LANCIER Monitoring

Operating Instructions

PipeAlarm2 LTE/UMS

PipeAlarm2 LTE/UMS short

battery-operated and LTE based district heating pipeline monitoring device in the UMS network

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Important!
It is imperative to read and observe all safety Instructions prior to initial operation!

Technical Data

	PipeAlarm2 LTE/UMS short	*PipeAlarm2 LTE/UMS*
Supply voltage	Austauschbare Lithiumbatterie, 3.6 V	
Battery lifetime	> 5 years (at daily measurement and weekly status message)	
Measurement channels	2 (e. g. for flow and return line of a district heat pipe)	
Measurement range insulation	0 .. 5.0 MΩ fault: 3% of measured value ±10 kΩ absolute	0 .. 10 MΩ fault: 3% of measured value ±10 kΩ absolute
Measurement range loop	0 .. 5.0 kΩ fault: 3% of measured value ±0.02 kΩ absolute	0 .. 9.99 kΩ fault: 3% of measured value ±0.02 kΩ absolute
Measuring distance	NiCr ≤ 750 m, nordic system ≤ 3.000 m	NiCr ≤ 1.500 m, nordic sytem ≤ 3.000 m
Length calculation	no	yes, for NiCr
Measuring voltage	12 V DC	
Contacts	2 access ports for dry contacts, line length 10 m max., permanently monitored	
Display	for each measurement channel: 1 LED bar graph for „Measurement value Iso” for each measurement channel: 1 signal LED for „loop malfunction” for each contact: 1 signal LED, 6 status LEDs	
On-site operation	1 button for real-time measurement with display and test message transmission	
Interfaces	1 USB 2.0 port for equipment configuration, limit value setting and measurement read-out 2 contact inputs (line length max. 10 m)	
Operating temperature	-20 °C .. +50 °C	
Admissible humidity	0 .. 100%	
Degree of protection by enclosure	IP 66	
Field of application	Indoor and sheltered installation according to DIN VDE 0100 part 737 residential and business area as well as small enterprises	
Dimensions	180 x 180 x 100 mm (w x h x d)	

Ordering Data

battery-operated, two channel measuring device for district heating routes with LTE/GSM based alarm output in the UMS network, pipe connection surveillance, indication panel and 2 contact inputs

PipeAlarm2 LTE/UMS short
(maximum length of measured section NiCr 750 m) **Order-no. 075968.100**

PipeAlarm2 LTE/UMS
(maximum length of measured section NiCr 1.500 m) **Order-no. 075968.200**

Spare part
Lithium-Battery 3,6 V with bracket and connection cable **Order-no. 075969.000**

General Information

These operating instructions should make it easier for you to become acquainted with the product. They contain important information to ensure safe, appropriate and cost-effective use of the equipment.

The operating instructions endorse the directives of national regulations for the prevention of accidents and the protection of the environment.

These operating instructions shall be read and adopted by anyone assigned to work with/on the equipment, e. g. during operation to include setting-up, maintenance trouble-shooting.

In addition to the operating instructions and the mandatory regulations for the prevention of accidents, applicable in the operator's country and at the place of use, the recognized technical regulations for safe and professional operation shall also be observed.

Designated Use

The *PipeAlarm2 LTE/UMS* district heating monitoring device is intended for the measurement of insulation and loop resistance for the detection of leaks in piping systems. Alarms are sent via LTE or GSM networks.

The device can be connected with a PC (laptop) via the Ethernet interface for the configuration.

Any other use is considered improper. The manufacturer is not liable for any resulting damage; the user alone bears the risk!

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Safety Instructions

Important!
Read and observe safety instructions prior to initial operation!

- The unit should only be operated in technically-sound condition, for its designated use, with safety and risk awareness in mind, taking into account the operating instructions. In particular, operational faults, which can compromise safety, should be rectified immediately!
- Do not make any modifications to the equipment!
- Mounting, maintenance and repair work should only be performed by trained personnel!
- Only use original LANCIER Monitoring replacement parts!

Important!
Obey handling instructions. Electrostatic discharge (ESD) damage.

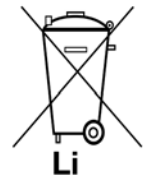
WARNING!
The place of installation of the device should have a complete lightning protection plan that covers power supply cables as well as data and telecommunications cables.

ATTENTION!
Never apply external voltages to the measurement lines.

WARNING! Lithium battery!
Only use the original 3.6 V/19 Ah battery with the mount and connecting cable. Never charge or short-circuit the lithium battery or reverse its polarity.
If required, take note of any shipping regulations for lithium batteries (Class 9, UN 3090 or UN 3091).

Battery disposal

- Do not dispose of old or defective accumulators as normal domestic waste.
- Adhere to environmental laws on battery disposal.
- Return old and/or defective accumulators to a municipal battery disposal point.



Installation

Mounting

The *PipeAlarm2 LTE/UMS* sits inside a wall housing and is attached to walls using four wall mounts and screws.

Electrical connection

The *PipeAlarm2 LTE/UMS* is powered by a battery, which has been pre-installed ex works but not yet connected.

Measuring line connection

ATTENTION!
Both pipe connection terminals X2.3 and X3.3 must be connected to a pipe at two mutually separated points, or a terminal connected to the flow pipe and a terminal connected to the return pipe respectively.

Terminal assignment

X1
Antenna connector

X2.1 to X2.3
Measurement loop channel 1
(a, b, pipe connection 1)

X3.1 to X3.3
Measurement loop channel 2
(a, b, pipe connection 2)

X4
Battery connector,
polarity-reversal-protected plug contact

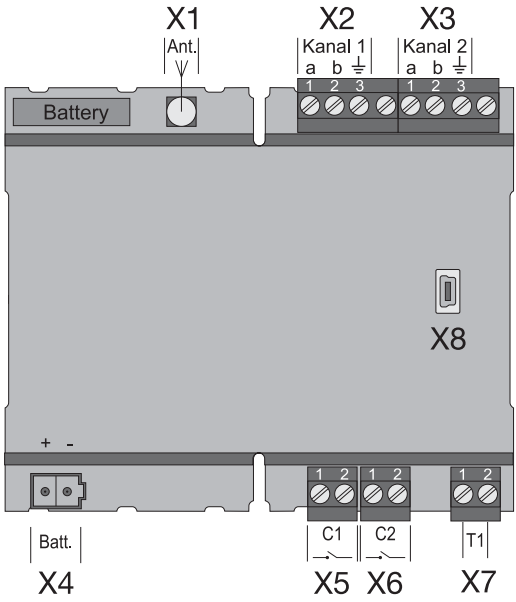
X5.1 to X5.2
Contact input 1

X6.1 to X6.2
Contact input 2

X7.1 and X7.2
Temperature sensor input

X8
Mini-USB 2.0 interface

Battery
Buffer battery for internal clock



Function/commissioning

The *PipeAlarm2 LTE/UMS* is a measurement and monitoring device for insulation and loop resistance in terms of detecting leaks in piping systems and interruptions of the measurement loop. Additionally, there are two access ports for dry contacts, to monitor external signals (e.g. float switches).

Each device can cyclically monitor two measurement loops, e.g. flow and return of a district heating pipe respectively. In case of exceedance or deceedance of the freely adjustable resistance limiting values, the red alarm LEDs will be enabled and a message to the UMS server will be sent via mobile data connection. There is no monitoring between the measuring cycles.

The *PipeAlarm2 LTE/UMS* is equipped with a pipe connection monitor to detect an interruption of the pipe connection line (earth).

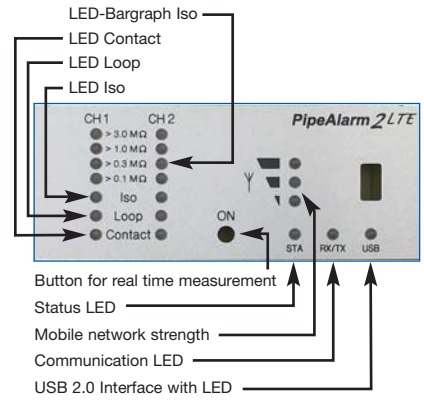
There are 2 potential-free contact inputs available. The monitoring of contact conditions (open/closed) takes place at 10-second intervals.

The limiting values for insulation and loop resistance are freely programmable via the Ethernet interface using a laptop or netbook. All settings are stored in an internal EEPROM memory, loss protected.

Display and operating panel

The following can be done on the display and operating panel of the *PipeAlarm2 LTE/UMS*:

- On the „**Iso LED" bar graphs the** values of both insulation resistance measurement channels can be read
- On the „**Iso" LEDs** the alarm conditions of both insulation resistance measurement channels and interruptions of the pipe connection can be read
- On the „**Loop" LEDs** the alarm conditions of both loop resistance measurement channels can be read
- On the „**Contact" LEDs** the contacts' condition can be read,
- On the **"ON" button** a real-time measurement can be triggered manually,
- On the **"STA" LED** the status can be read,
- On the **three LEDs** the mobile field strength can be read,
- On the **"RX/TX" LED** the communication status can be read,
- On the **"USB" LED** the correct USB connection can be determined,
- Settings can be edited via the **USB interface** by using a laptop/notebook.



Commissioning

The *PipeAlarm2 LTE/UMS* is delivered with a pre-installed battery ex factory.

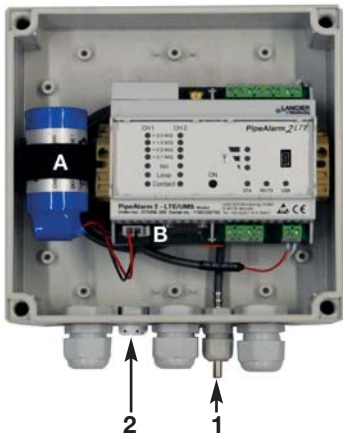
Connecting the measuring cable

1. **Install and connect the PT1000 temperature sensor**

   In order to do this, open the *PipeAlarm2 LTE/UMS*' housing: Unscrew the four screws on the corners of the housing and remove the housing cover.

   Mount the M12 cable gland in the **1 drill hole** and insert the sleeve of the temperature sensor into the gland. The sleeve should protrude from the fitting by approximately 1 cm.

   Store the temperature sensor's measuring cable below the LTE module and connect it to **X7** (see page 6).



2. **Install a breathing locking cap for pressure equalisation**

   The locking screw provides for pressure equalisation in the event of temperature variations and so prevents the ingress of moisture.

   From the outside, plug the locking screw into the **2 drill hole** and screw it down with the enclosed union nut.

3. **Connect the contact switches**

   Depending on the number of cables to be connected produce enough openings for the cable glands and assemble them.

   Unless specified otherwise, the left gland is intended for district heating monitoring, the middle one is for contact monitoring. The feedthrough seals each have 2 openings. Three blind plugs are available to close any unneeded openings.

   Screw all feedthroughs down, so that they are tight.

4. **Connecting the antenna**

   The right cable feedthrough is intended for the antenna. You must use the slotted seal.

   Attach the antenna cable plug to the antenna connector **X1** (see page 6) of the *PipeAlarm2 LTE/UMS* and screw down the union nut.

   Screw all feedthroughs down, so that they are tight.

Connecting the lithium battery

Attach the polarity-reversal-protected battery connector (**B**) of the pre-assembled battery (**A**) to the connector **X4** (see page 6).

Inserting the SIM card

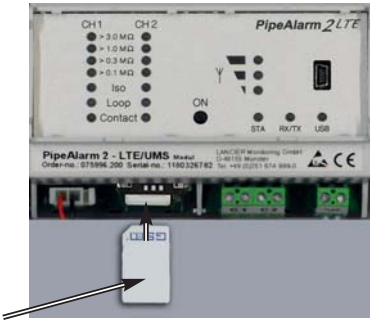
For the connection establishment to the wireless network, a SIM card from a mobile phone provider is required.

Warning: Additional costs will be incurred for mobile communications!

In order to insert the SIM card, the housing must be opened. To do this, unscrew the 4 screws on the corners of the housing and remove the housing cover.

The SIM card compartment is located on the PipeAlarm2 LTE/UMS module's lower side. The SIM card can only be inserted into the SIM compartment in one way: With the bevelled edge to the front left.

Then close the cover again and screw it down.



Configuring the *PipeAlarm2 LTE/UMS*

Prior to commissioning, the *PipeAlarm2 LTE/UMS* must be configured. This concerns the station name, contact preferences, COM parameters for the communication, date, time and daily measuring time (WakeUp time). The configuration is done via the USB port by a laptop/netbook that is running the supplied "RM-Configurator" software (see page 12).

Antenna placement

The antenna for the mobile communication connection can be attached to metallic surfaces by means of a magnetic base or the supplied self-adhesive metal plate, e.g. on the device housing.

The antenna is equipped with a 2-metre cable for positioning in an appropriate place with good reception characteristics.

Factory settings *PipeAlarm2 LTE/UMS*

- Limit values for insulation resistance (Iso): Alarm when falling below from 1,000 MΩ
- Limit values for loop resistance (Loop): Alarm when falling below from 9000 Ω or alarm when exceeding 4500 Ω (*PipeAlarm2 LTE/UMS* short)
- Contacts **closed**: **no alarm**

PipeAlarm2 LTE/UMS function

Automatic operation

Following its configuration the *PipeAlarm2 LTE/UMS* measuring device works autonomously and independently of external power sources.

It remains mainly in „Sleep mode", where only the contacts are read at 10-second intervals and the internal clock is in operation, to minimise power consumption.

At the programmed "WakeUp time" (see page 15) the device becomes active and performs a measurement cycle. The latter consists of

- the measurement of the two contact inputs,
- the checking of the earth connection,
- the measurement of measuring channel 1 and 2
- the evaluation of the measurement results.

If the *PipeAlarm2 LTE/UMS* detects at least one error, its integrated LTE/GSM modem sends an alarm message to the UMS server and simultaneously transmits all current measured values and all entries from the history that have not yet been transmitted to the UMS server.

The device then stores the current measured values as acknowledged in the history and returns to „Sleep mode". At the next programmed „WakeUp time", a measurement cycle is started again and the measured values are stored in the history. In the event of an error, the instrument proceeds as described above.

Manual operation/real-time measurements

Locally, the operator can activate the device by **briefly** pressing the "**ON**" button and read the device condition via the LEDs. No message is sent.

Pressing the „**ON**" button for at least **5 seconds** establishes a connection to the UMS server, sends the current measured values marked as „test measurement" and all entries from the history that have not yet been transmitted to the UMS server.

A. A brief press of the "ON" button

1. Displays the **status of the contact inputs** on the LEDs „Contact CH1" and „Contact CH2"

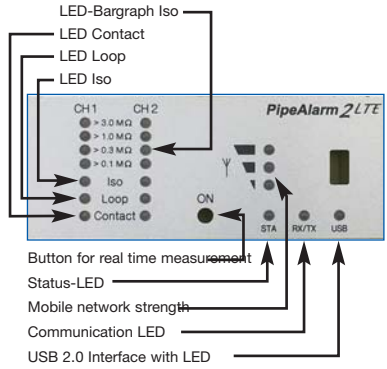
   Red = "**Alarm**" contact condition, **Green** = "**OK**" contact condition.
2. The measuring cycle then starts and displays the measurement results one after the other. Sequence: LOOP1, ISO1, LOOP2, ISO2.

Meaning of the LEDs in real-time measurement

a. The **„ISO 1" and „ISO 2" LEDs** dindicate the range in which the current measurement values are found:
> 0,1 | > 0,3 | >1 | > 3 MΩ.

b. The **„ISO 1" and „ISO 2" Error LEDs** change from **green** to **red**, if the limiting value has fallen below that defined. They **flash alternately**, if the pipe connection is interrupted.

c. The **„LOOP 1" and „LOOP 2" Error LEDs** change from **green** to **red**, if the measurement loop was interrupted and as a consequence, the defined limit was exceeded.



d. The **„Contact 1" and „Contact 2" LEDs** change from **green** to **red**, if the contact condition has changed.

3. Then the device automatically returns to "Sleep mode".

B. Press the "ON" button for 5 seconds

By holding the button for at least 5 s, until the bottom LED of the field strength bar graph lights up, the measurement cycle described above is run through first and then a status message is sent: the current measured values marked as „test measurement" as well as all entries from the history that have not yet been transferred to the UMS server.

Meaning of the LEDs when a status message is sent to the UMS server:

Connection establishment to the mobile station

The bottom LED of the field strength bar graph lights up.

Shortly thereafter, it goes out and the top LED of the field strength bar graph lights up green until a connection to the mobile station has been established.

Then, the LEDs of the field strength bar graph indicate the connection level.

Data transmission to the mobile station

The "Rx/Tx" LED flashes.
The LEDs of the field strength bar graph indicate the connection quality.

1 LED = Weak signal
2 LEDs = Good reception
3 LEDs = Very good reception

Ending the data transmission to the mobile station

The LEDs of the field strength bar graph go out
The "Rx/Tx" LED briefly lights up one more time
All LEDs go out and the device returns to "Sleep mode".

Meaning of the status diode:

- The status diode lights up red when a message could not be sent. After a successful message it lights up green again.

PipeAlarm2 LTE/UMS configuration

To change the default setting or make subsequent adaptations to the parameters a computer (laptop, notebook, netbook | Windows 7 and later) must be connected to the *PipeAlarm2 LTE/UMS* via the USB 2.0 interface.

The “RMConfigurator” program must be installed on the computer. To this end, all of the files on the supplied USB stick must be copied to a directory. The drivers for the *PipeAlarm2 LTE/UMS* are also included here, in case it is not recognised automatically when connected to the USB cable.

Starting the configuration

1. Connect the computer to the *PipeAlarm2 LTE/UMS* via the included USB cable.
2. On the computer start the “RMConfigurator” program by double clicking on it in the appropriate directory.

The RMConfigurator program

After starting the “RMConfigurator” program and connecting it to the *PipeAlarm2 LTE/UMS* via a cable, the following screen appears:

Access to the device is password protected.
On delivery the following, pre-registered login details apply:

User name: Lancier
Password: Lancier

Das Passwort kann durch Klick auf abc sichtbar gemacht werden.

One click of the button connects the software to the *PipeAlarm2 LTE/UMS*.

Data stored on the device data is retrieved automatically.

The key symbol to the right of the login fields turns red .

Password change

To protect against unauthorised access, the device must be protected by assigning a new user name and password.

To change the user name and password

1. Enter a new user name (Overwrite “Lancier”)*
2. Enter a new password (Overwrite “••••••”)*
   The user names and passwords “reset” and “Lancier” are reserved for specific functions and therefore disabled.
3. Make a record of both for subsequent access
4. Press the red key symbol
5. Confirm the security question for accidental overwriting by clicking on the “OK” button.

User name and password

Permitted character lengths
User: 2 - 20 characters
Password: 8 - 20 characters

Permitted characters
a-z, A-Z, 0-9, !“#$%&‘()*+,-./:;< >?@,

Not permitted characters
blank spaces, ä, Ä, ö, Ö, ü, Ü, ß

The new entries are accepted and stored. The connection to the device is disconnected and must be re-established by clicking on .

Access to the device is now only possible with the current user name and password.

Comfort function

As long as the RMConfigurator has not been closed, the input fields show the last entered “User name” and “Password”.

Note

The user name and password are not stored outside of the device, i.e. they are not taken into account for “Load file” and “Save file” functions (see page 24).

Password reset

If the user name and password have been forgotten, the device can be reset to factory settings. All sensitive data, such as the APN Name, APN password, PIN number etc. will be deleted and must then be re-entered.

The reset is performed by entering the user name “reset” and the password “reset” and then clicking on the key symbol .

It is then possible to login with the user name “Lancier” and the password “Lancier”.

Device configuration

Once the user name and password have been entered, click on to connect the software to the *PipeAlarm2 LTE/UMS*.

Data stored on the device is retrieved automatically.

The key symbol to the right of the login fields turns red .

The freely selectable device name, which can also be reset later, appears in the **“Device name”** field**:**

For all texts that are sent by error message (the device name, recipient's name) the following characters are permitted:
Blank spaces - . 0-9 ? A-Z a-z ä Ä ö Ö ü Ü
All other characters in the message are replaced by “?”.

The device battery’s condition can be read in the “**Batt. status**” field. With daily measurements and weekly status messages a new battery will last for about 5 years:

More settings can be applied in the Channel 1, „Channel 2“, „Temp; C1; C2”, „History“, „COM parameters”, „Clock/times” and „System” tabs

„Channel 1, Channel 2” tab

Each measurement channel to be monitored must be activated by checking the corresponding checkbox in the first column.

If the PipeAlarm has already performed measurements, the last measured values are displayed in the „Measured value” column with the corresponding time stamp in the „Meas. time” column.

For NiCr measurements, the length of the measuring distance is displayed. The displayed value is not relevant for Cu measurements.

The **limit values** are freely editable.

Insulation: Alarm signal when the value falls below 0 .. 10 MΩ (0 .. 5 MΩ for *PipeAlarm2 LTE/UMS* short), factory setting 1 MΩ. *Decimal point must be entered as a dot!*

Loop: Alarm signal when exceeding 0 .. 9,99 kΩ (0 .. 5,0 kΩ for *PipeAlarm2 LTE/UMS* short), factory setting 9 kΩ (4,5 kΩ for *PipeAlarm2 LTE/UMS* short). *Decimal point must be entered as a dot!*

„Temp., C1, C2” tab

Temperature

Temperature monitoring is activated as a factory default.

It can be disabled by clicking on the corresponding check box in the first column.

If temperature monitoring is active, then the temperature value is also transmitted with each message. The limit values are not evaluated and there is no alarm if the limit value is exceeded.

If the temperature is also to be evaluated at the programmed „WakeUp time”, the „Evaluation” checkbox (0/1) must be activated. In this case, an alarm is also triggered if the limit value is exceeded.

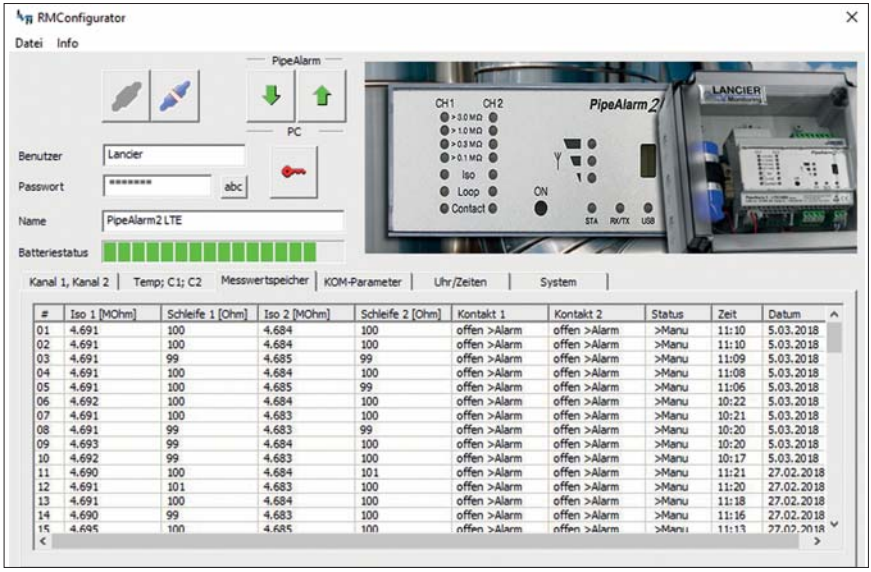
The **limit values** (lower level/upper level) can be edited freely from -20 °C to +140 °C.

Contacts

Every contact, which is to be monitored, has to be activated by ticking the corresponding check box in the first column.

Condition: Closed or open, set value = no alarm,
Factory setting: Closed.

„History” tab



#	Iso 1 [MOhm]	Schleife 1 [Ohm]	Iso 2 [MOhm]	Schleife 2 [Ohm]	Kontakt 1	Kontakt 2	Status	Zeit	Datum
01	4.691	100	4.684	100	offen >Alarm	offen >Alarm	>Manu	11:10	5.03.2018
02	4.691	100	4.684	100	offen >Alarm	offen >Alarm	>Manu	11:10	5.03.2018
03	4.691	99	4.685	99	offen >Alarm	offen >Alarm	>Manu	11:09	5.03.2018
04	4.691	100	4.684	100	offen >Alarm	offen >Alarm	>Manu	11:08	5.03.2018
05	4.691	100	4.685	99	offen >Alarm	offen >Alarm	>Manu	11:06	5.03.2018
06	4.692	100	4.684	100	offen >Alarm	offen >Alarm	>Manu	10:22	5.03.2018
07	4.691	100	4.683	100	offen >Alarm	offen >Alarm	>Manu	10:21	5.03.2018
08	4.691	99	4.683	99	offen >Alarm	offen >Alarm	>Manu	10:20	5.03.2018
09	4.693	99	4.684	100	offen >Alarm	offen >Alarm	>Manu	10:20	5.03.2018
10	4.692	99	4.683	100	offen >Alarm	offen >Alarm	>Manu	10:17	5.03.2018
11	4.690	100	4.684	101	offen >Alarm	offen >Alarm	>Manu	11:21	27.02.2018
12	4.691	101	4.683	100	offen >Alarm	offen >Alarm	>Manu	11:20	27.02.2018
13	4.691	100	4.684	100	offen >Alarm	offen >Alarm	>Manu	11:18	27.02.2018
14	4.690	99	4.683	100	offen >Alarm	offen >Alarm	>Manu	11:16	27.02.2018
15	4.695	100	4.685	100	offen >Alarm	offen >Alarm	>Manu	11:13	27.02.2018

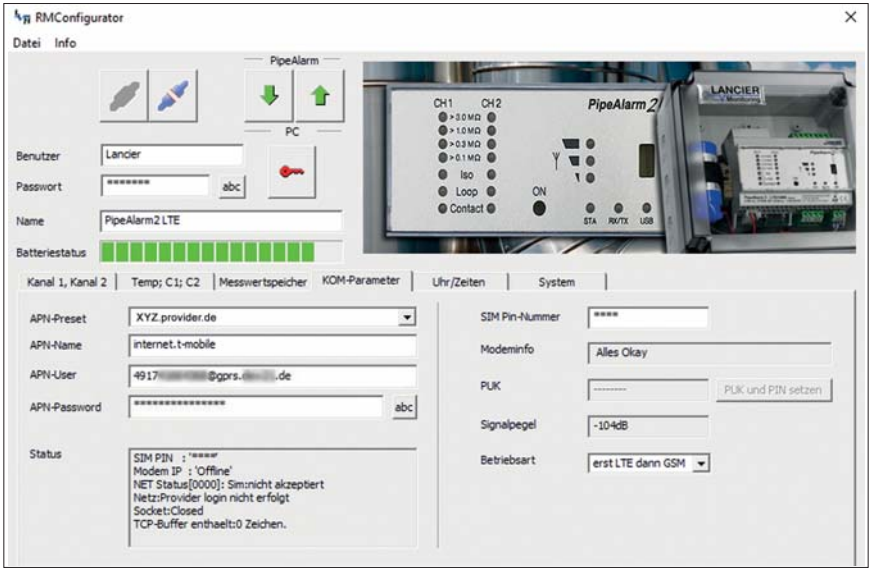
This displays a list of all of the results of the last 90 measurements including time stamps (time/date). One measurement event per line.

Measured values for the temperature are not stored.

Test measurements without message dispatch are not considered.

Test measurements with message dispatch are entered with the “Manu” status.

„COM-Parameter” tab



Here, connection parameters are entered for the communication with the UMS server via the mobile network.

Information about the mobile connection can also be found here.

APN = Access Point Name is the name given to the gateway between the mobile network and the public Internet.

The required APN can be selected from the “APN-Presets” pull-down menu. In this case, the other required parameters are entered automatically.

It may be necessary to add the APN user and APN password.

Maximum number of characters:	APN-Name:	64 characters
	APN-User:	30 characters
	APN-Password:	30 characters

Status

Here, the mobile connection’s system status is displayed.

SIM PIN number: Here, the PIN number of the SIM card used must be entered, in order to ensure the connection to the mobile network.

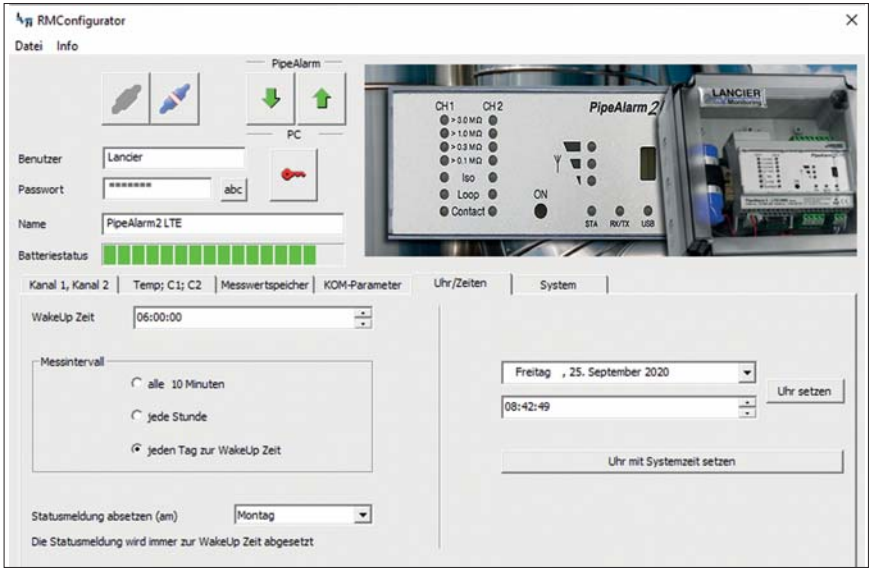
Signal level

Here, the last mobile connection’s signal level is displayed.

Operating mode

Here you can select from the pull-down menu which mobile connection or combination is to be used.

„Clock/times” tab



WakeUp time: Here, the time when the daily measurement cycle should be started is defined.

Meas. interval: The *PipeAlarm2 LTE/UMS* is designed for daily measurements. If shorter measurement intervals are required, they can be shortened by radio button to hourly or 10-minute intervals. These shorter intervals should only be used temporarily for test purposes, as they will significantly reduce the battery life.

Send status message on: At the WakeUp time the PipeAlarm2 sends a weekly status message, in order to document that it is active and simultaneously sends all entries from the history that have not yet been transferred to the UMS server. The weekday for this can be freely selected via the pull-down menu.

If the “every day” condition is selected in the pull-down menu, a status message is sent every day at the WakeUp time.

This will decrease the battery’s operating life.

Setting the date and time: This data can be changed by clicking on the menu arrows at the right edge of the input fields or entered via the keyboard. In order to transmit them to the *PipeAlarm2 LTE/UMS*, the “Set” button

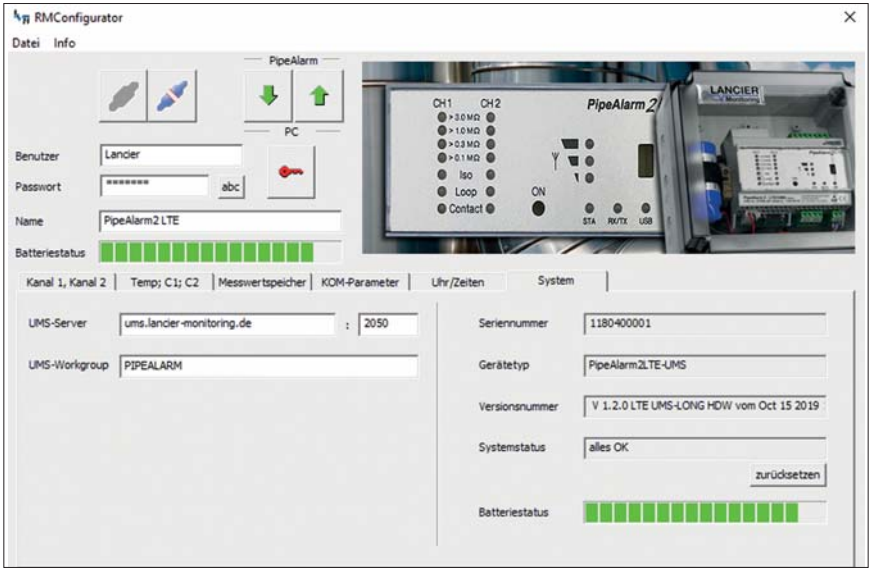
must be clicked.

Alternatively, the system time of the laptop/notebook used can be copied across by clicking on the button “Set clock with system time”

.

Warning:
The device does not automatically adjust for winter/summer time changes.

„System" tab



Here, the UMS server data is entered, and any device-related data, such as the serial number, type and version number, is displayed.

Error messages in the "System status" field can be acknowledged as read and reset by pressing the Clear button.

If the **LANCIER Monitoring server hosting** is used, the following UMS server address must be entered:

UMS Server:	ums.lancier-monitoring.de (max. of 64 characters)
Port specification:	2050 (field after ":")
UMS work group:	Freely selectable name (max. of 30 characters)

If **your own server** is used, the following information must be entered:

UMS Server:	IP address or server name (max. of 64 characters)
Port specification:	According to the circumstances (field after ":")
UMS work group:	Freely selectable name (max. of 30 characters)

In order for the changes to the settings to be transferred to the *PipeAlarm2 LTE/UMS*, the button must be clicked.

This can be done on each settings page and after each change, or once after all of the settings have been applied.

Warning: Transfers of any changes to the time and date take place exclusively via the two Set and Set clock with system time buttons.

In order to check that the communication data, such as the APN name, PIN etc., have been entered correctly, a test message should be sent. To do this, press the “ON” button on the *PipeAlarm2 LTE/UMS* for 5 seconds (see page 10).

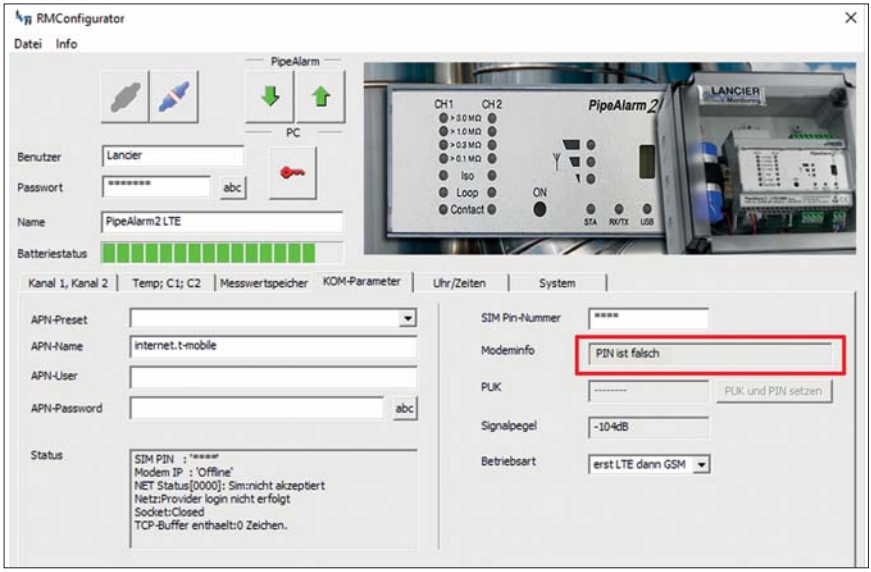
If the UMS server does not receive a message from the PipeAlarm2 LTE, the APN access data and PIN number must be checked.

In order to read the stored data, press the button in the RMConfigurator and go to the “COM parameters” or “System” tab.

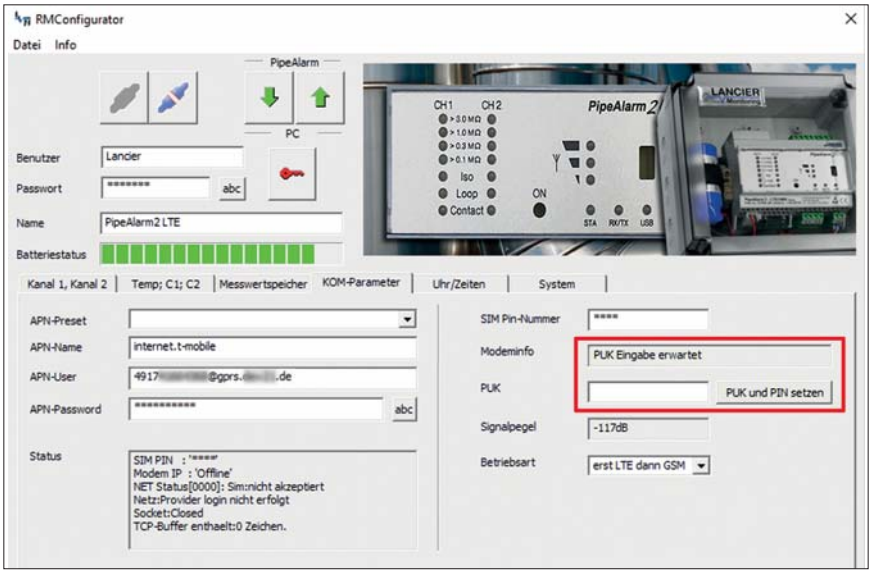
Incorrect PIN input/unlocking via the PUK

If an incorrect PIN has inadvertently been entered, no alarm and status messages can be sent.

If the SIM card does not accept the PIN number, this is displayed in the RMConfigurator’s “Modem info” field:

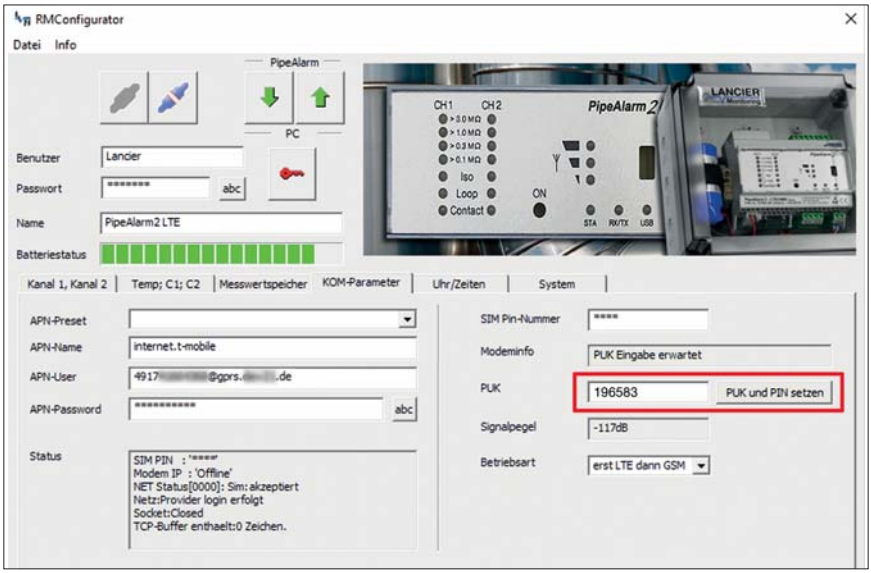


After the fourth attempt to send with an incorrect PIN number, the SIM card locks automatically. This is displayed in the RMConfigurator’s “Modem info” field (see next page):

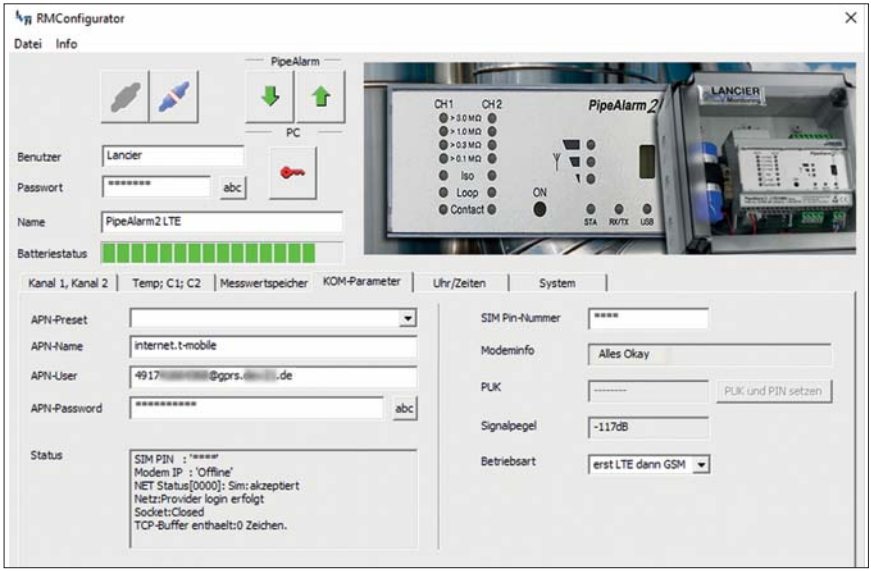


A locked SIM card can be unlocked with the PUK number.

In order to unlock it, enter the desired, freely selectable, 4-digit SIM PIN number in the “SIM PIN number” field and the 8-digit PUK number in the “PUK” field and upload them to the *PipeAlarm2 LTE/UMS* by pressing the set PUK and PIN button.



A test message to the registered UMS server is then sent automatically. The new SIM number is then set and the SIM card re-activated.

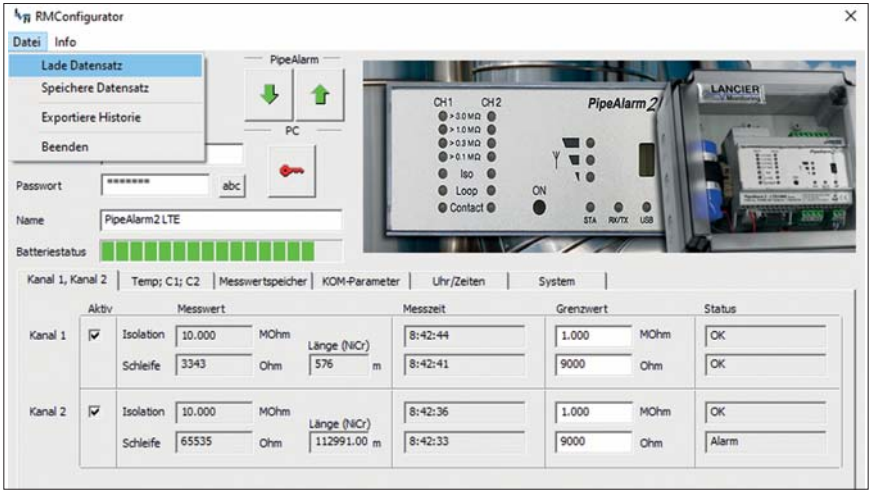


In order to **complete the configuration**, the button must be clicked to separate the software from the device.

The USB cable can then be removed from the device and the computer and the “RMConfigurator” program closed.

The configuration is complete.

Saving/loading the device configuration



The RMConfigurator offers the option to store device settings or to load saved settings.

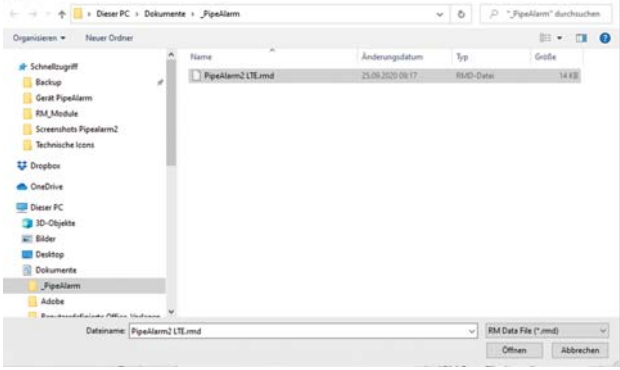
This function is not password protected.

By clicking on the “File” menu option, a pull-down menu with the following options opens:

Load file

Imports device settings that were previously stored in a data set (file format xxx.rmd) from a connected PC/laptop, etc.

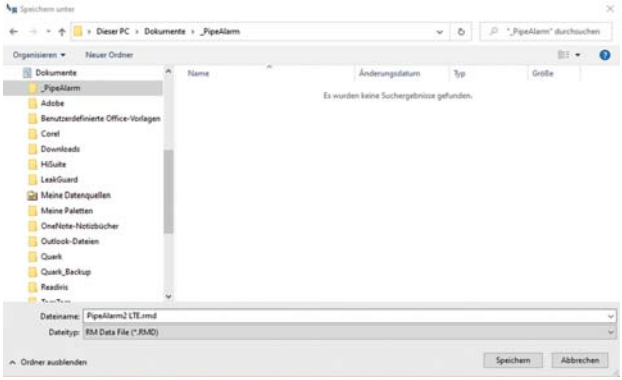
If the RMConfigurator was not yet connected to the device, it first reads out the configuration of the device when it is connected. If another stored data set is to be used, it must then be imported.



Save file

Stores the current device configuration in a data set on the connected PC/laptop, etc.

The device name is suggested as the file name. However, the file name can be changed at will.



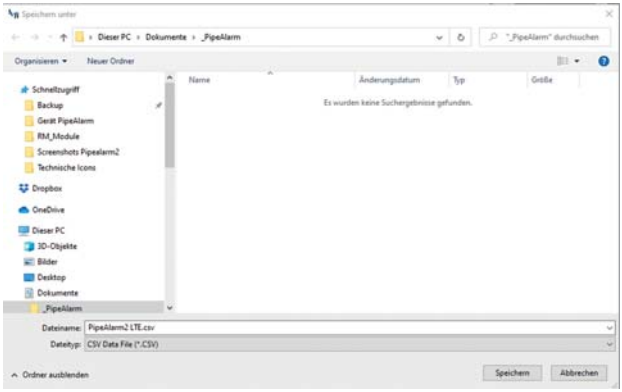
Hint:

The changed data of the RMConfigurator are only transferred to the device by clicking the button . The configuration of the RMConfigurator does not change beforehand!

Export history

Stores the measured data from the measured value memory in a CSV file on the connected PC/laptop, etc.

The device name is suggested as the file name. However, the file name can be changed at will.



Exit Closes the “RMConfigurator” program.
Prior to ending the program, the configuration must be completed, see the following point.

This feature is not password protected.

In order to **complete the configuration**, the button must be clicked first to separate the software from the device.

The USB cable can then be removed from the device and the computer.

The configuration has been completed, the RMConfigurator can be closed.

Maintenance

Battery replacement

WARNING! Lithium battery!
Only use the original 3.6 V/19 Ah battery with the mount and connecting cable. Never charge or short-circuit the lithium battery or reverse its polarity.
If required, take note of any shipping regulations for lithium batteries (Class 9, UN 3090 or UN 3091).

The *PipeAlarm2 LTE/UMS* is equipped with a 3.6 V lithium battery (**A**), which has been pre-installed ex works but not yet connected. With daily measurements and weekly status messages a new battery will last for more than 5 years.

In order to change a battery (LANCIER Monitoring order number 075969.000) the housing of the *PipeAlarm2 LTE/UMS* must be opened.

To do this, unscrew the 4 screws on the corners of the housing and remove the housing cover.

Pull off the battery connector (**B**) and remove the battery (**A**) from the top-hat rail together with the mount.

Click the mount and the new battery (**A**) into place on the top-hat rail. Attach the polarity-reversal-protected battery connector (**B**) of the new battery (LANCIER Monitoring order number 075969.000) to the X6 connector (see page 6).

Close the cover again and screw it down.

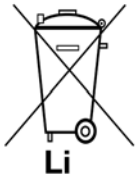
Battery error message

A battery error message occurs, when the battery voltage of the *PipeAlarm2 LTE/UMS* falls below 3 V and it should be replaced.

This message is always sent with the weekly status message or an alarm or OK message.

Battery disposal

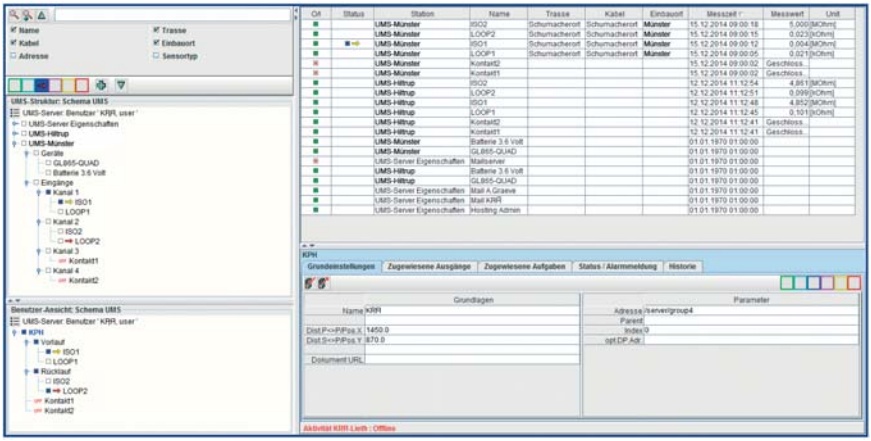
- Do not dispose of old or defective accumulators as normal domestic waste.
- Adhere to environmental laws on battery disposal.
- Return old and/or defective accumulators to a municipal battery disposal point.



UMS server

Messages sent to the UMS server are there assigned to the corresponding device and evaluated.

All relevant data is visible at a glance.



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CE

EC Declaration of Conformity

We declare under our sole responsibility, that the product

Make:	**LANCIER Monitoring**
Type:	**PipeAlarm2 LTE/UMS** **PipeAlarm2 LTE/UMS short**

to which this declaration refers, meets the relevant health and safety requirements of the following EC directives:

2014/30/EU	**Electromagnetic compatibility**
2011/65/EU	**RoHS-II**
2014/53/EU	**RED**

For proper implementation of the health and safety requirements named in the EC directives the following standard(s) and/or technical specification(s) have been consulted:

EN 61010-1	**Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1**
EN 61326-1	**Electrical equipment for measurement, control and laboratory use - EMC requirements (class B)**

Münster, 20.11.2019

Research and Development

Managing Director