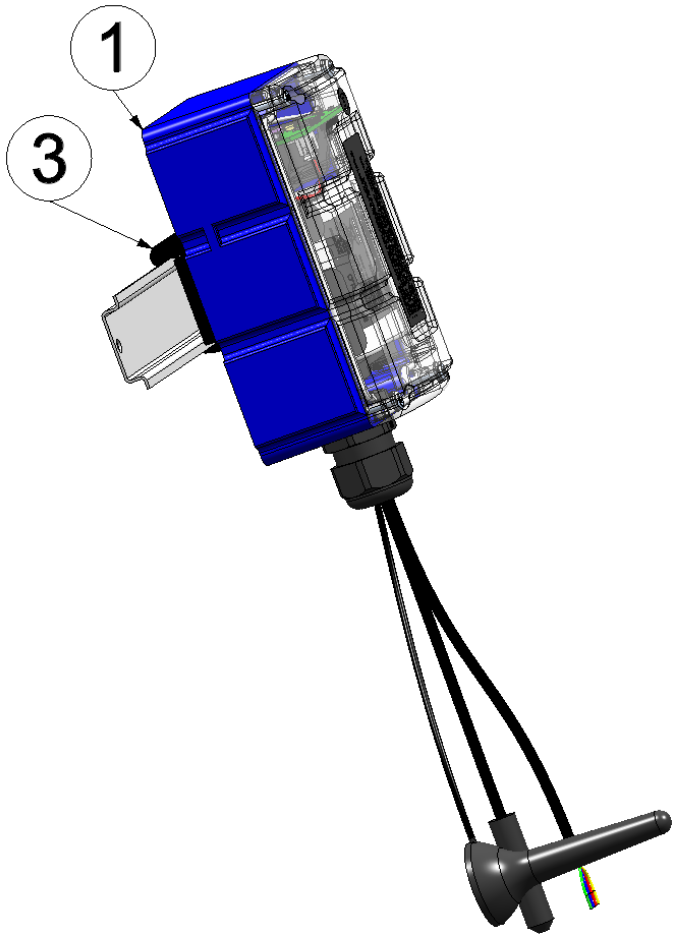
   If you are using your own screws, you must also insert the wall plugs into the holes before mounting the myDatalogNANOamr with the attached assembly loop (3) to the wall (see "Step 2 of the wall mounting" on page 34).

7.2.3 Top-hat rail assembly

The optional "DIN rail mounting set for myDatanet housing 86x126 (206.634)" equipment is required for the top-hat rail assembly.



Step 1 of the top-hat rail assembly



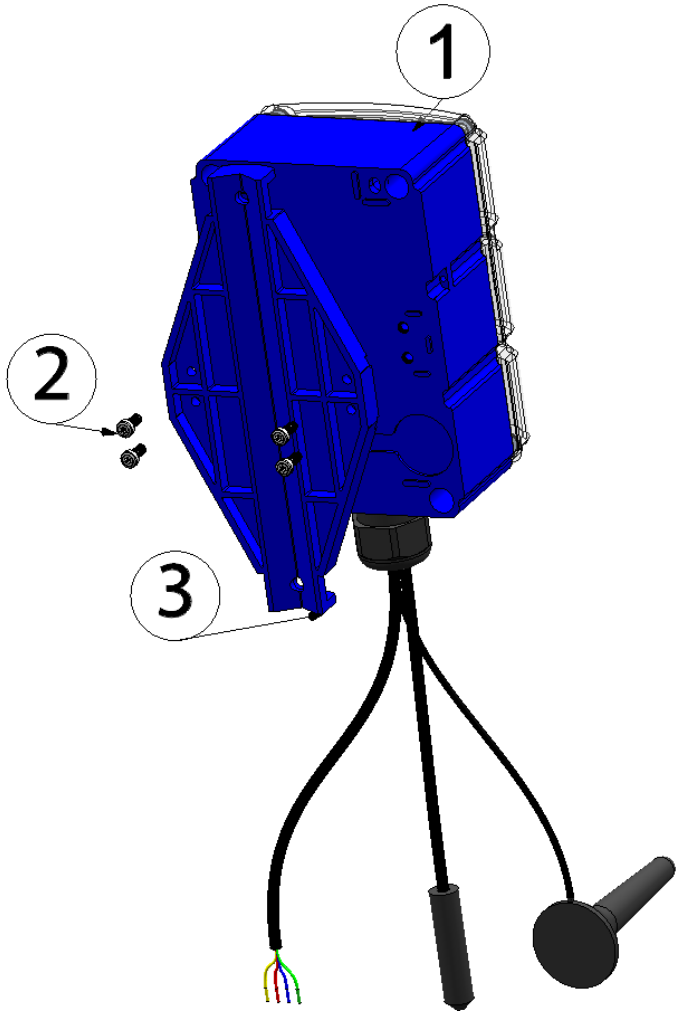
Step 2 of the top-hat rail assembly

1 myDatalogNANOamr	**3** Assembly loop (included in the scope of delivery of 206.634)
2 Delta PT M3.5x8 Torx 15 (included in the scope of delivery of 206.634)	

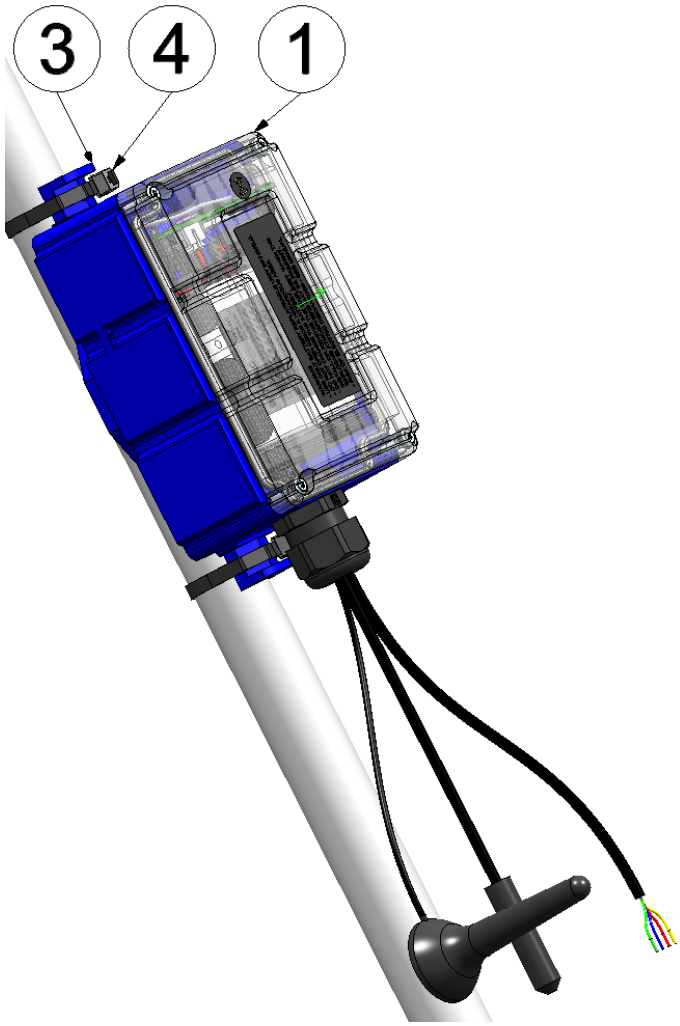
1. First attach the assembly loop (3) using the screws (2) included in the "DIN rail mounting set for myDatanet housing 86x126 (206.634)" equipment set to the myDatalogNANOamr (see "Step 1 of the top-hat rail assembly " on page 36).
2. Place the assembly loop (3) onto the top edge of the top-hat rail. When turned slightly around the horizontal axis of the myDatalogNANOamr with the assembly loop (3) attached, the assembly loop (3) engages on the top-hat rail (see "Step 2 of the top-hat rail assembly" on page 36).

7.2.4 Pipe assembly

The optional "Pipe mounting kit for myDatanet housing 86x126 (206.660)" equipment is required for the pipe assembly.



Step 1 of the pipe assembly



Step 2 of the pipe assembly

1 myDatalogNANOamr	**3** Assembly loop (included in the scope of delivery of 206.660)
2 Delta PT M3.5x8 Torx 15 (included in the scope of delivery of 206.660)	**4** Cable binder (included in the scope of delivery of 206.660)

1. First attach the assembly loop (3) using the screws (2) included in the "Pipe mounting kit for myDatanet housing 86x126 (206.660)" equipment set to the myDatalogNANOamr (see "Step 1 of the pipe assembly " on page 37).
2. Position the myDatalogNANOamr with the attached assembly loop (3) on the pipe and use the supplied cable binders (4) to secure the myDatalogNANOamr (see "Step 2 of the pipe assembly" on page 37).

7.3 Safety instructions for the cabling

When connections are made to the myDatalogNANOamr , the following warnings and information must be observed, in addition to the warnings and information found in the individual chapters on the installation. Further safety information is included in "Safety instructions" on page 13.

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.

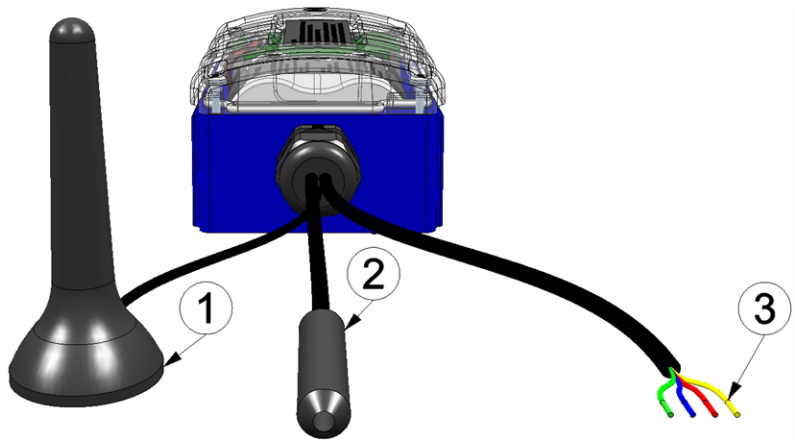
7.4 Electrical installation

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

7.4.1 Connecting the meters

Important note:

- All cabling work must be performed in the de-energised state.
- Ensure installation is completed correctly.
- Comply with the existing legal and/or operational directives.
- Improper handling can cause injuries and/or damage to the instruments!
- Run all data cables so that they do not pose a trip hazard and ensure that cables do not have any sharp bends.
- The myDatalogNANOamr must not be operated in the field with the lid open.



Connection of the sensors

1 Magnetic antenna Cable length: 3m	**3** Sensor cable with open ends (channel 1 and 2) Cable length: 1m
2 Sealed sensor cable (channel 3 and 4) Cable length: 0,12m	

Sensor cable with open ends

Channel	Colour	Function
Channel 1	Red	IN1
	Blue	GND
Channel 2	Green	IN2
	Yellow	GND

Sealed sensor cable

Channel	Colour	Function
Channel 3	Orange	IN3
	Brown	GND
Channel 4	Pink	IN4
	Black	GND

1. Connect your meters with pulse output to the inputs. If you also require channels 3 and 4, cut through the sealed sensor cable (2) in front of the sealing cap and strip the wires of the cable in accordance with your requirements.

   Important note: *Use suitable means to protect the joint between the sensor cable and meter or connection cable of the meter against the penetration of moisture and dust. Please note that the myDatalogNANOamr is only protected against damage to the external cable sheath relating to the penetration of moisture. If the cable sheath of the wires is also damaged or the joint is not sealed suitably, protection against the penetration of moisture can no longer be guaranteed.*

2. Initiate Aloha transmission mode (see "Aloha transmission mode" on page 23). The status LED should then start to flicker (see "Status LED" on page 50), indicating that a connection is being established.

   Note: *If the myDatalogNANOamr is still in transport mode, the transport lock is deactivated by the initiation of Aloha transmission mode and the device starts to operate in accordance with the configuration.*

The following step is not mandatory.

3. Check whether the connection to the myDatanet has worked correctly (see "Testing communication with the device" on page 47).

7.4.1.1 Connection examples

7.4.1.1.1 Sensus MS8100

Sensus MS8100			myDatalogNANOamr		
Type	**Function**	**Colour of the cable**	**Channel**	**Function**	**Colour of the cable**
A1/B1	Balanced pulses	White	1	IN1	Red
		Brown		GND	Blue
	Not used	---	---	---	---
		---		---	---
A2/B2 [1)]	Forward pulse	White	1	IN1	Red
		Brown		GND	Blue
	Backward pulse	Yellow	2	IN2	Green
		Brown		GND	Yellow
A3/B3[2)]	Forward/backward pulse	White	1	IN1	Red
		Brown		GND	Blue
	Flow direction	Yellow	---	---	---
		Brown		---	---
A4/B4[3)]	Balanced pulses	White	1	IN1	Red
		Brown		GND	Blue
	Error, when open	Yellow	---	---	---
		Brown		---	---

[1)] If backward pulses are expected, a "Calculated channel" (see "Calculated channels" on page 57) must be used to subtract the backward pulses from the forward pulses.

[2)] The myDatalogNANOamr cannot evaluate type A3/B3 direction signal. This connection example can be used if no backward pulses are expected.

[3)] The myDatalogNANOamr cannot evaluate type A4/B4 tamper/error signal.

7.4.1.1.2 Elster T-probe

Elster T-probe			myDatalogNANOamr		
Type	**Function**	**Colour of the cable**	**Channel**	**Function**	**Colour of the cable**
TL1	Pulse	Yellow	1	IN1	Red
		Black		GND	Blue
TL2	Pulse	Red	1	IN1	Red
		Blue		GND	Blue

7.4.2 Optimum antenna positioning for assembly in a shaft

7.4.2.1 Typical influences on the signal quality

Signal losses compared to the reference measurement

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

Note: *Practical example:*

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

7.4.2.2 Possibilities for improving the signal quality

- Drill a duct for the antenna into the concrete ring on the shaft to bypass the steel cover
- Insert the antenna cable in an existing ventilation or supply pipe

7.4.2.3 Procedure for determining the optimum position of the antenna

1. Install the myDatalogNANOamr as described in chapter "Installing the myDatalogNANOamr " on page 31. During this process, also observe the notes regarding the influences on the signal quality (see "Typical influences on the signal quality" on page 41).
2. Initiate Aloha transmission mode (see "Aloha transmission mode" on page 23).
3. Wait until it is indicated in the list of measurement instruments that the device is in Aloha transmission mode. This is indicated by a speech bubble with the "Aloha" inscription.



4. Check the internal "GSM level" measurement value in the incoming data in the Aloha data window of the myDatanet server, which can be accessed by clicking on the speech bubble with the "Aloha" inscription (see "myDatanet Server Manual " 805002). Change the position of the antenna to obtain the best possible signal quality.

Note: *A security stock of 15dBm is highly recommended.*

Note: *Additional explanation about evaluating the "GSM level":*

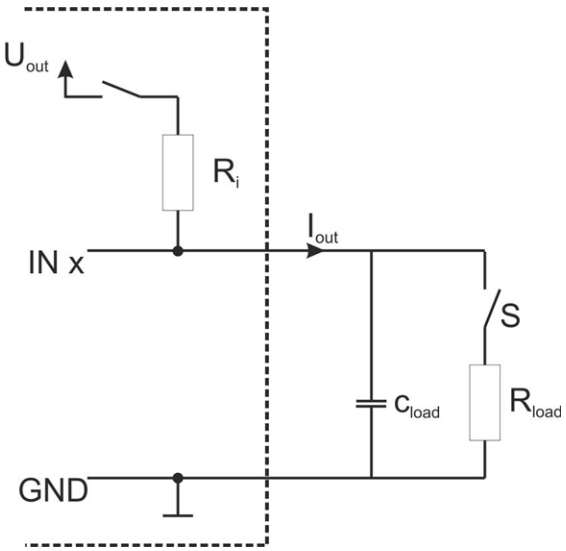
"GSM level"	
>-64dBm	
-64 to -73dBm	
-74 to -83dBm	
-84 to -93dBm	
-94 to -107dBm	
<= -108dBm	

7.4.3 Technical details about the meter inputs

4 inputs are available to which a meter contact can be connected without an additional energy supply. To save energy, the output voltage U_{out} is applied to the internal resistor R_i at a sample interval dependent on the selected "Reader type" (see "Config" on page 53) for a sample time that is also dependent on the selected "Reader type". The sample interval is 15,6ms for all "Reader types" for which the signal detection is greater or equal to 64ms. For all of the other "Reader types", the sample interval is 1ms. This means that as soon as one of the inputs requires the use of the short sample interval, the short sample interval is used for all of the inputs. This increases the energy requirement and reduces the device operating time.

The effects of the sample interval on the operating time of the device are detailed in the chapter "Technical details about the device operating time" (see "Technical details about the device operating time" on page 44).

The same sample time is used for all of the inputs. This means that the input that requires the longest sample time specifies the sample time. The effects on the operating time of the device are insignificant.



Schematic diagram of a meter input

$U_{out\ max}$	3,3V
$I_{out\ max}$	1,5mA
R_i	2k2
$R_{load\ max}$	640Ω
$C_{load\ max}$	10nF

The following conditions must be observed for the pulses to be detected correctly:

Low	< 0,75V
High	> 2,3V
Pulse length	>1ms

7.4.4 Technical details about the device operating time

The following calculations apply to fully charged batteries and 15 minute record intervals.

> ***Note:*** *It must be noted that if the transport lock is activated, the myDatalogNANOamr uses a certain, albeit low, amount of energy even during storage. This means that if a device has already been stored for a prolonged period that the operating times in the following table might not be able to achieved anymore.*

Configuration	Device operating time
1 channel active 4 ms reader type 6 h transmission cycle	up to 3 years
2 channel active 4 ms reader type 6 h transmission cycle	up to 2,83 years
1 channel active 100 ms reader type 6 h transmission cycle	up to 3,76 years
2 channel active 100 ms reader type 6 h transmission cycle	up to 3,75 years
1 channel active 4 ms reader type 12 h transmission cycle	up to 4 years
2 channel active 4 ms reader type 12 h transmission cycle	up to 4 years
1 channel active 100 ms reader type 12 h transmission cycle	up to 6,87 years
2 channel active 100 ms reader type 12 h transmission cycle	up to 6,81 years

> ***Important note:*** *Any deviation of the configuration from the values in the table affect the operating time of the device.*

Chapter 8 Initial Start-Up

8.1 User information

Before you connect the myDatalogNANOamr 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 myDatalogNANOamr .

Contact Microtronics Engineering GmbH(see "Contact information" on page 113) 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 myDatalogNANOamr and the input screens of the myDatanet server before you begin with the configuration.

8.3 Placing the system into operation

> ***Note:*** *It is recommended that the myDatalogNANOamr is first placed into operation in the office before mounting the device permanently at the place of use. During this process, you should set a site for the later operation on the myDatanet server (see "myDatanet Server Manual " 805002) and determine a site configuration (see "Site configuration" on page 51). Take the opportunity to get to know the functions of the device in a stable environment. You can also use suitable test signals to simulate the sensors to establish the optimum configuration of the myDatalogNANOamr prior to its actual first use. This reduces the amount of time required for on-site installation to a minimum.*

The following work should be completed at the office before you go to the future location of the device:

1. If necessary, create a customer on the myDatanet server (see "myDatanet Server Manual " 805002).
2. Within the selected customer, 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 51).

4. Initiate Aloha transmission mode (see "Aloha transmission mode" on page 23). The status LED should then start to flicker (see "Status LED" on page 50), indicating that a connection is being established.

   Note: *If the myDatalogNANOamr is still in transport mode, the transport lock is deactivated by the initiation of Aloha transmission mode and the device starts to operate in accordance with the configuration.*

5. Move the myDatalogNANOamr from the pool to the selected customer (see "Assigning a device to the customer" on page 73).
6. Link the myDatalogNANOamr with the created site (see "Site" on page 51).
7. Activate the Aloha transmission mode (see "Aloha transmission mode" on page 23) again so that the site configuration is transferred to the myDatalogNANOamr .

   Note: *You can also skip this step, as Aloha transmission mode must also be initiated during the installation on site, which transfers the configuration to the myDatalogNANOamr at the same time.*

The following work is completed at the location of the device:

8. Complete all of the steps detailed in the chapter "Connecting the meters" on page 38.

   Important note: *The last work steps of the chapter "Connecting the meters" on page 38 include the initiation of Aloha transmission mode. If you intend to install the myDatalogNANOamr in a shaft, the device including the antenna should still be outside the shaft when Aloha transmission mode is initiated.*

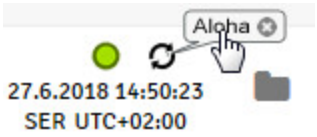
9. Use the WebApp (see "Configuring the measurement channels" on page 83) to adjust the basic settings of the measurement channels as well as the meter readings to the meter connected to the relevant measurement channel. The myDatalogNANOamr must be in Aloha transmission mode for this purpose.
10. If you intend to install the myDatalogNANOamr in a shaft, you must check that the device can also establish a GPRS connection in the final installation position when the shaft lid is closed before you leave the place of use. Proceed as follows during this process:
    1. Place the device and the antenna in the final installation position (with the shaft lid open).
    2. Initiate Aloha transmission mode.
    3. Close the shaft lid.
    4. Wait until it is indicated in the list of sites of the WebApp (see "List of sites" on page 79) that the myDatalogNANOamr is in Aloha transmission mode. This is indicated by a green background colour.
    5. Click on the site assigned to the device and check the GSM signal strength displayed in the upper right corner.

       Note: *Information on improving the reception quality is provided in chapter "Optimum antenna positioning for assembly in a shaft" on page 41.*

8.4 Testing communication with the device

1. Create a site for operation on the myDatanet server (see "myDatanet Server Manual " 805002).
2. Configure the created site according to your requirements (see "Site configuration" on page 51).
3. Link the myDatalogNANOamr with the created site (see "Site" on page 51).
4. Initiate the Aloha transmission mode (see "Aloha transmission mode" on page 23) so that the site settings are transferred to the myDatalogNANOamr .
5. Wait until it is indicated in the list of measurement instruments that the device is in Aloha transmission mode. This is indicated by a speech bubble with the "Aloha" inscription.



The following steps are only required if you simultaneously want to test the measurement value acquisition and data transmission.

6. Stop the Aloha transmission mode by clicking the cross in the speech bubble with the "Aloha" inscription or wait for the duration of the Aloha transmission mode. This period can be set in the basic settings (see "Basic setting" on page 62) of the site configuration. The default setting is 10 minutes.
7. Then wire up the sensors (see "Connecting the meters" on page 38) and restart the Aloha transmission mode.
8. Check the incoming data in the Aloha data window of the myDatanet server, which can be accessed by clicking on the speech bubble with the "Aloha" inscription (see "myDatanet Server Manual " 805002). Particular attention must be paid to the internal"GSM level" measurement value.



Note: *Additional explanation about evaluating the "GSM level":*

"GSM level"	
>-64dBm	
-64 to -73dBm	
-74 to -83dBm	
-84 to -93dBm	
-94 to -107dBm	
<= -108dBm	

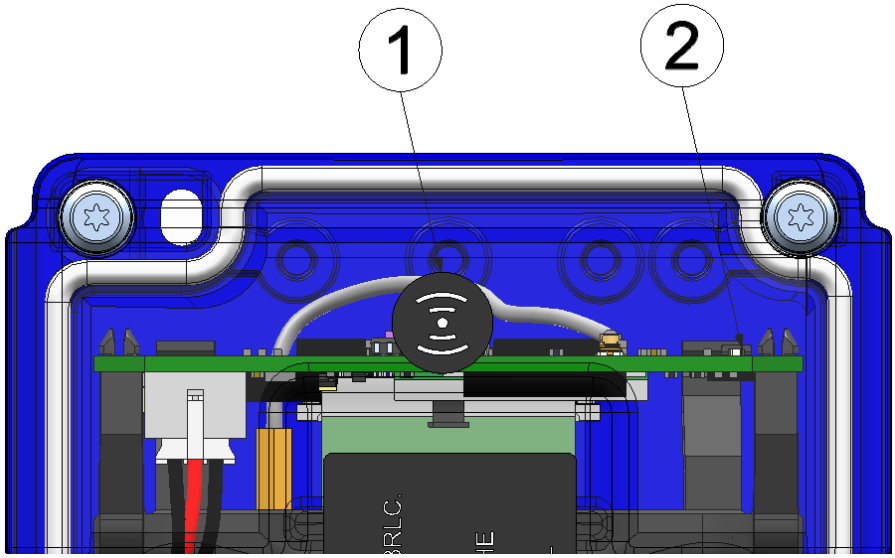
Chapter 9 User interfaces

The configuration of the myDatalogNANOamr is carried out via the web interface on the myDatanet server (see "User interface on the myDatanet server" on page 51), which your responsible sales partner will provide to you.

9.1 User interface on the myDatalogNANOamr

9.1.1 Operating elements

The operating elements of the myDatalogNANOamr can still be operated when the housing is closed.



Operating elements

1 Solenoid switch	**2** Status LED

9.1.1.1 Solenoid switch

The MDN Magnet (206.803), that is available as an accessory, is required to operate the solenoid switch. The solenoid switch can be used to initiate the Aloha transmission mode or to instruct the myDatalogNANOamr to immediately issue the error/status code.

Operation by the user	Device response	Operation after releasing the solenoid switch
Press briefly (approx. one second)	Status LED illuminates	Error/status code is issued (see "Status LED" on page 50)
Press and hold for five seconds	Status LED flashes three times and then remains on	Aloha transmission mode

9.1.1.2 Status LED

The status LED is used both to display the error/status codes and to indicate the current operating state. If the Aloha transmission mode was activated or the power supply was provided (PowerOn), the status LED shows the current operating state for 10 minutes. During these 10 minutes, the error/status codes are issued every 3 seconds as long as there is no GPRS connection.

Error/status codes

Flashing code	Description	Solution/cause
0x	Transport lock (GPRS OFF, measurement OFF)	If the Aloha transmission mode is initiated by solenoid switch, the myDatalogNANOamr switches back into "RUN" mode (GPRS ON, measurement ON).
1x	Last connection OK	---
2x	Last transmission faulty	Try again later
4x	Standby (GPRS ON, measurement OFF)	see "transport lock"
6x	Offline (GPRS OFF, measurement ON)	see "transport lock"
7x	Network block/no matching provider	• Improve the position of the antenna • Check whether the device is located in the coverage area of one of the service providers supported by the integrated SIM chip (www.microtronics.com/footprint)
8x	No GSM network	• Try again later • Improve the position of the antenna
10x	No GPRS connection	Improve the position of the antenna
11x	No myDatanet server available	• Check whether port 51241 is enabled on the myDatanet server • Try again later
12x	Faulty SIM chip	Contact support

Operating states

Status LED	Description
Flickering	Establishing connection
Lights up	GPRS connection established or solenoid switchactuated
Off	Normal measuring operation according to configuration until the next transmission

9.2 User interface on the myDatanet server

9.2.1 Site configuration

> ***Note:*** *Depending on the respective user level, some of the configuration fields mentioned in the following sub-chapters may be hidden. In this case, please contact the administrator of the myDatanet server.*

Click on the name of the site in the list of sites to open 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.

 **symbol**
Assign site to another customer

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

Title 1-4

Freely selectable channel title for the meter inputs

Mode

Basic settings for the measurement channel

Off	*Measurement channel deactivated*	
Cnt.Inf *Cnt.Inf S0* [1)]	*Infinite counter*	
	Impulse	*Metered measurand of a pulse in the "Imp. unit"*
	Imp.unit	*String that the WebApp displays as the measuring unit when specifying the pulse value (see "Configuring the measurement channels" on page 83)*
	Impulse scale	*Factor with which the metered measurand of a pulse is multiplied to convert the "Imp. unit" to the "Unit" that is used by all of the display elements of the server (see "Additional information on configuring a meter input:" on page 52)*
	Max	*Defines the upper scale end of the pointer instruments*
	Unit	*String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values The WebApp also uses this string to display the meter readings.*
	Decimal places	*Number of decimal places that are used by all of the server display elements*

[1)] *This mode is only available for the meter inputs 3 and 4.*

Note:

Additional information on configuring a meter input:

Assumption: *The meter provides one pulse per 5l. The meter reading should be displayed in [m³] on the server interface*

Required configuration

Parameter	***Value***
Impulse	*5*
Imp.unit	*l*
Impulse scale	*0.001*
Unit	*m³*

9.2.1.3.2 Config

Note: *The parameters described in the following are only available if the relevant measurement channel has been activated.*

Reader type

Selection of the reader type

Elster Grey Snapfit (4 ms)	*Elster reader* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 30µs*
Elster Black Snapfit (4 ms)	
Elster T. PROBE (4 ms)	
Elster LRP (4 ms)	
Elster Q4000 (4 ms)	
Elster HRP (4 ms)	
Elster ODO7 (4 ms)	
Elster HELIX 4000 (4 ms)	
Elster PR7 (4 ms)	
Elster PR6 (4 ms)	*Elster reader* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 40µs*
Itron CYBLE K1000 (64 ms)	*Itron reader* *Minimum signal length for the signal detection: 64 ms* *sample interval: 15,6ms* *sample time: 30µs*
Itron EMES UNIT (64 ms)	
Sensus HRI (15 ms)	*Sensus reader* *Minimum signal length for the signal detection: 15 ms* *sample interval: 1ms* *sample time: 30µs*
Sensus HRI-Mei (15 ms)	
Sensus OD01 (4 ms)	*Sensus reader* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 30µs*
Sensus RD01 (4 ms)	
Arad BASIC (4 ms)	*Arad reader* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 30µs*
Arad 40/50 (4 ms)	
Aquamaster (8 ms)	*Aquamaster reader* *Minimum signal length for the signal detection: 8 ms* *sample interval: 1ms* *sample time: 30µs*

slow (200 ms)	*Universal setting for long pulses:* *Minimum signal length for the signal detection: 200 ms* *sample interval: 15,6ms* *sample time: 30µs*
medium (64 ms)	*Universal setting for medium pulses:* *Minimum signal length for the signal detection: 64 ms* *sample interval: 15,6ms* *sample time: 30µs*
fast (4 ms)	*Universal setting for short pulses:* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 30µs*
fast plus (4 ms)	*Universal setting for short pulses and high load resistances:* *Minimum signal length for the signal detection: 4 ms* *sample interval: 1ms* *sample time: 40µs*

Colour of the cable

Specifies the colours of the pair of wires for the meter input

Current counter reading

If Aloha mode is active, the directly determined or last recorded counter reading is displayed.

Reset counter reading

Input field to edit the counter reading

Set counter

Button for accepting the new counter reading. This button can only be operated if Aloha mode is active.

Threshold 1 [1)]

Threshold as a % of $U_{out\,max}$ (3,3V) – a "High" (logic 1) is detected if this threshold is reached or exceeded. A value must be set for this threshold.

Threshold 0 [1)]

Threshold as a % of $U_{out\,max}$ (3,3V) – a "Low" (logic 0) is detected if this threshold is not reached. If no value is set for this threshold, then the input signals below "Threshold 1" are interpreted as "Low" (logic 0).

Threshold OL [1)]

Threshold as a % of $U_{out\,max}$ (3,3V) – the "Open Look" error status (connection to reader interrupted) is detected if this threshold is exceeded. In such a case, an alarm and a transmission are triggered during the next recording. If no value is set for this threshold, detection of the error status is deactivated.

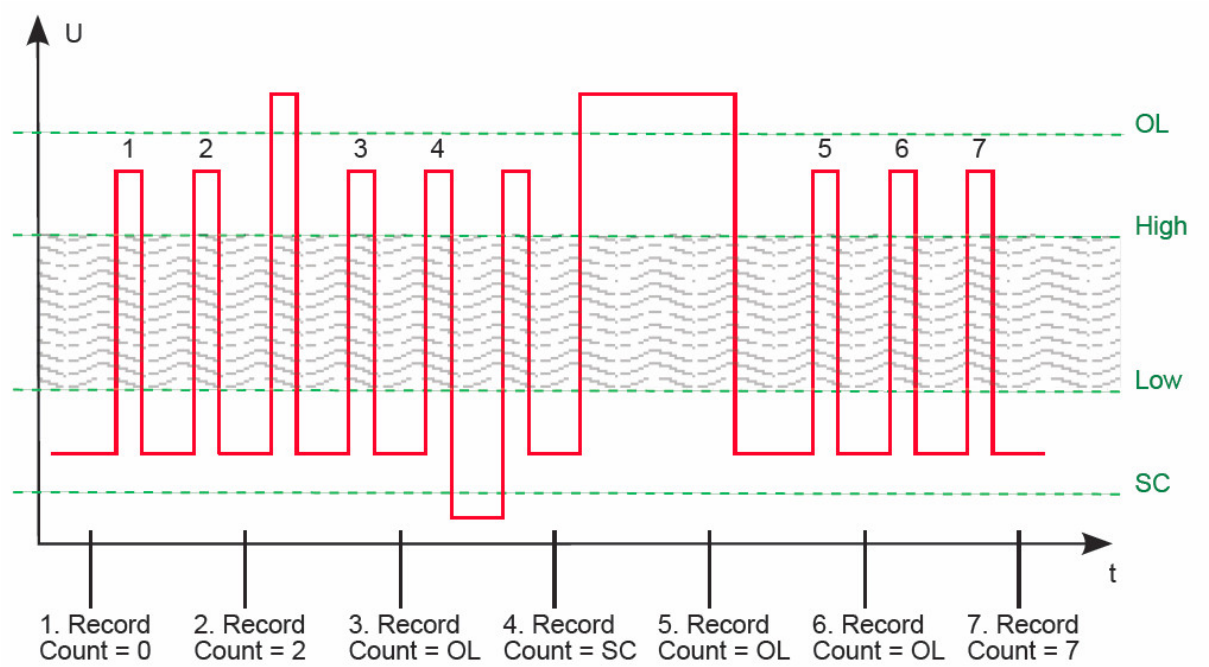
Threshold SC [1)]

Threshold as a % of $U_{out\,max}$ (3,3V) – the "Short Circuit" error status is detected if this threshold is not reached. In such a case, an alarm and a transmission are triggered during the next recording. If no value is set for this threshold, detection of the error status is deactivated.

[1)] These parameters are only available for counter inputs operated in "Cnt.Inf S0" mode.

Note:

Additional explanation on the behaviour of the counter dependent on the input signal in "Cnt.Inf S0" mode



Characteristics of the signal on a counter input

1st record	*The counter starts to count at 0.*
2nd record	*Two valid pulses were detected -> the counter jumps to 2.*
3rd record	*As soon as a single pulse reaches or exceeds the "OL threshold", the "Open Loop" error status is detected -> the counter is set to "OL". The valid pulse (3) is still recognised and is also added up. An alarm and a transmission are triggered at the time of the recording.*
4th record	*As soon as a single pulse reaches or falls below the "SC threshold", the "Short Circuit" error status is detected -> the counter is set to "SC". The valid pulse (4) is still recognised and is also added up. An alarm and a transmission are triggered at the time of the recording as the error status switches from "Open Loop" to "Short Circuit".*
5th record	*The "Open Loop" error status is detected. An alarm and a transmission are triggered at the time of the recording as the error status switches from "Short Circuit" back to "Open Loop" again.*
6th record	*The "Open Loop" error status is still detected in addition to a valid pulse (5).*
7th record	*The input signal is back in the valid range and the counter jumps to 7. The alarm is reset and a transmission is triggered at the time of the recording.*

Note: *If the input signal is between the "Low" and "High" thresholds (shaded area), no state change is detected and the counter reading remains unchanged.*

9.2.1.4 Dynamic profiles 1-100

Dynamic profiles can be used to detect irregularities in the chronological order of the pulses generated by the reader. For example, in the event of a burst pipe, more pulses are generated by a flow rate counter within a defined time frame than would be the case during normal operation.

9.2.1.4.1 Basis

Mode

Selection of the mode for the dynamic profile

- *Off: An active alarm is reset during the next recording.*
- *Flow rate: During every recording, the total change of all of the inputs being monitored since the last recording is divided by the time difference between the two recordings. This, for example, converts the quantity [m³] into the flow rate [m³/s]. A transmission is triggered if the calculated value is less or equal to "Min" or greater or equal to "Max". An alarm is also triggered if the "Send alarm" checkbox is selected. If the calculated value is between "Min" and "Max" again once it is no longer in the valid range, a transmission is also triggered and any pending alarm is reset, if necessary.*
- *User alarm x: At the start of the time frame, the internal counter of the relevant dynamic profile is set to 0. The changes to the counter readings from the inputs being monitored are then added up in this internal counter. If "greater or equal" mode was selected for monitoring the threshold, a check is completed during every recording to determine whether the internal counter has reached or exceeded the specified threshold and a transmission is triggered, if necessary. The check can only be completed at the end of the time frame for "less or equal" mode. The transmission is initiated if the internal counter reading is less or equal to the threshold at this time. An alarm is also triggered in addition to the transmission if the "Send alarm" checkbox is selected. A pending alarm is reset at the start of the time frame.*

Title 1-100

Freely selectable title for the dynamic profile

Mo, Tu, We, Th, Fr, Sa, Su

By selecting the checkboxes, it can be specified on which days of the week the dynamic profile is active. The time frame is specified via the "Start time" and "End time" parameters in the "Config" tab.

Channel: 1, 2, 3, 4

Selection of the counter inputs for which the development of the values should be monitored. If several inputs were selected, the changes to the individual counter readings are initially summarised before the monitoring method selected using the "Mode" parameter is applied.

9.2.1.4.2 Config

Off	---		
Flow rate	Start time	Start time of the time frame during which the dynamic profile is active on the selected days	
	End time	End time of the time frame during which the dynamic profile is active on the selected days	
	Min	A transmission is triggered if the calculated flow rate is less or equal to this threshold.	
	Max	A transmission is triggered if the calculated flow rate is greater or equal to this threshold.	
	Send alarm	An alarm is triggered in addition to the transmission if the calculated flow rate is outside the valid range (<= "Min" or >= "Max"). The alarm is reset as soon as the calculated flow rate is within the valid range again.	
User alarm 1 User alarm 2 User alarm 3	Start time	Start time of the time frame during which the dynamic profile is active on the selected days	
	End time	End time of the time frame during which the dynamic profile is active on the selected days	
	Threshold	Threshold for initiating a transmission. The value must be specified in the "unit" that is used by all of the server display elements.	
		Greater or equal	The internal counter reading of the dynamic profile must be greater or equal to the threshold to trigger the transmission.
		Less or equal	The internal counter reading of the dynamic profile must be less or equal to the threshold at the end of the time frame to trigger the transmission.
	Send alarm	An alarm is also triggered in addition to the transmission if the level falls below or exceeds the threshold. The alarm is reset at the next start time of the time frame.	

9.2.1.5 Calculated channels

Note: *The values of the calculated channels are directly calculated for every data output (display on the myDatanet server or download from the myDatanet server). They are not saved in the server database.*

9.2.1.5.1 Basis

Title 1-5

Freely selectable channel title for the calculated channels [0-16 characters]

Mode

Possible calculation modes for the calculated channels

Off	*---*	*Calculated channel deactivated*
Table	*Min*	*Defines the lower scale end of the pointer instruments*
	Max	*Defines the upper scale end of the pointer instruments*
	Unit	*String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values*
	Decimal places	*Number of decimal places that are used by all of the server display elements*
Digital	*Invert*	*Inverts the input signal*
+, -, x, /	*Min*	*Defines the lower scale end of the pointer instruments*
	Max	*Defines the upper scale end of the pointer instruments*
	Unit	*String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values*
	Decimal places	*Number of decimal places that are used by all of the server display elements*
Delta	*Determines the difference between two measurement values and divides the result by the time difference between the time stamps of the measurement values. The time unit (value/sec., value/min., ...) for the result can be selected via the "Time basis" parameter located in the "Calculation" tab. It is thus possible to convert the counter reading (m^3) of the source in to a flow rate (m^3/min.) (see "Additional explanation: Delta mode" on page 60).*	
	Min	*Defines the lower scale end of the pointer instruments*
	Max	*Defines the upper scale end of the pointer instruments*
	Unit	*String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values*
	Decimal places	*Number of decimal places that are used by all of the server display elements*
clone	*Creates a clone of a measurement channel. This ensures it is possible to rename channels, to select different ends of the scale for the pointer instruments, to determine a new string as a measurement unit and to adjust the number of decimal places. The measurement values (numerical value without unit) correspond exactly to those of the source.*	
	Min	*Defines the lower scale end of the pointer instruments*
	Max	*Defines the upper scale end of the pointer instruments*
	Unit	*String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values*
	Decimal places	*Number of decimal places that are used by all of the server display elements*

Shift element down

Shift element up

9.2.1.5.2 Calculation

Off	---	Calculated channel deactivated
Table	Source	Selection of the channel from which the input data is used
		Opens the screen for entering the values table (the table rows are interpolated linearly, values outside of the defined table are extrapolated linearly.)
Digital	Source	Selection of the channel from which the input data is used
	High level	Signal recognition level
+, -, x, /	Source	Selection of the channel from which the input data is used
	+, -, x, /	
	Source	Selection of the channel from which the input data is used
Delta	Source	Selection of the channel from which the input data is used
	Time basis	Specifies the desired time unit (value/sec., value/min., ...) for the result
	Offset	Offset that is added following multiplication with the "Factor" parameter. The result is converted in to the desired time unit before multiplication with the "Factor" parameter.
	Factor	Factor with which the result is multiplied once it has been converted into the desired time unit. The "Offset" parameter is then added.
Clone	Source	Selection of the channel that should be cloned

Note:

Additional explanation: Delta mode

Assumption: *The source channel contains the counter reading of an infinite counter in m^3. The calculated channel 1 should contain the flow rate in m^3/s and calculated channel 2 should contain the flow rate in l/h.*

Required configuration

Parameter	*Value channel 1*	*Value channel 2*
Basis -> mode	*Delta*	*Delta*
Basis -> unit	*m^3/s*	*l/h*
Calculation -> time basis	*Seconds*	*Hours*
Calculation -> offset	*0*	*0*
Calculation -> factor	*1*	*1000*

Source		*Calculated channel 1*	*Calculated channel 2*
Date/time	*Infinite counter [m^3]*	*Flow rate [m^3/s]*	*Flow rate [l/h]*
26.03.2013 12:50	*900*	*0 1)*	*0 1)*
26.03.2013 12:51	*960*	*1*	*3,600,000*
26.03.2013 12:52	*990*	*0.5*	*1,800,000*
26.03.2013 12:53	*1005*	*0.25*	*900,000*
26.03.2013 12:54	*1065*	*1*	*3,600,000*

1) Calculation not possible as there is no measurement value before 12:50.

Explanation: *No values can be determined for the measurement at 12:50 for the calculated channels as there is no previous value and the difference between the counter readings cannot be determined. For the measurement at 12:51, the difference to the counter reading is 60m^3 and the time difference is 60sec.*

Result = { (value difference / time difference [sec.]) * time basis [sec] * factor } + offset

The result for calculated channel 1 (time basis "Seconds", offset "0" and factor "1") is calculated as follows:

Channel 1 = { (60m^3 / 60sec.) * 1 * 1 } + 0 = 1m^3/s

The result for calculated channel 2 (time basis "Hours", offset "0" and factor "1000") is calculated as follows:

Channel 2 = { (60m^3 / 60sec.) * 3600 * 1000 } + 0 = 3,600,000l/h

9.2.1.5.3 Alarms

Note: *The evaluation of the alarm thresholds for calculated channels can only occur if the device has transferred the measurement data to the myDatanet server.*

Alarm low	An alarm is triggered, if the measurement value drops to or below this value.
Alarm high	An alarm is triggered, if the measurement value meets or exceeds this value.
Hyst %	Hysteresis for the all-clear in the event of an alarm/warning (e.g. Hyst = 5%, alarm or warning at 100 -> all-clear at 95) or reset the trigger (e.g. Hyst = 5%, level = greater or equal, trigger at 100 -> reset at 95)

9.2.1.6 Internal channels

9.2.1.6.1 Basis

Battery title	Freely selectable channel title for the battery voltage	
	Unit	String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values
GSM level title	Freely selectable channel title for the GSM level	
	Unit	String that is used as a measurement unit by all of the server display elements [0-16 characters]. It has no direct influence on the values

9.2.1.7 Alarm settings

Acknowledgement	Standard	The global server setting is used to determine whether alarms must be acknowledged automatically or manually (see "myDatanet Server Manual " 805002).
	automatic	Alarms are acknowledged automatically as soon as all of the messages have been sent. If SMS that have a tariff with a delivery confirmation function have also been sent, acknowledgement is provided after delivery confirmation.
	Manual	Alarms must be acknowledged by the user.
Offline alarm	Alarm in case the device does not respond for longer than the set number of transmission cycles. An additional tolerance of 10 min. is granted per transmission cycle to take any retries when establishing a connection into consideration.	
Transfer volumes	Standard	The setting for the transfer volume alarm is taken from the global server settings(see "myDatanet Server Manual " 805002).
	Off	The transfer volume alarm is deactivated.
	Individual	The level at which the transfer volume alarm should be triggered can be entered in the adjacent field in KiB.
Title user alarm 1	Freely selectable title for user-defined alarm 1. If the user-defined alarm 1 is triggered by a device connected to the site, the server will use this text to signal the alarm. The same applies to user-defined alarm 2 and 3.	
Title user alarm 2	Freely selectable title for user-defined alarm 2	
Title user alarm 3	Freely selectable title for user-defined alarm 3	

9.2.1.8 Basic setting

Connection type	Interval	The device connects in the transmission cycle.
	Interval & wakeup	The device connects to the server in the transmission cycle and can be placed into Aloha transmission mode via the server.
Aloha/Wakeup duration	Duration of the Aloha/wakeup connection	
Start Aloha	Immediately after the activation of the standard connection, the Aloha transmission mode is activated as well. After that, the device deletes this check box.	
Transmission cycle	Time between transmissions	
Transmission time	Time at which the device establishes a connection to the server regardless of the transmission cycle. However, this additional transmission is only completed if a transmission has not already been completed 5 minutes before this time or if a transmission will not be completed 10 minutes after this time. If an additional transmission has been initiated, the internal meter of the device, that determines the time of the transmission, is reset. This means that the next transmission is completed exactly after the time specified via the "transmission cycle" parameter.	
Record interval	Time between measurement data recordings	
Time zone	Regional settings (not relevant for raw measurement data as this is stored in UTC)	
Daylight saving time	Configuration for automatic time adjustment	
	Standard	The configuration for the time adjustment is adopted by 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
Position cycle	Position update interval (00:00 positioning is completed with every connection)	
Default report	Selection of the report that is loaded by clicking on the device link in the maps	
	Off	The default graphic is loaded.
	"Name of a report"	The selected report is loaded.
Report template	Selection of whether the default graphic or a report template to display the data is used when clicking on the symbol to display the measurement data located in the site/application list. Only the report templates in which the site/application type of the first wild card is compatible with the site/application that is currently being edited are displayed in the dropdown list.	
	(not assigned)	The default graphic is used to display the measurement data.
	"Name of a report template"	Name of the report template used to display the measurement data

Switch contact mode	Operation that is triggered when the solenoid switch is activated, is currently not modifiable

Note: *The transmission cycle and record interval must be coordinated in such a way that the number of measurement cycles that must be recorded between two transmissions does not exceed the memory size of the instrument. The server checks both of these parameters during input and displays a relevant note next to the input field of the transmission cycle in the event of an unfavourable configuration. During its calculations the server does, however, not take into consideration that single transmissions could fail due to poor network coverage or that the fast recording divisor could be activated by a trigger.*

9.2.1.9 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 Measurement instrument

Customer	Name of the customer to whom the measurement instrument is assigned
Tags	List of the tags that are already assigned to the measurement instrument. This assignment can be cancelled by clicking on the cross next to the title of the tag. The input screen for assigning the tags is opened by clicking on the plus symbol. This enables existing tags to be assigned and new tags to be created.
Serial number	Serial number of the instrument

Instrument class	The instrument class of the site and instrument must match for an instrument to be able to be connected to a site. Once the instrument has been created via the server interface, the instrument class can only be changed up until the first connection of the instrument to the server. If an instrument class, that does not match the actual class of the instrument, is selected when the instrument is created it is automatically corrected during the first connection.	
Telephone number	Telephone number of the SIM card. The control SMS messages (e.g. wakeup) are sent to this number. Format: +43555837465	
Instrument flags	Additional information regarding the instrument class (for internal use)	
Firmware version	Current software version installed on the measurement controller	
Modem version	Current software version installed on the modem controller	
OS version	OS version of the modem	
Last connection	In each case, the last time stamp of the affected operation	
Last wakeup		
Last disconnection		
Last transmission error		
Last Aloha connection		
Wakeup SMS count	Number of wakeup SMS sent to this device since the last connection. This counter is reset at/during each successfully established connection.	
Firmware update	Off	Firmware update is deactivated.
	On	As soon as a new version of the selected firmware type is available, this is installed immediately.
	Even if tag is missing	Firmware is also transferred to the device if the device has not transmitted the current firmware version to the server (NOT RECOMMENDED!).
	Allow downgrade	Facilitates the installation of an older firmware version than the one on the device (NOT RECOMMENDED!)
	Once	Performs a single firmware update. If no new firmware is available or the firmware was installed successfully, the firmware update is automatically switched to "OFF".
	Ignore	The firmware update is deactivated and no information is provided about available firmware updates.
Firmware type	Released	Only firmware versions that have successfully undergone internal and field testing are installed (this practically eliminates malfunctions).
	Release candidate	Only firmware versions that have successfully undergone internal testing are installed (malfunctions cannot be excluded).
	Beta release	Even firmware versions that have not successfully undergone all of the internal tests are installed (malfunctions may occur).
Hardware version	Reserved for extensions	

9.2.2.3 Device-specific settings

Operating type	hold	Measurement: OFF, transmission: ON
	run	Measurement: ON, transmission: ON
	transport	Measurement: OFF, transmission: OFF
	offline	Measurement: ON, transmission: OFF

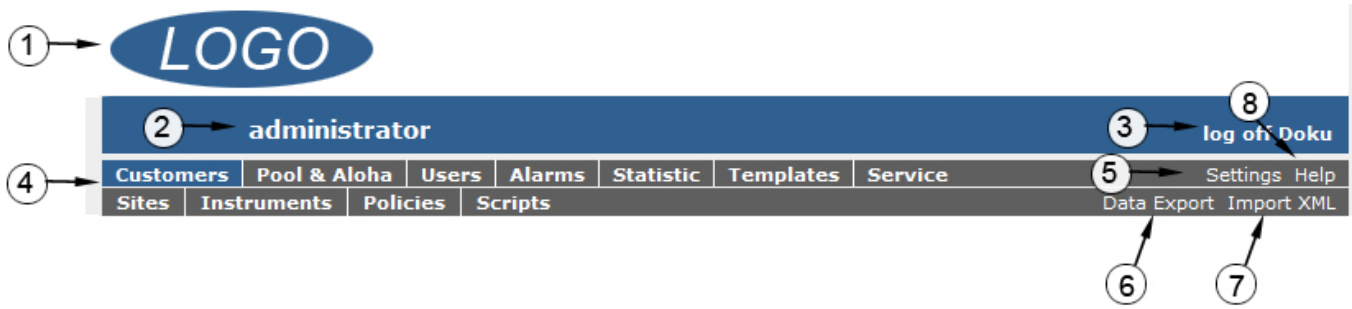
9.2.2.4 GPRS

SIM tariff
Selected SIM tariff

Chapter 10 myDatanet server

Note: *All of the screenshots show version 47.28 of the myDatanet server using the standard colour scheme. Newer versions may include minor changes to the appearance of the server.*

10.1 Overview



Overview of the myDatanet server

1	Freely selectable logo	**5**	Opens the screen to input the global settings for the server
2	User group to which the user who is currently logged in is assigned	**6**	Switches to the "Data exports" area to configure the data export. This tab is only visible if at least the licence for one export variant is available.
3	Logout the active user	**7**	Opens the input screen to upload a XML file. This tab is only visible if the licence for the XML import is available.
4	Tabs to switch between the individual server areas	**8**	Call up the help menu

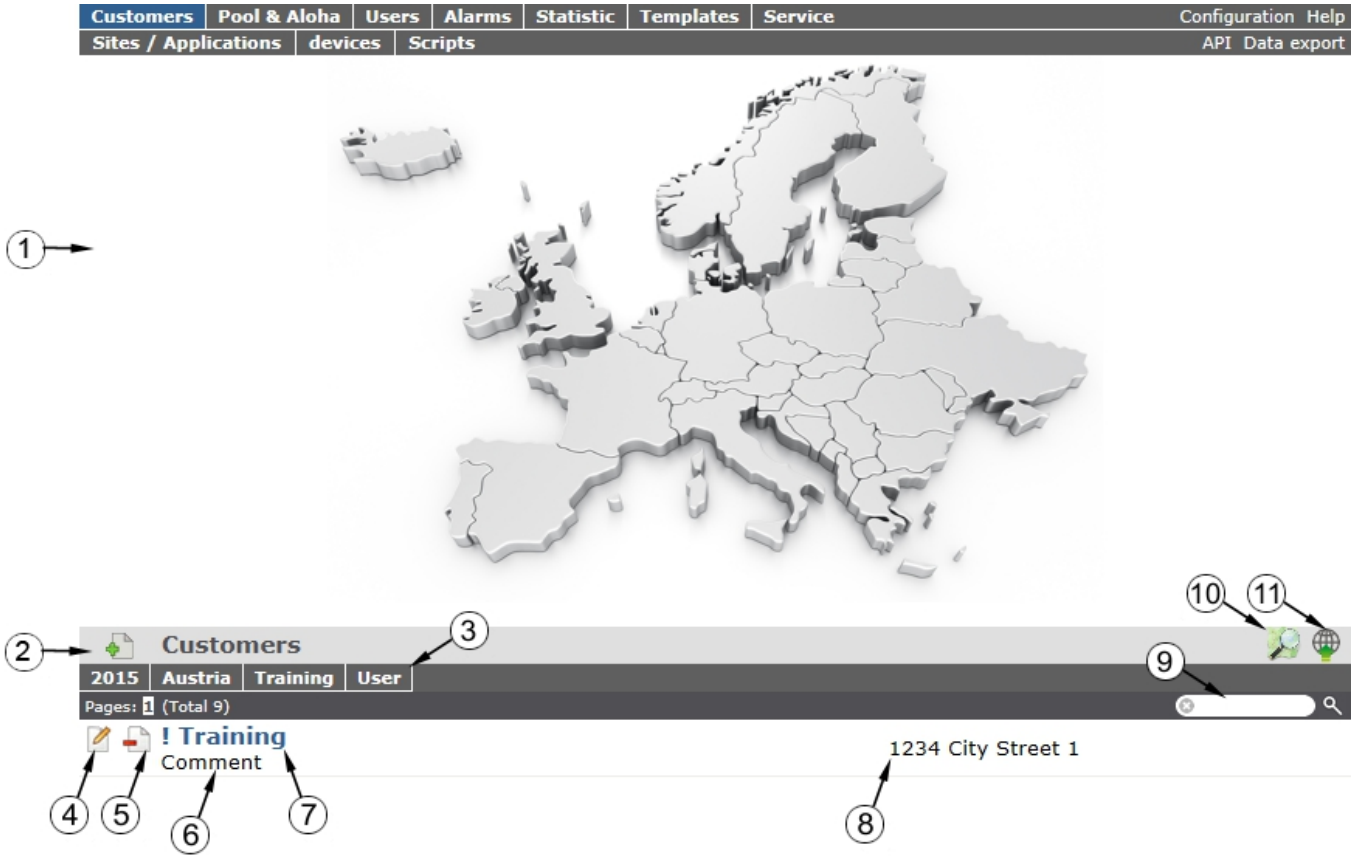
10.1.1 Explanation of the symbols

Adds a new entry to the current list (reports, sites, users, etc.).

Deletes the adjacent element (reports, sites, users, etc.) from the list.

Calls up the input screen to edit the adjacent element (reports, sites, users, etc.).

10.2 "Customer" area

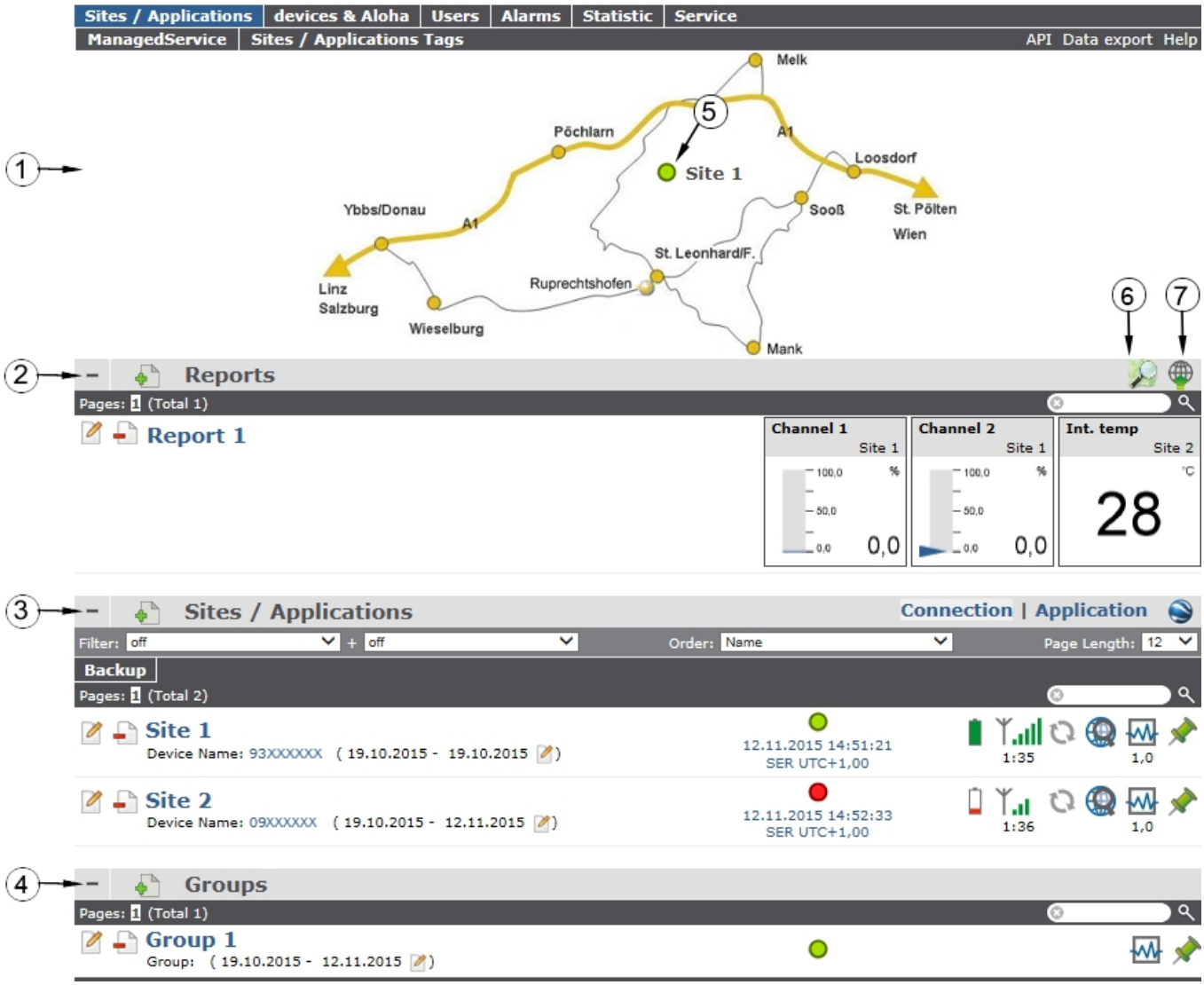


Overview of the "Customer" area

1	Area where an image file can be displayed as a "Map" and/or the OpenStreetMaps map can be displayed The sites can be manually placed on the image file used as a "map". In the OpenStreetMaps map, the sites are only displayed once GPS coordinates have been assigned to the site.
2	Adds a new customer
3	List of tags that are assigned to at least one of the customers displayed in the list of customers. If the list of customers was limited by the search field or selection of a tag, this is taken into consideration when creating the list of tags. A cross is added to the end of the list of tags as soon as the list of customers is limited by the selection of a tag. Clicking on this cross will reset the selection of all tags and the restriction is cancelled. By clicking on one of the tags with the left mouse button only those customers who have been assigned the corresponding tag are displayed in the list of customers and the selected tag is highlighted in colour. By clicking on one of the tags with the right mouse button all of the customers who have been assigned the corresponding tag are hidden, the selected tag is highlighted in colour and the title of the tag is crossed out. Clicking the same mouse button again will remove the restriction.

4	Opens the input screen for configuring the customer
5	Deletes the customer
6	Comment that can be entered in the configuration of the customer
7	If a default report was defined, the default report is accessed by clicking on the name of the customer. Otherwise the "Sites" area at customer level is opened by clicking on the name of the customer (see ""Site" area at customer level" on page 70 or "Reports" on page 71).
8	Customer's address that can be entered via the input screen for configuring the customer
	Search field to filter the customer list
10	Symbol via which a OpenStreetMaps map, on which the sites are displayed, can be loaded. (see "Map view" on page 71)
11	Symbol via which an image file can be loaded on to the server as an "Overview map" To remove the "Map" again, open the upload dialogue again and click on "Submit" without selecting an image file beforehand.

10.3 "Site" area at customer level



Overview of the "Sites" area at customer level

1	Area where an image file can be displayed as a "Map" and/or the OpenStreetMaps map can be displayed The sites can be manually placed on the image file used as a "map". In the OpenStreetMaps map, the sites are only displayed once GPS coordinates have been assigned to the site.
2	List of reports (see "Reports" on page 71)
3	List of sites/applications (see "Site" on page 51)
4	List of groups (see "Groups" on page 71)
5	Symbol that represents a site on the "Map"
6	Symbol via which a OpenStreetMaps map, on which the sites are displayed, can be loaded. (see "Map view" on page 71)

7	Symbol via which an image file can be loaded on to the server as a "Map" To remove the "Map" again, open the upload dialogue again and click on "Submit" without selecting an image file beforehand.

10.3.1 Reports

The reports provide a variety of options to display graphs of the data on the web interface of the myDatanet server or to download the data from the myDatanet server. Detailed instructions on creating and handling the reports is provided in myDatanet Server Manual (805002).

10.3.2 Groups

The groups offer a variety of options for consolidating and summarising the measurement data of different sites. Detailed instructions on creating and handling the groups is provided in myDatanet Server Manual (805002).

10.3.3 Map view

The map view provides an overview of the geographic position of the sites. Detailed instructions on operating and configuring map view are provided in myDatanet Server Manual (805002).

10.4 Recommended procedure

10.4.1 Creating the site

> ***Note:*** *Some of the fields mentioned in the following chapters may be hidden depending on the respective user level. In this case, please contact the administrator of the myDatanet server.*

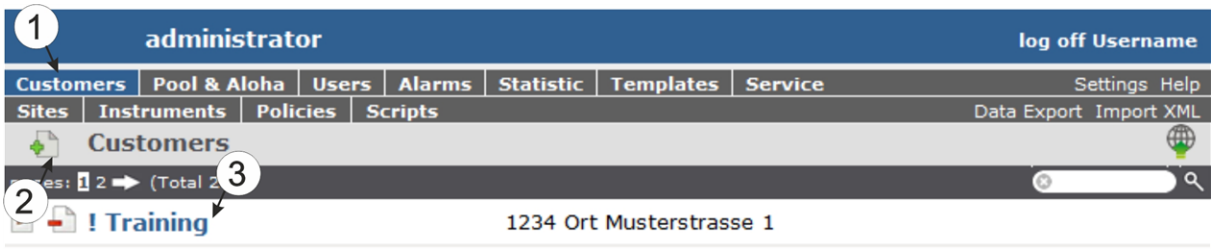
Detailed instructions on creating a new site are provided in myDatanet Server Manual (805002).

1. Log in via the web interface on the myDatanet server. You will receive the web address from your responsible sales partner.



Login form of the myDatanet server

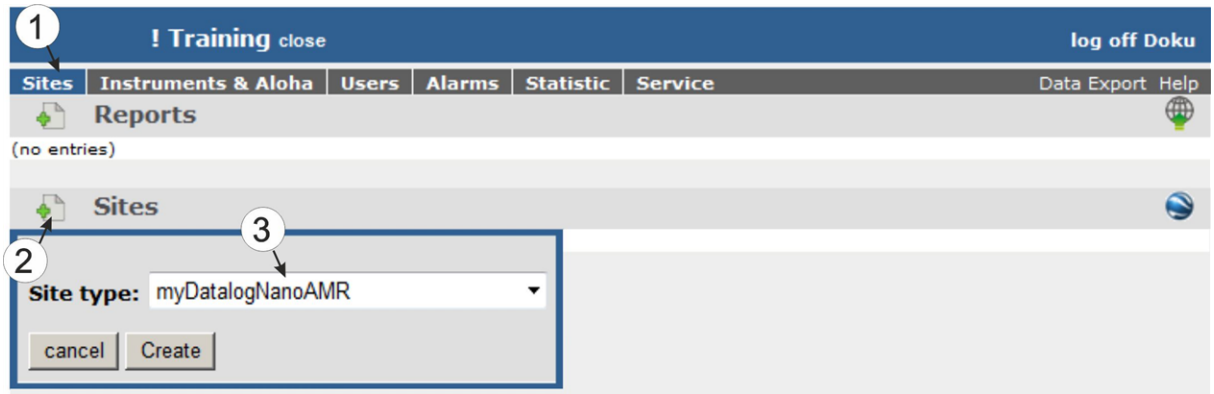
2. Click on the "Customer" menu item of the myDatanet server to call up the list of available customers. Select an existing customer or create a new customer.



Selecting the customer

1 Menu item to call up the list of customers	**3** List of available customers
2 Creating a new customer	

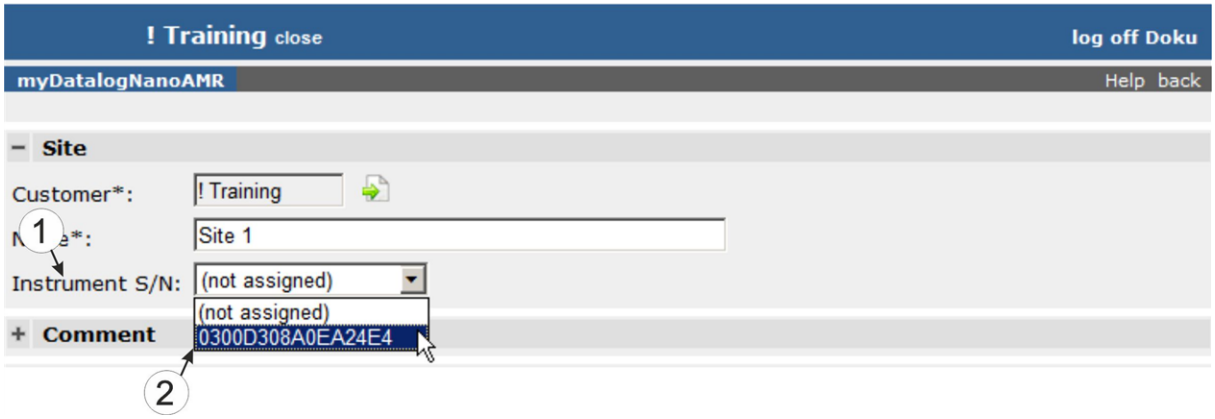
3. Click on the "Sites / Applications" menu item of the myDatanet server to call up the list of available application templates and sites. Create a new "myDatalogNANOamr " type site or a site using an application template that is compatible with the "myDatalogNANOamr " site type.



Creating the site

1 Menu item to call up the list of sites	**3** Selection of the type of site
2 Creating a new site	

4. Link the site/application with the myDatalogNANOamr by selecting the serial number. If the serial number of your device is not included in the list, you must first assign the device to the customer (see "Assigning a device to the customer" on page 73) or the device is already assigned to a different site. More detailed information on this is provided in myDatanet Server Manual (805002).



Linking the device and site

1 Device assignment	**2** List of devices that have not yet been linked with a site

10.4.2 Assigning a device to the customer

Note: *Some of the fields mentioned in the following chapters may be hidden depending on the respective user level. In this case, please contact the administrator of the myDatanet server.*

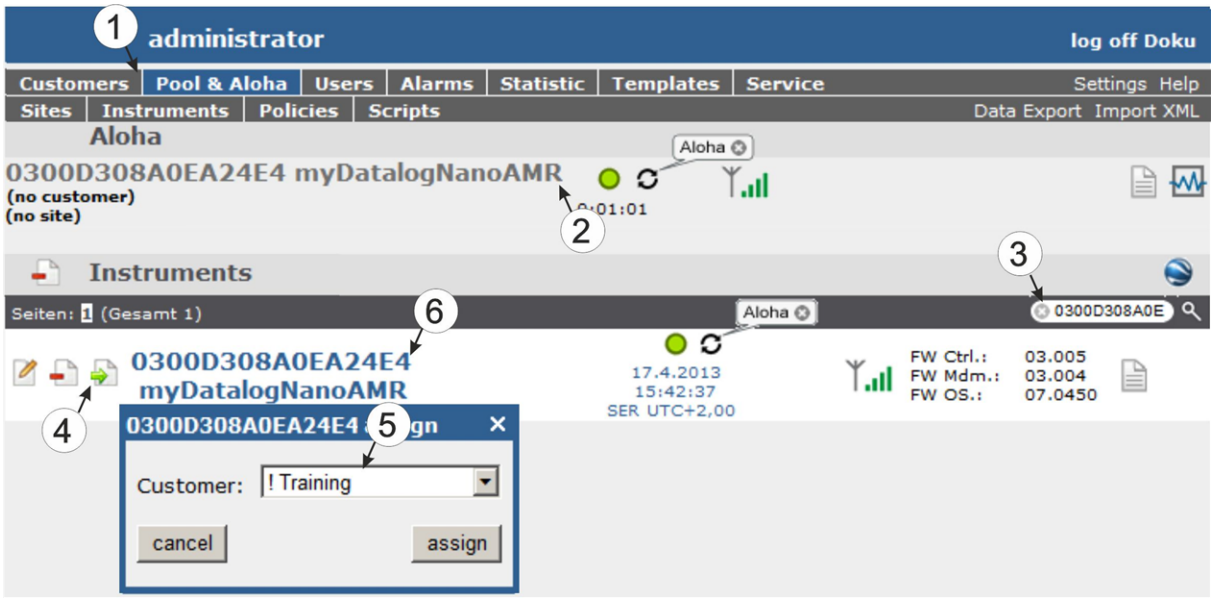
Detailed instructions on shifting the devices are provided in myDatanet Server Manual (805002).

1. Log in via the web interface on the myDatanet server. You will receive the web address from your responsible sales partner.



Login form of the myDatanet server

2. Click on the "Pool and Aloha" menu item of the myDatanet server to access the list of devices that are in ALOHA transmission mode.



Assigning a device to the customer

1	Menu item to call up the list of devices that are in ALOHA transmission mode	**4**	Opens the dialogue to select the customer to whom the device should be assigned
2	List of devices in ALOHA transmission mode	**5**	Selection of the customer to whom the device should be assigned
3	Filter for the list of measurement instruments	**6**	List of measurement instruments

3. Initiate ALOHA transmission mode on the device. Instructions on this are provided in "Aloha transmission mode" on page 23.
4. Use the filter to find the required device in the list of measurement instruments. Click on the symbol to open the dialogue to select the customer (see "Assigning a device to the customer" on page 74) and assign the device to the selected customer.

Chapter 11 WebApp

11.1 General

The WebApp is not a native application that you have to install on your smartphone, it is instead an optimised web interface of the myDatanet server for the displays of these devices. You therefore only have to access the web interface of the myDatanet server via the browser of the smartphone. However, this optimised interface is only displayed if a Level 1 or 2 user has logged in. Users with a higher access level always access the standard web interface and the full functional scope even via a smartphone.

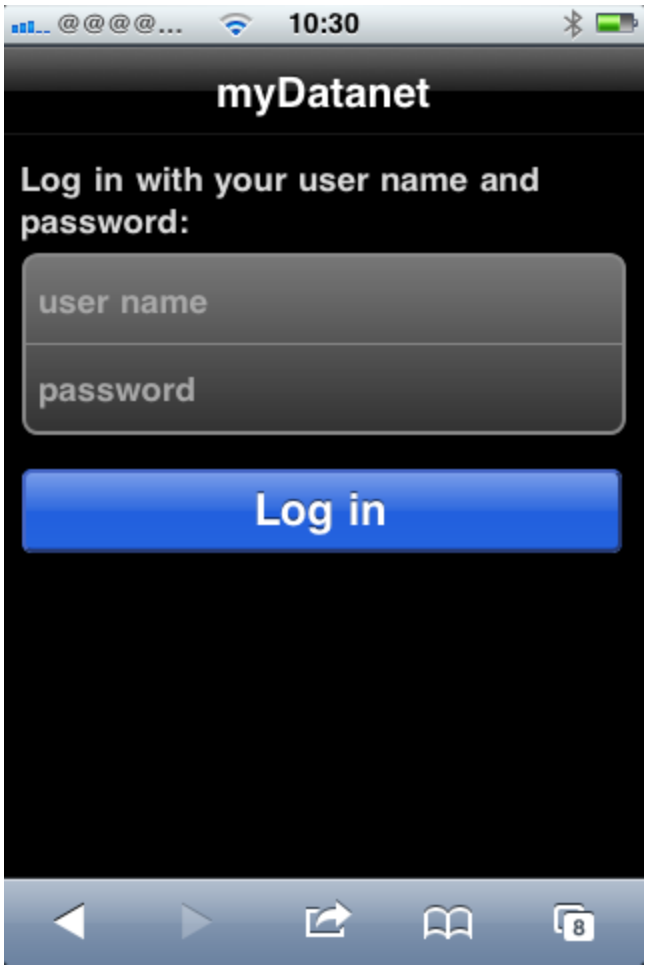
11.2 Creating a "Direct login"

It is possible to create a favourites link on the smartphone that uses the "Direct login" function of the myDatanet server. Such a direct link includes the "Direct login character string" that clearly identifies the user on the myDatanet server and thus means that the login dialogue can be skipped and direct access to the list of sites is granted. A "Direct login" link can only be created if the "Direct login" function has been activated for the relevant user (see "myDatanet Server Manual " 805002) and requires the login process to be completed once via the login dialogue. The "Direct login" function is activated for all users as standard.

> ***Important note:*** *Do not give your "Direct login" link to anyone else otherwise they would be granted access to your account on the myDatanet server.*

The following two chapters describe how to create a "Direct login" for iOS (iPhone) and Android. For other mobile operating systems, please refer to your smartphone's operating instructions.

For both systems, first of all enter the web address of the myDatanet server. You will receive the address from your responsible sales partner. This will take you to the login dialogue.



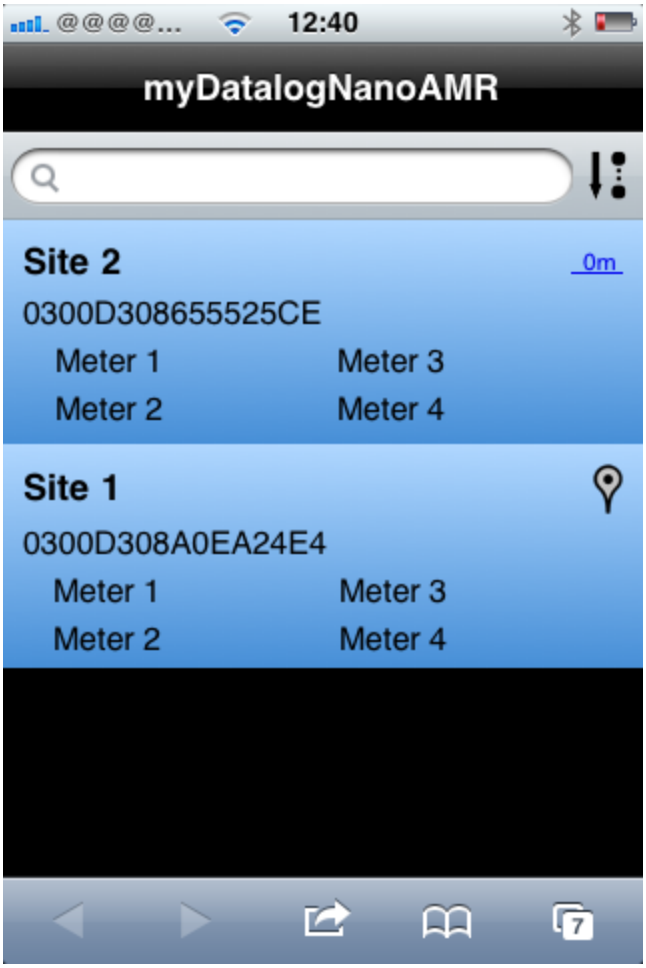
Login dialogue (iPhone)

After you have entered your login details, you can access the list of sites

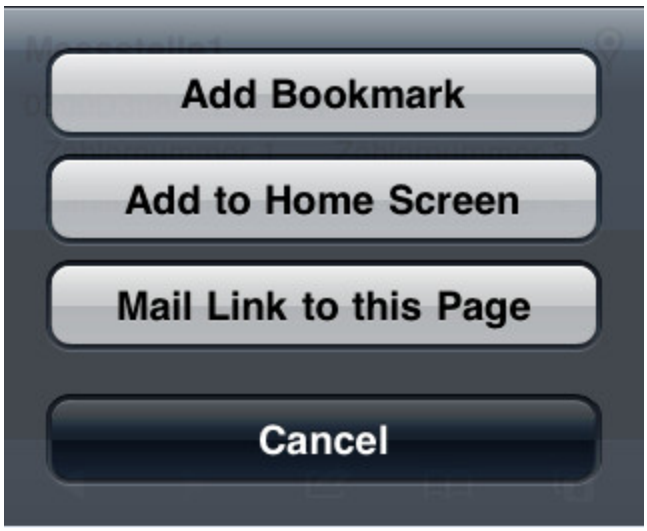
Note: *The "Direct login" link can only be created from the list of sites.*

11.2.1 iOS (iPhone)

Select the  symbol to open the submenu.



List of sites (iOS)



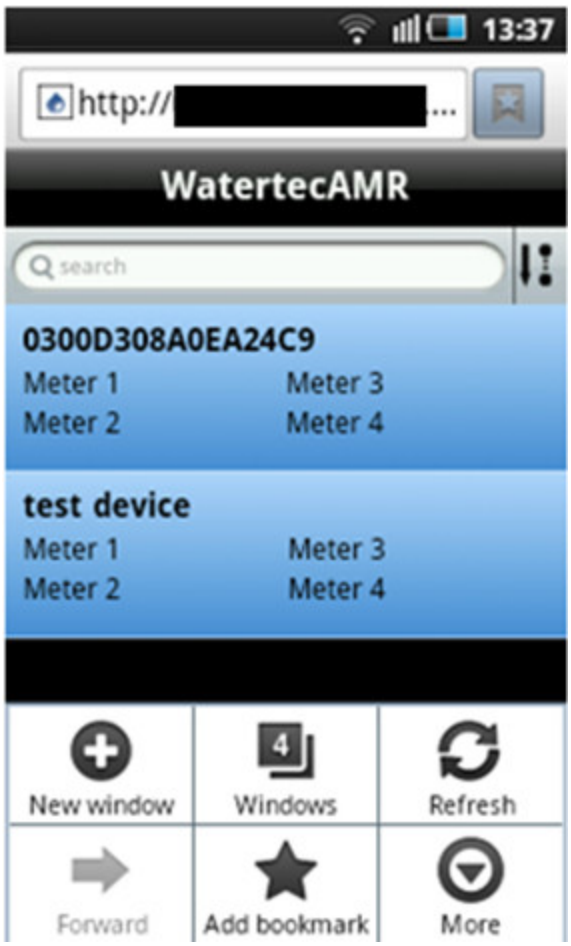
Submenu for creating a link

Use the "Add to home screen" button to add a "Direct login" link as a symbol on your "Home screen" or use the "Add bookmark" button to bookmark your "Direct login" link.

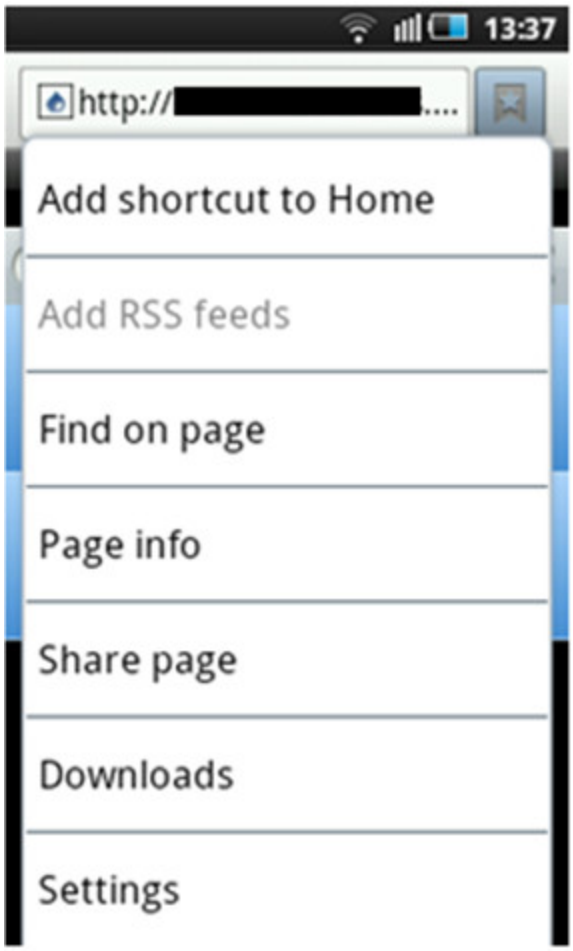
11.2.2 Android 2.2

Select the submenu button to access the browser's basic menu and then select the 

symbol to expand the menu.



List of sites (Android)

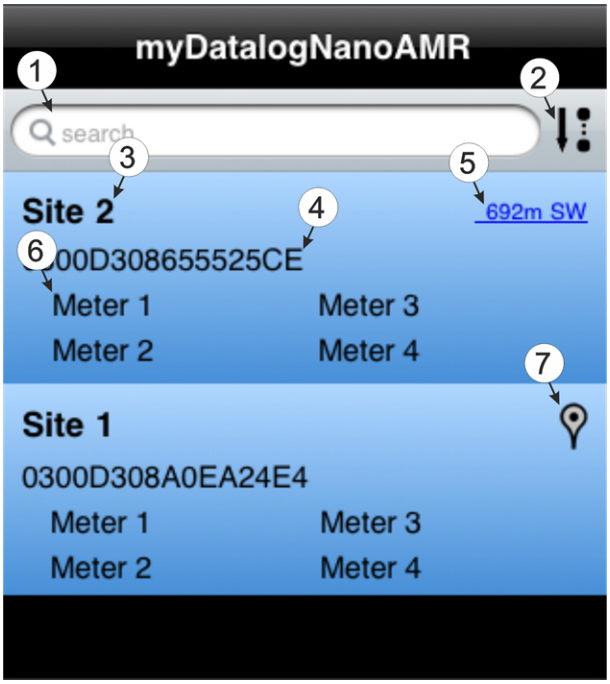


Submenu for creating a link

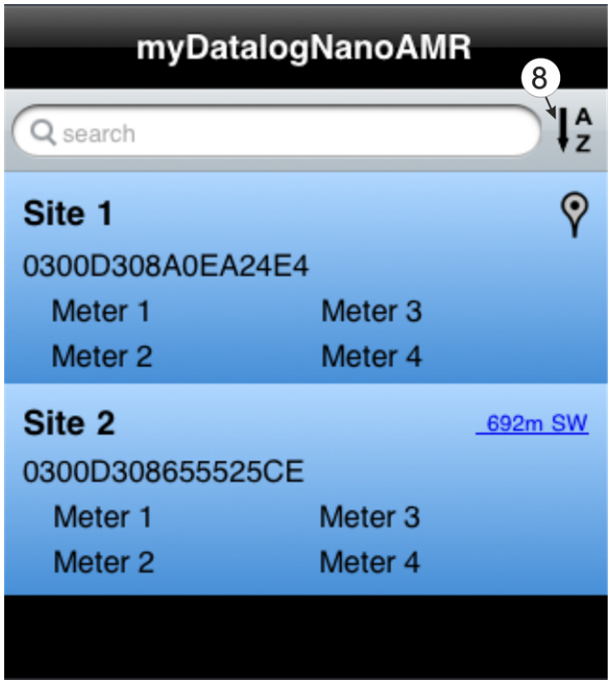
Use the "Add shortcut to home" button to add a "Direct login" link as a symbol on your "Home screen".

11.3 List of sites

You will have access to the list of sites once you have logged in via the login dialogue.



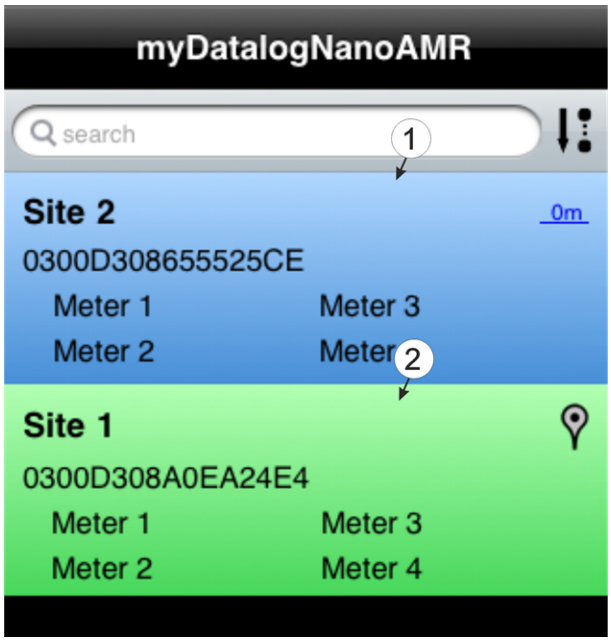
List of sites sorted according to distance



List of sites sorted according to title

1	Text input field to filter the list of sites	**5**	Distance and direction to the site
2	Indicates that the list of sites is sorted according to distance. Clicking will change the sorting according to site titles.	**6**	Title of the measurement channels
3	Title of the site	**7**	Position data is not available for the site
4	Serial number of the device linked to the site	**8**	Indicates that the list of sites is sorted according to titles of the sites. Clicking will change the sorting according to distance.

Sites for which the assigned device is in Aloha transmission mode (see "Aloha transmission mode" on page 23) are indicated by a green background colour. A blue background indicates that the device linked to the site currently has not established an active connection to the myDatanet server.

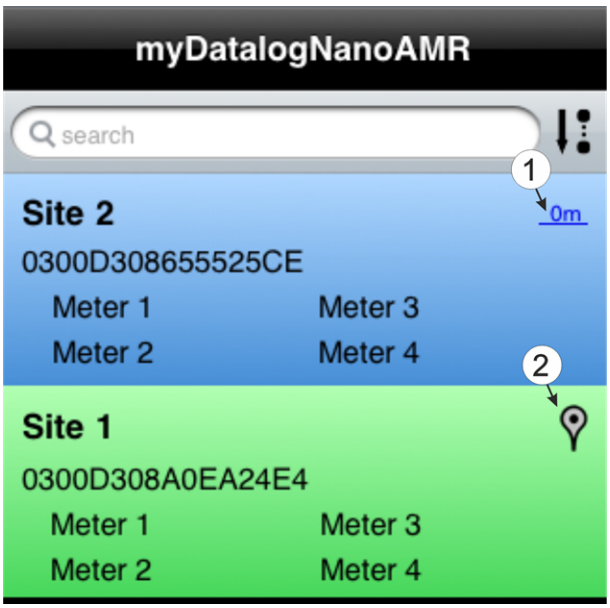


List of sites: devices in Aloha transmission mode

1	Device offline	**2**	Device in Aloha transmission mode

11.3.1 Determining the position of the site

The position of the site must be determined to indicate the distance to the site in the list of sites. If you are at the site, you can use the GPS receiver of your smartphone to assign your current position to the site via the WebApp . To do this, click on the distance value (position data is already available) or on the symbol that indicates that there is no position data available yet.



List of sites

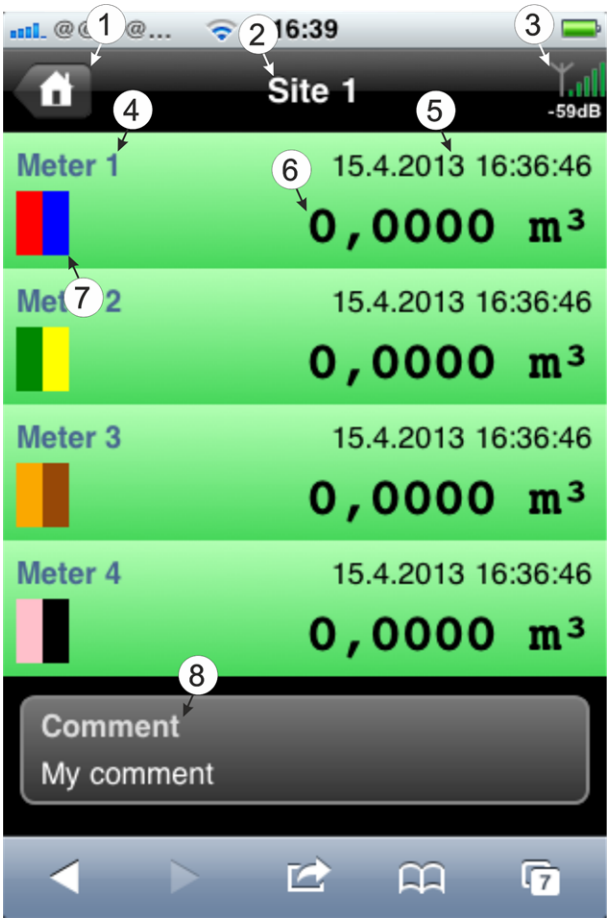


Assigning the position

1	Distance value (position data is already available)	**2**	No position data available yet

11.4 Site info screen

The site info screen is accessed by clicking on the site in the list of sites (see "List of sites" on page 79). In this case, the background colour will indicate the connection status (green for Aloha transmission mode, blue for offline) of the device connected to the site.



Site info screen (Aloha transmission mode active)

1	Back to the list of sites	**5**	Time stamp of the last measurement value
2	Title of the site	**6**	Last measurement value (meter reading) [1)]
3	GSM signal strength	**7**	Colours of the pair of wires for the measurement channel
4	Title of the measurement channels	**8**	Comment on the site

[1)] The measurement channel is deactivated if no meter reading is displayed. It cannot be activated via the WebApp but can only be activated via the standard web interface (see "Measurement channels" on page 52).

11.4.1 Editing a comment

Clicking on the comment (see "Site info screen" on page 81) opens the screen to enter the description of the site.

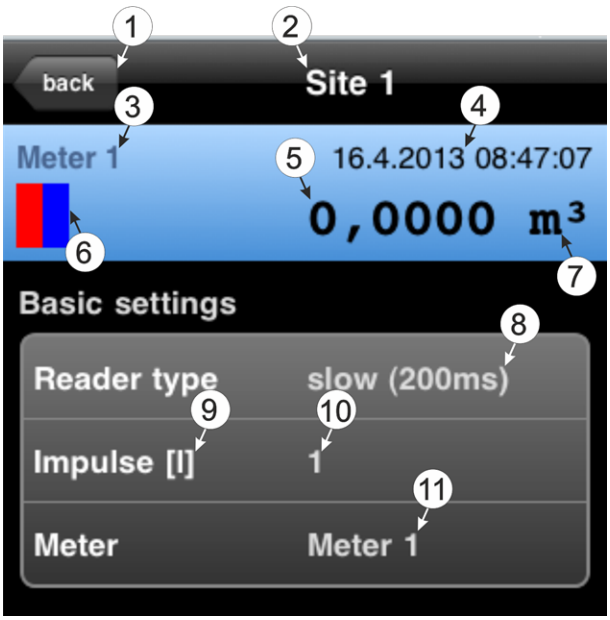


Editing the comment

1	Back to the site info screen without saving	**3**	Input field for a comment about the site
2	Title of the site	**4**	Save change and go back to the site info screen

11.4.2 Configuring the measurement channels

To configure the measurement channel, click on the relevant entry in the info screen of the site (see "Site info screen" on page 81). In this case, the background colour will also indicate the connection status (green for Aloha transmission mode, blue for offline) of the device connected to the site. Changes cannot be made in offline mode. Which of the input fields can be edited in Aloha transmission mode is dependent on the authorisation level of the user who is logged in.



Screen for configuring a measurement channel (offline)

1	Back to the site info screen	**7**	String that is used as the measuring unit for the meter readings [2)]
2	Title of the site	**8**	Selection of the reader type (see "Config" on page 53) [3)]
3	Title of the measurement channel	**9**	Unit in which the metered measurand of a pulse has to be entered [2)]
4	Time stamp of the last measurement value	**10**	Metered measurand of a pulse in the "Imp. unit"[3)]
5	Last measurement value (meter reading) [1)]	**11**	Input field to change the title of the measurement channel[3)]
6	Colours of the pair of wires for the measurement channel		

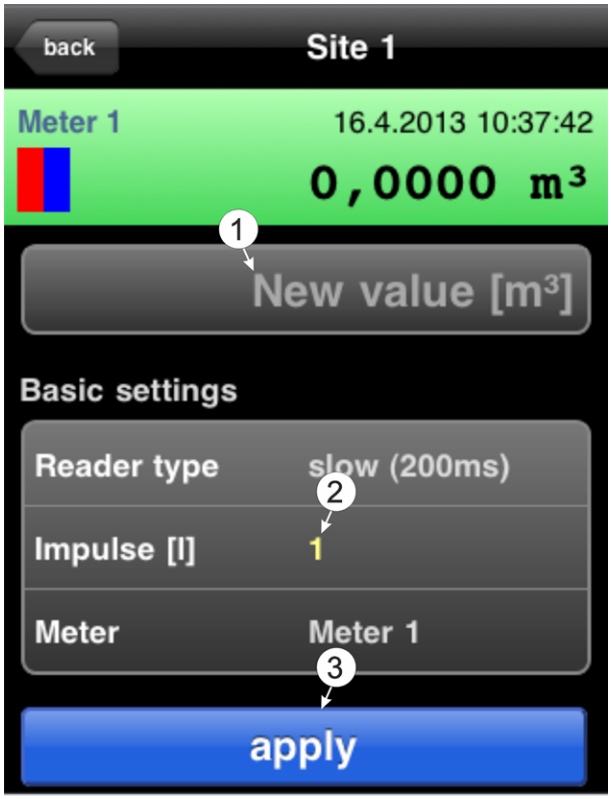
[1)] The measurement channel is deactivated if no meter reading is displayed. It cannot be activated via the WebApp but can only be activated via the standard web interface (see "Measurement channels" on page 52).

[2)] Can only be edited via the standard web interface (see "Measurement channels" on page 52)

[3)] The input fields can only be edited when the myDatalogNANOamr is in Aloha transmission mode.

11.4.2.1 User level 1

Users of authorisation level 1 can only edit the pulse value and meter reading.

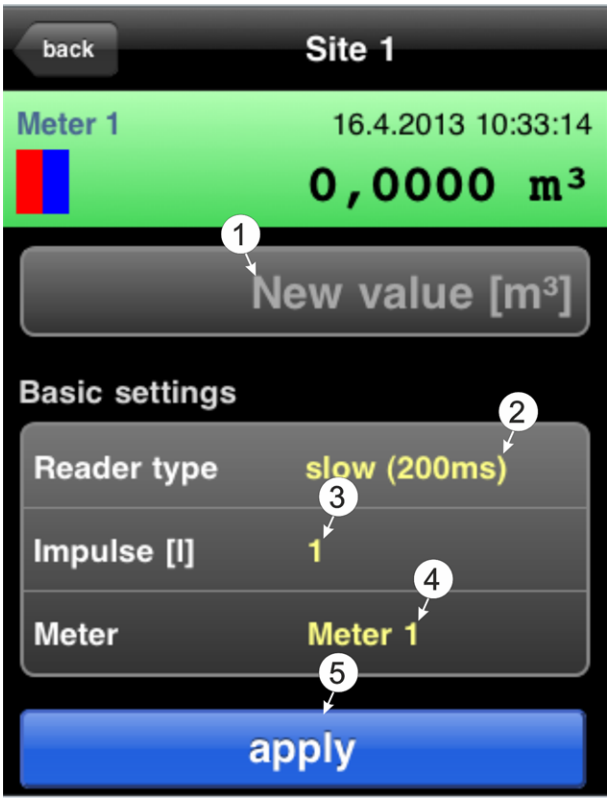


Screen for configuring a measurement channel (Aloha, level 1)

1	Input field to change the meter reading (can only be edited when the measurement channel is activated)	**3**	Button for accepting the configuration changes
2	Metered measurand of a pulse in the "Imp. unit"		

11.4.2.2 User level 2

Users of authorization level 2 can edit the reader type and title of the measurement channel in addition to the pulse value and the meter reading.



Screen for configuring a measurement channel (Aloha, level 2)

1	Input field to change the meter reading (can only be edited when the measurement channel is activated)	**4**	Input field to change the title of the measurement channel
2	Selection of the reader type (see "Config" on page 53)	**5**	Button for accepting the configuration changes
3	Metered measurand of a pulse in the "Imp. unit"		

Chapter 12 API

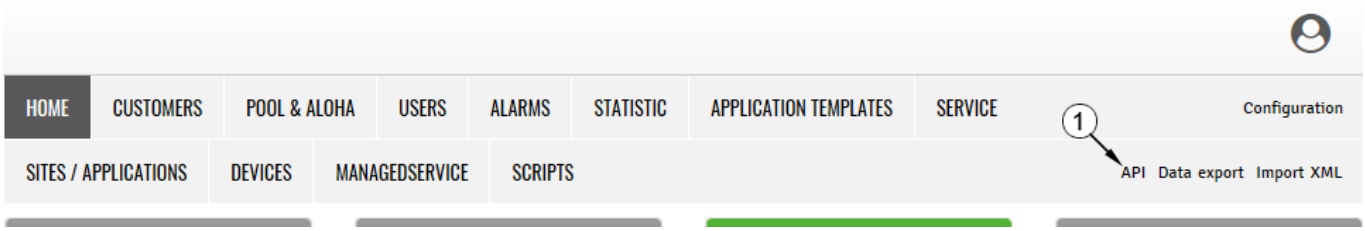
Important note: *The relevant licences are required on the myDatanet server to use the API (Application Programming Interface). For future information contact your responsible sales partner.*

12.1 General

The API is provided to export data from the myDatanet server and import data in to the myDatanet server. However, for "myDatalogNANOamr " type devices this is limited to the measurement data, the setting of the meter readings (for commissioning), the calculated channels, the transmission cycle and the record interval, information on the last mobile network used and the last position of the device.

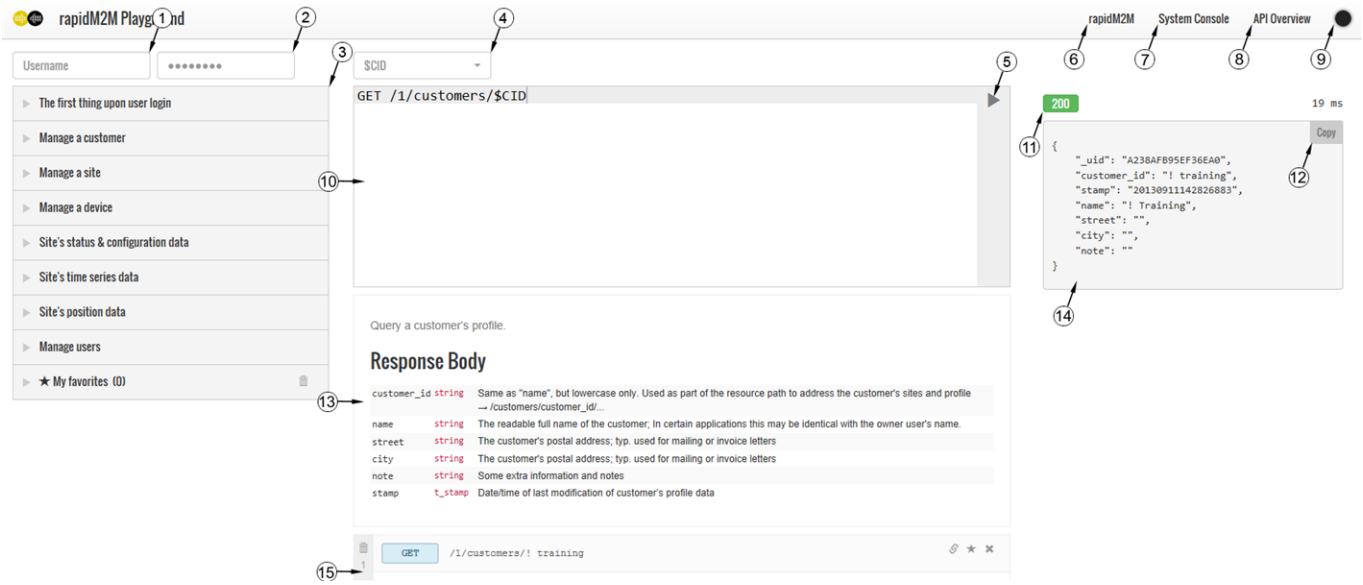
12.2 rapidM2M Playground

The rapidM2M Playground enables you to familiarise yourself with the API of the myDatanet server and to test the provided functions. One click on the "API" button will take you to rapidM2M Playground .



1	Opens the rapidM2M Playground

12.2.1 Overview



rapidM2M Playground

1	Input field for the user name
2	Input field for the password
3	List of the available HTTP commands. The HTTP commands are grouped according to their fields of application.
4	Depending on the selected HTTP command, the drop down lists for selecting the customer, user and site that should replace the corresponding wild cards ("$CID"...customer , "$UID"...user, "$SID"...site) in the resource path of the HTTP command are displayed.
5	Button to execute the HTTP command
6	Opens the website "http://rapidm2m.com/" that includes additional information for developers
7	Opens the login dialogue of the myDatanet server linked to the rapidM2M Playground
8	Opens the quick guide for the API
9	Button to change the colour scheme of the rapidM2M Playground
10	Window displaying the selected HTTP command
11	Response code sent by the myDatanet server as an answer to the HTTP command
12	Copies the JSON object generated as a response to the HTTP command on to the clipboard
13	Window displaying the documentation for the selected HTTP command. Depending on the selected command, this includes a description of the action being executed, information that must be observed and a description of the request body and response body.
14	Window displaying the JSON object that is generated as a response to the HTTP command
15	Window displaying the last executed HTTP commands

Chapter 13 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.*

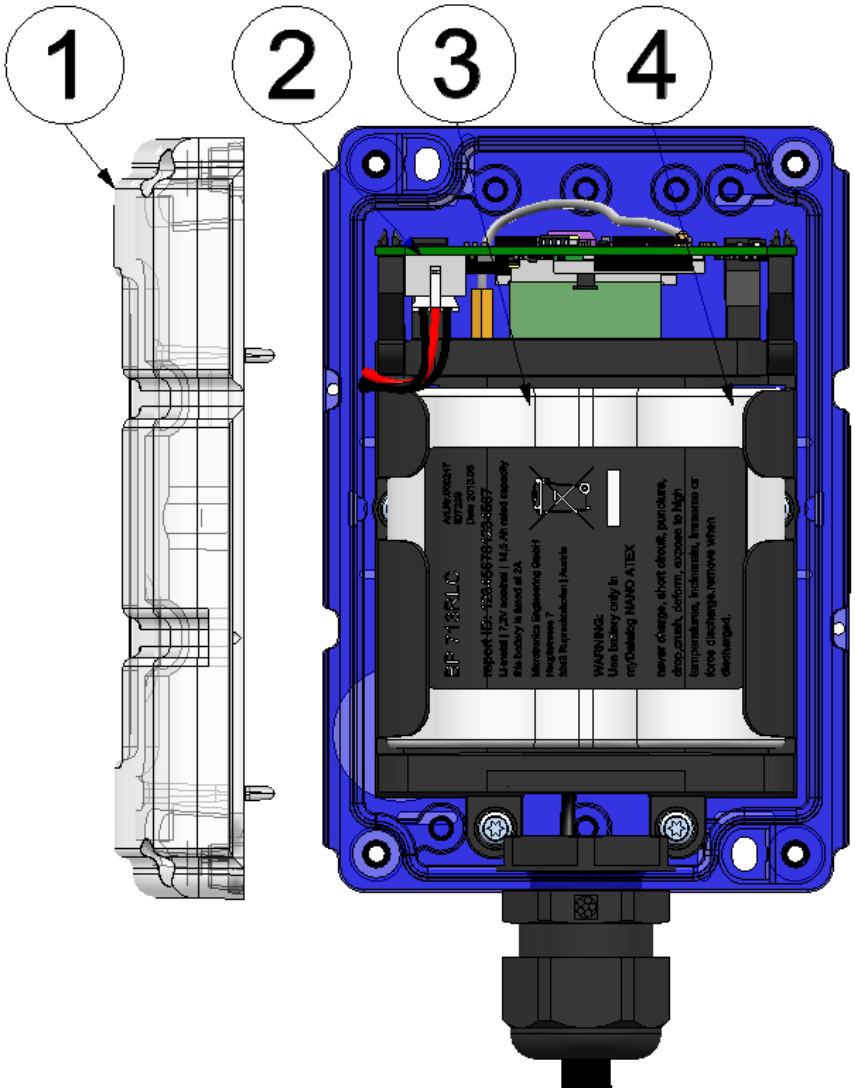
The device must be deenergised before any maintenance, cleaning and/or repair work.

13.1 General maintenance

- Regularly check the myDatalogNANOamr for mechanical damage.
- Check all of the connections for leaks or corrosion on a regular basis.
- Check all of the cables for mechanical damage at regular intervals.
- Clean the myDatalogNANOamr with a soft, moist cloth. Use a mild cleaning agent, if necessary.

13.2 Replacing the battery pack

Important note: *In adverse weather conditions or at site locations where water can enter from above, find a suitable dry location for replacing the battery pack. If this is not possible, protect the opened device against penetrating moisture using suitable means.*



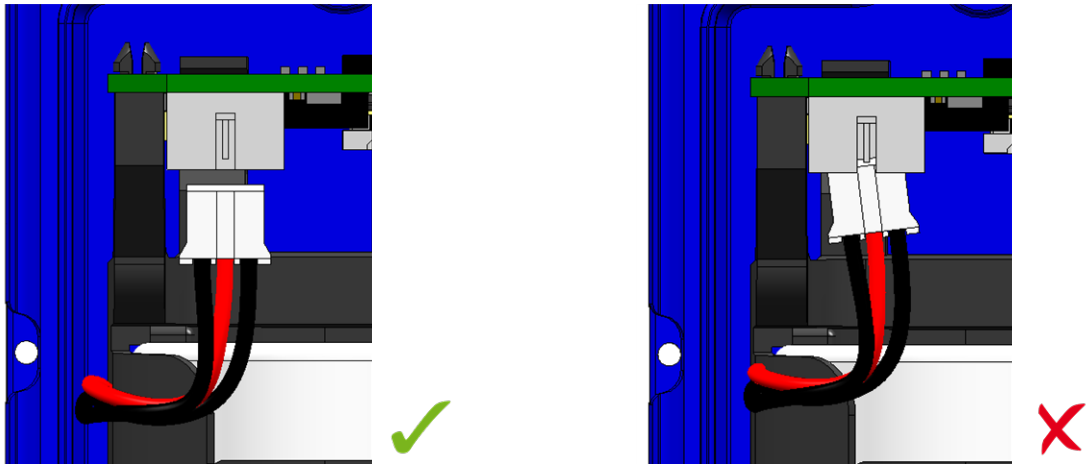
Replacing the battery pack

1 Housing cover	**3** Battery pack (a list of all of the compatible battery packs is provided in "Battery packs" on page 105)
2 Supply connector	**4** Retaining brackets for the battery pack

1. Ensure that all of the relevant data was transferred to the myDatanet server. If necessary, initiate the Aloha transmission mode using the solenoid contact (see "Aloha transmission mode" on page 23) and then check again that all of the relevant data has been transferred.
2. Remove the four screws that secure the housing cover and open the myDatalogNANOamr .

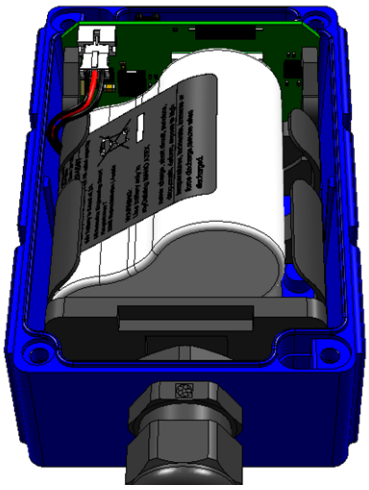
3. Disconnect the connector of the battery pack from the device's supply connector.

   Important note: *Avoid excessive force and pull the connector of the battery pack as straight as possible from the supply connector.*

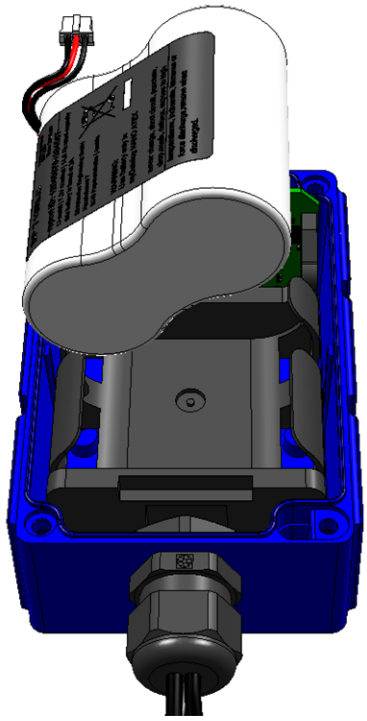


4. Rotate the battery pack to the left (see "Removing the battery pack - step 1" on page 91) so that it slips out of the retaining bracket on the opposite side to the connection cable. You can then simply remove it in an upwards direction (see "Removing the battery pack - step 2" on page 91).

   Note: *Ensure that the battery pack is disposed of in line with environmental requirements. Used battery packs can be returned to the manufacturer or handed in at suitable collection points.*



Removing the battery pack - step 1



Removing the battery pack - step 2

5. Complete the steps in reverse order to insert the new battery pack. During this process, ensure that the connection cable of the negative pin of the battery pack (black cable) is between the battery pack and retaining bracket.
6. Reconnect the connector of the battery pack to the supply connector of the device. Just like when the connection was disconnected, avoid applying excessive force and insert the connector of the battery pack as straight as possible into the supply connector.

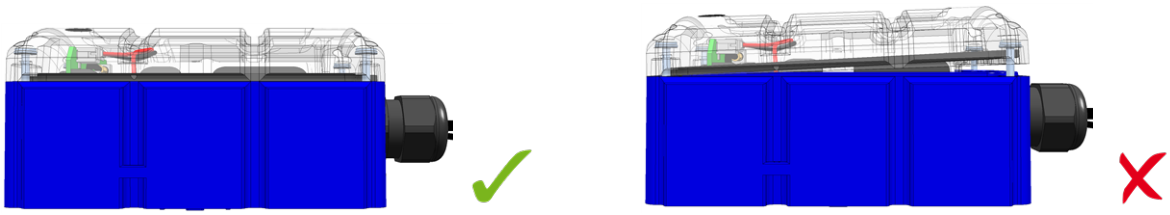
   Important note: *Observe the polarity of the battery pack connector.*

The following step is not mandatory.

7. Check whether the connection to the myDatanet functions correctly (see "Testing communication with the device" on page 47).
8. Close the housing cover. The best option is to tighten the four screws crosswise (torque 0,5Nm) so that the housing cover is positioned evenly.

   Important note: *Ensure that the seals are clean and intact before closing the housing cover. Remove any impurities and/or dirt. The manufacturer shall not be liable for any damage to the device caused by leaky or faulty seals.*
9. Check that the housing cover is positioned correctly on all sides and that no foreign materials have been trapped between the housing and housing cover.

   Important note: *The manufacturer is not liable for any damage that is caused by housing covers that are not closed correctly.*



Chapter 14 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.

1. Disconnect any charging voltage that has been used.
2. Disconnect any connected cables using a suitable tool.
3. Remove the rechargeable battery or battery pack and dispose of it separately.



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 15 Troubleshooting and repair

15.1 General problems

Problem	Cause/solution
Device does not respond (status LED always off)	The capacity of the battery pack is depleted. Instructions on replacing the battery pack are provided in the chapter "Replacing the battery pack" on page 90. A list of possible replacement battery packs is included in the chapter "Battery packs" on page 105.
Communication problems	• Evaluate the status LED blink code (see "Status LED" on page 50). • Load the device log from the myDatanet server and use DeviceConfig for the evaluation (see "Evaluating the device log" on page 104). • The capacity of the battery pack is virtually depleted.
Not all or no data is available on the server	• The connection was interrupted during transmission, which is indicated by a time-out entry in the connection list (see "myDatanet Server Manual " 805002). Solution: Initiate a Aloha transmission or wait for the next cyclical transfer. • The assignment of the device and site is not correct (see "Site" on page 51).
Data at the meter input is not plausible.	• Check the cable connections (see "Connecting the meters" on page 38) • Check whether the meter input configuration matches the meter output signal (see "Measurement channels" on page 52). • Check whether the correct "Reader type" has been selected for the meter that you are using. (see "Config" on page 53). • Check whether the output signal from the meter that you are using is compatible with the electrical characteristics of the meter inputs (see "Technical details about the meter inputs" on page 43).
Alarm message was not sent although the alarm was signalled.	• Check the settings of the alarm schedule (see "myDatanet Server Manual " 805002). • Check the address data of the alarm schedule (see "myDatanet Server Manual " 805002).

15.2 Log entries and error codes

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
1000	POWER ON	0	---	System start completed
		> 0	---	Internal system error Restart due to internal system error. There may be a hardware problem if the "POWER ON" log entry with a parameter code of >0 is contained in the device log several times. Contact the manufacturer in this case (see "Contact information" on page 113).
1020	ERROR SOD	##	---	Internal system error There may be a hardware problem if this error is contained in the device log several times with the same parameter code. Contact the manufacturer in this case (see "Contact information" on page 113).
1030	UV LOCKOUT	---	---	The device switches to energy saving mode and terminates all of the operations as the rechargeable battery or battery voltage is too low. Only the charge controller, if present, remains active.
1031	UV RECOVER	---	---	The rechargeable battery or battery voltage once again suffices to guarantee reliable operation. This is achieved by replacing the rechargeable battery or battery pack . The device resumes normal operation in accordance with the configuration.
1033	MODEM_UPDATE	##	---	Update of the firmware for the modem controller was completed successfully. This entry is always duplicated in the device log. In the first entry, the parameter specifies the major version number (e.g. 3 for 03v011), while in the second entry it specifies the minor version number (e.g. 11 for 03v011).
1034	CONTROLLER_ UPDATE	##	---	Update of the firmware for the measurement controller was completed successfully This entry is always duplicated in the device log. In the first entry, the parameter specifies the major version number (e.g. 3 for 03v011), while in the second entry it specifies the minor version number (e.g. 11 for 03v011).

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
1111	ALOHA STOP	0	---	End of Aloha transmission mode
		##	---	Aloha transmission mode was stopped unexpectedly. The parameter specifies how many more seconds Aloha transmission mode should have lasted.
1161	LOG REFORMATFILE	---	---	The file system was re-formatted. This means that all of the recorded data and log entries were deleted.
1200	MODEM ERROR			Modem error (see "Modem error" on page 101)
1202	MODEM CMME ERROR	##	---	The GPRS modem indicates a +CME error. The parameter specifies the type of error.
1203	SELECTED NETWORK	##	---	A new GSM network was selected. This entry is always duplicated in the device log. In the first entry, the parameter specifies the MCC (Mobile Country Code), while in the second entry it specifies the MNC (Mobile Network Code) of the selected GSM network.
1204	BANNED NETWORK	##		A GSM network was added to the ban list. This entry is always duplicated in the device log. In the first entry, the parameter specifies the MCC (Mobile Country Code), while in the second entry it specifies the MNC (Mobile Network Code) of the selected GSM network.
1205	BAN LIST CLEARED	---	---	The ban list was deleted as there were no GSM networks in the receiving range that have not been placed on the ban list.
1212	ERROR MODEM IRREGULAR OFF	##	---	Indicates a faulty connection. The parameter includes a counter that indicates how many consecutive connections have not worked.
1224	MODEM SIM RESET	---	---	The GPRS modem has been restarted to reinitialise the SIM chip again.
1252	MODEM TO CON	##	---	Timeout while a connection is being established. The parameter contains a counter that indicates how many consecutive connection attempts have not worked.
1281	ZLIB STREAMPROCESS ERR	##	---	Internal error Contact the manufacturer if the device log includes this error several times (see "Contact information" on page 113).

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
1282	ZLIB STREAMFINISH ERR	##	---	Internal error Contact the manufacturer if the device log includes this error several times (see "Contact information" on page 113).
1440	DECAY MEM ERR	---	---	Reserved for extensions

Log entry		Parameter		Description
Code	**Plain text**	**Code**	**Plain text**	
1600	STATE	1	OK	Last connection OK
		2	TRANSMISSION ERROR	Last transmission faulty Try again later
		3	MEASUREMENT ERROR	Last measurement faulty • Check the configuration. • Check the connection between the device and sensor.
		4	HOLD	Standby (GPRS ON, measurement OFF) If Aloha transmission mode is initiated on the device, the myDatalogNANOamr switches back into "RUN" mode (GPRS ON, measurement ON).
		5	TRANSPORT	Transport lock (GPRS OFF, measurement OFF) see "Standby"
		6	OFFLINE	Offline (GPRS OFF, measurement ON) see "Standby"
		7	NO NET (NET LOCK)	Netlock/no matching provider • Try to improve the position of the antenna. • Check whether the device is in the coverage area ((www.microtronics.com/footprint).
		8	NO NET	No GSM network • Improve the position of the antenna • Try again later
		10	GPRS ERROR	No GPRS connection Try to improve the position of the antenna.
		11	IP ERROR	No myDatanet server available • Check whether port 51241 is enabled on the myDatanet server. • Try again later
		12	SIM CARD ERROR	Faulty SIM chip Contact support.
2000 - 2999	MODULE ERR			Reserved for extensions

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
3000 - 3099				Reserved for extensions

15.2.1 Modem error

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
GPRS error				
1200	BEARER LINE BUSY	-993	---	Line busy Try again later
	BEARER NO ANSWER	-992	---	No answer • Try again later • Check whether the device is in the coverage area (www.microtronics.com/footprint).
	BEARER NO CARRIER	-991	---	No carrier • Try again later • Check whether the device is in the coverage area (www.microtronics.com/footprint).
	BEARER GPRS FAILED	-988	---	GPRS setup failure • Try to improve the position of the antenna • Check whether the device is in the coverage area (www.microtronics.com/footprint).
	BEARER PPP LCP FAILED	-987	---	Error when negotiating the LCP Internal error
	BEARER PPP AUTH FAILED	-986	---	Error occurred during PPP authentication Internal error
	BEARER PPP IPCP FAILED	-985	---	Error when negotiating the IPCP Internal error
	BEARER PPP LINK FAILED	-984	---	PPP receiver does not react to echo request Internal error
	BEARER PPP TERM REQ	-983	---	PPP session terminated by the receiver. Internal error
	BEARER CALL REFUSED	-982	---	Incoming call refused Try again later
	BEARER UNKNOWN	-981	---	Try again later

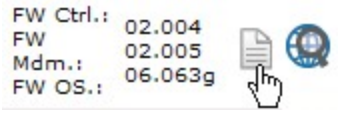
Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
Error when establishing the GPRS connection				
1200	BEARER BAD HDL	-980	---	Invalid handling Internal error
	BEARER BAD STATE	-979	---	The carrier was not stopped. Internal error
	BEARER DEV	-978	---	Error occurred during link layer initialisation Internal error
	BEARER GPRS START UNKNOWN	-977	---	Internal error
Error when disconnecting the GPRS connection				
1200	BEARER GPRS STOP BAD HDL	-976	---	Invalid handling Internal error
	BEARER GPRS STOP UNKNOWN	-975	---	Internal error
1200	NETLOCK FAILURE	-970	---	Error when selecting the network • Check whether the device is in the coverage area (www.microtronics.com/footprint).
1200	BAND SEL FAILED	-969	---	A network could not be found on the GSM900/1800 or on the GSM850/1900 band. • Try to improve the position of the antenna. • Check whether the device is in the coverage area (www.microtronics.com/footprint).
TCP channel error (1/2)				
1200	CHANNEL ABORTED	-965	---	An attempt is being made to write to/read a TCP client that is no longer available. Try again later
	CHANNEL CSTATE	-964	---	The channel is not in the "WIP_CSTATE_ READY" state. Try again later
	CHANNEL NOT SUPPORTED	-963	---	The option is not supported by the channel. Try again later

Log entry		Parameter		Description
Code	Plain text	Code	Plain text	
TCP channel error (2/2)				
1200	CHANNEL OUT OF RANGE	-962	---	The optional value is outside the permissible range. Try again later
	CHANNEL MEMORY	-961	---	Internal error
	CHANNEL INTERNAL	-960	---	Internal error
	CHANNEL INVALID	-959	---	Invalid option or parameter Internal error
	TCP DNS FAILURE	-958	---	The name could not be resolved in an IP address. Internal error
	CHANNEL RESOURCES	-957	---	There are no further TCP buffers available. Try again later
	CHANNEL PORT IN USE	-956	---	TCP server port is already being used. Try again later
	CHANNEL REFUSED	-955	---	The TCP connection has been refused by the server. Try again later
	CHANNEL HOST UNREACHABLE	-954	---	No route to the host. Try again later
	CHANNEL NETWORK UNREACHABLE	-953	---	No network available Try again later
	CHANNEL PIPE BROKEN	-952	---	TCP connection interrupted Try again later
	CHANNEL TIMEOUT	-951	---	Timeout (DNS request, TCP connection, ping response, etc.) Try again later
	CHANNEL UNKNOWN	-950	---	Internal error

15.3 Evaluating the device log

15.3.1 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.

15.3.2 Evaluating the device log using DeviceConfig

A detailed description regarding the evaluation of the device log using DeviceConfig is included in the DeviceConfig user manual ("myDatanetDeviceConfig Manual " 805004).

Chapter 16 Spare parts and accessories

16.1 Assembly sets

Description	Quantity	Order number
Universal bracket for housing myDatanet 86x126	1	206.640
DIN rail mounting set for myDatanet housing 86x126	1	206.634
Pipe mounting kit for myDatanet housing 86x126	1	206.660

16.2 Battery packs

Description	Quantity	Order number
BP713RLC Battery (Li-SOCl2; 13Ah; -20...+50°C operating temperature)	1	300247

16.3 Other accessories

Description	Quantity	Order number
myDatanet Tool Pen	1	206.646
MDN Magnet	1	206.803
Clamping tube	1	300256

Chapter 17 Document history

Rev.	Date	Changes
01	26.04.2013	**First version**
02	23.01.2014	**Hardware version 1.10** *Battery pack BP713RLC Battery (300247) is required instead of battery pack BP434RLC Battery (206.725).* *The device has a fixed magnetic base antenna* **Chapter "Declaration of conformity" on page 9** *Declaration of Conformity updated* **Chapter "Technical data " on page 11** *Information on the immersion depth and immersion duration have been added* **Chapter "Storage of the product" on page 18** *Information on the correct storage of the magnetic base antenna added* **Chapter "Calculated channels" on page 57** *Explanation of "delta" channel mode added* **Chapter "Configuration of a HTTP-GET command" on page 97** *Explanation of "data_type" parameter added* **Chapter "Format of the JSON result" on page 106** *Chapter added* **Chapter "Glossary" on page 111** *Chapter added* **Chapter "Contact information" on page 113** *Contact information updated*
03 (1/2)	25.01.2019 (1/2)	**Chapter "Declaration of conformity" on page 9** *Declaration of Conformity updated* **Chapter "Safety instructions" on page 13** *Safety instructions revised* **Chapter "General safety instructions" on page 14** *Chapter added* **Chapter "Intended use" on page 16** *Information on the manufacturer's liability disclaimer regarding the loss of data has been updated* **Chapter "Device labelling" on page 17** *Explanation of the symbol, that specifies the country list profile of the SIM chip, added* **Chapter "Obligation of the operator" on page 18** *Reference to the guideline about the minimum health and safety requirements for use of work equipment by workers at work, has been updated* **Chapter "Personnel requirements" on page 19** *Chapter added* **Chapter "Transport" on page 27** *Chapter revised*

Rev.	Date	Changes
03 (2/2)	25.01.2019 (2/2)	**Chapter "Installing the myDatalogNANOamr " on page 31** *Further information on the correct installation added* **Chapter "Site" on page 51** *Explanation for assigning tags added* **Chapter "Calculated channels" on page 57** *Explanation of "Clone" channel mode added* **Chapter "Alarm settings" on page 61** *Explanation of the "Offline alarm" parameter has been supplemented.* *Explanation of the input fields for the title of the user-defined alarms added* **Chapter "Basic setting" on page 62** *Explanation of the "Report template" parameter has been added* *Information added indicating that the transmission cycle and record interval must be coordinated in such a way that the number of measurement cycles that must be recorded between two transmissions does not exceed the memory size of the instrument.* **Chapter "FTP export settings" on page 63** *Explanation of the parameter for entering the time stamp of the last FTP export added* **Chapter"Measurement instrument" on page 63** *Explanation for assigning tags added* *Explanation added indicating that the instrument class can no longer be changed once the instrument is connected to the server* *Explanation of the "Wakeup SMS count" parameter added* **Chapter ""Customer" area" on page 68** *Explanation about the area, where an image file can be displayed as a "Map" and/or the OpenStreetMaps map can be displayed, has been revised* *Explanation of the "List of tags" added* *Explanation of the search field to filter the customer list added* **Chapter ""Site" area at customer level" on page 70** *Explanation about the area, where an image file can be displayed as a "Map" and/or the OpenStreetMaps map can be displayed, has been revised* *Explanation of the "List of groups" added* **Chapter "XML-Schnittstelle"** *Chapter removed* **Chapter "API" on page 87** *Chapter added* **Chapter "Removal/disposal" on page 93** *Chapter revised*
04 (1/2)	29.03.2019 (1/2)	**Chapter "Aloha transmission mode" on page 23** *Explanation of the two methods for activating Aloha transmission mode via the server, added.* *Explanation of the interaction between Aloha transmission mode and the ban list revised* **Chapter "Measurement channels" on page 52** *Explanation of "Cnt.Inf S0" mode added*

Rev.	Date	Changes
04 (2/2)	29.03.2019 (2/2)	**Chapter "Config" on page 53** *Explanation of the parameters required for "Cnt.Inf S0" mode added* *Explanation of the parameters via which the counters can be set to a new value, added* **Chapter "Dynamic profiles 1-100" on page 56** *Chapter added* **Chapter "Basic setting" on page 62** *Explanation of the "Interval & wakeup" connection type added* *Explanation of the "Start Aloha" parameter added*

Chapter 18 Glossary

Aloha

Connection mode that is specially designed for commissioning. The device maintains a connection to the server for a configurable amount of time and takes a measurement every 3 seconds. During this process, only the internal measurement values (GSM level, voltages, etc.) and the values from the universal inputs (if available) are generated. The determined measurement values are not saved but are just sent to the server for display purposes.

Footprint

The manufacturer's devices are equipped with subscriber identity modules (SIM) ex-works for the purpose of mobile data transmission. The footprint describes the countries and regions, in which a mobile connection is available (see www.microtronics.com/footprint).

NaN value

The myDatanet uses special encoding to display different error statuses in the measurement values, for example. By setting a measurement value to "NaN", it is clearly marked as invalid and is thus not used for any further calculations. In the measurement value graphs, a measurement value that has been set to "NaN" is indicated by an interruption in the graph. When downloading the data, a measurement value set to "NaN" is indicated by an empty data field.

Chapter 19 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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