

Operating Instructions

PipeCheck

Hand-held measuring device for
district heating pipe sensors



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Technical Data

Measurement channels	1
Measurement range insulation	0 .. 100 M Ω (fault ± 1 % of m. v. for 0 .. 20 M Ω , ± 3.0 % of m. v. for > 20 M Ω ± 1 Digit)
Resolution insulation	0.1 k Ω
Measurement range loop	0 .. 15 k Ω (fault ± 1 % of m. v. ± 10 Ω absolute ± 1 Digit)
Resolution loop	0.1 Ω (Cu)
Pipe length	NiCr: max. 2500 m (1m = 5.8 Ω) HDW/Cu (nordic system): max. 4000 m
Pipe contact surveillance	yes
Measuring voltage	≤ 24 V DC, < 100 mA (acc. to EN 14419)
Display	LC display, monochrome grey, glare-free
Power supply	Li-Ion rechargeable battery, operating duration 10 h typ.
Features	Location tracking by GPS module SD memory card (max. 2 GB, FAT 16) Integrated LED torch, USB port Battery status display
Operating temperature	-10 .. 50 $^{\circ}$ C
Admissible humidity	0 .. 95 % rel. humidity, non condensing
Dimensions (l / w / h)	approx. 221 / 106 / 35 mm
Weight, including case and accessories	approx. 1.55 kg

Ordering Data

Hand-held measuring device PipeCheck

Included are a measuring cable with banana plugs and alligator clips, pipe connection magnet, mains charger, USB cable, Li-Ion rechargeable battery and carrying bag with accessory compartment **Order-No. 075163.000**

Spare parts

Measuring cable 1 m	Order-No. 075224.200
Carrying bag with exchangeable transparency film	Order-No. 073847.100
Transparency film for carrying bag	Order-No. 076076.000
Power supply AC/DC 100 .. 240 V AC / 12 V DC	Order-No. 073845.000
USB connection cable PipeCheck/PC	Order-No. 073957.000

Accessories

Accessory kit consisting of:

- car charging cable, 2 probes, 2 large alligator clips,
- 1 test plug (1.1 M Ω / 5.8 k Ω , error rating of 0.1% of the respective measurement value), 2 spring clips, 1 spare magnet,
- 1 pipe connection holder, 1 pipe connection extension cable,
- 1 spare SD memory card

Order-No. 075261.200



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

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 and 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 recognised technical regulations for safe and professional operation shall also be observed.

Designated Use

The PipeCheck has been designed to check measurement sections as part of district heating pipe monitoring activities.

The PipeCheck is destined for the use in residential and small business areas. Any non-compliant use excludes the manufacturer from liability for any damages. The operator carries the risk!

Safety Instructions



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

- Keep the operating instructions ready to hand!
- 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!
- Protect instrument from liquids - danger of short circuit!
- Do not make any modifications to the equipment!
- Mounting, maintenance and repair work should only be performed by trained personnel!
- Only use original LANCIER replacement parts!



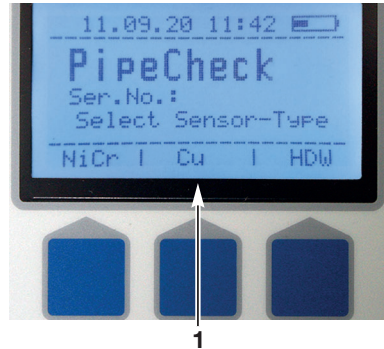
WARNING - Strong magnet!



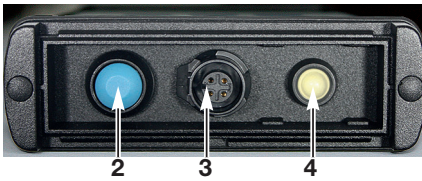
Keep the pipe connection magnet away from all devices and objects, which may be damaged by strong magnetic fields, such as cardiac pacemakers etc., hearing aids, televisions and monitors, bank and credit cards, data carriers and computers.

Product description

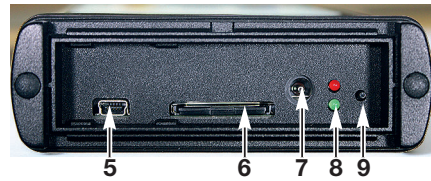
- 1 Display with 3 control keys (soft keys)
- 2 Power/LED switch
- 3 Connection socket for measurement cable
- 4 LED flashlight
- 5 USB interface
- 6 SD memory card slot
- 7 Charging socket 12V DC
- 8 Charging status indicator
- 9 Reset button



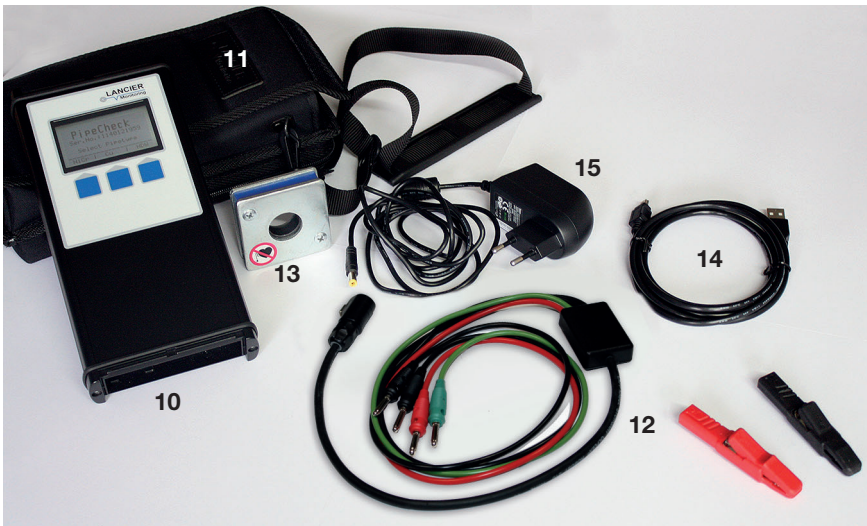
Top of device



Bottom of device



Scope of supply



- | | |
|--|----------------------------------|
| 10 Measuring device PipeCheck | 13 pipe connection magnet |
| 11 Carrying bag with accessory compartment | 14 USB cable |
| 12 measuring cable with banana plugs and alligator clips | 15 Mains charger |
| | Operating instructions (no fig.) |

Measuring connection

Connect the measurement cable to the PipeCheck

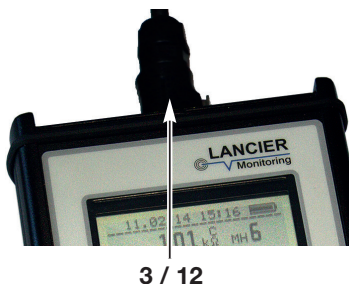
- Insert the supplied measurement cable (12) into the reverse-polarity-protected connection socket (3) on the device's front side until the plug lock is engaged.

The measurement cable is approx. 1 m long and branches out around half way.

The red and green measurement lines connect to the sensor wires of the pipe to be measured.

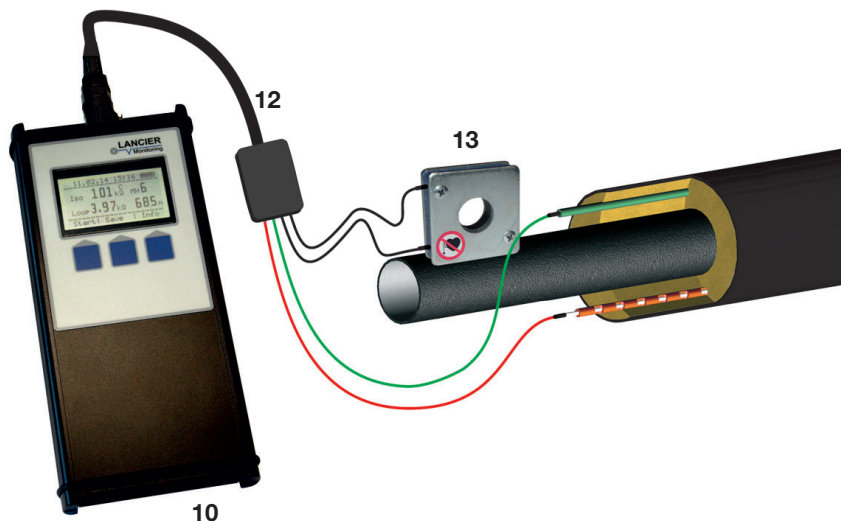
The two black measurement lines are connected to the medium pipe separately from each other using the pipe connection magnet (13).

All measuring lines are fitted with banana plugs. In order to make connections easier alligator clips for the sensor wires and one pipe connection magnet (13) are included.



Connect the measurement lines to the district heating pipe

System visualisation



- **How to connect the sensor wire**

Depending on local conditions, where necessary, fit the green and red measurement lines with alligator clips and for

- **NiCr measurements** match the colours to the pipe's measuring wires.
- **Cu measurements** connect the red measurement line to the bare copper wire and the green measurement line to the tinned copper wire.
- **HDW systems** connect the red measurement line to the red and the green measurement line to the white measuring wire.



WARNING - Strong magnet!

Keep the pipe connection magnet away from all devices and objects, which may be damaged by strong magnetic fields, such as cardiac pacemakers etc., hearing aids, televisions and monitors, bank and credit cards, data carriers and computers.

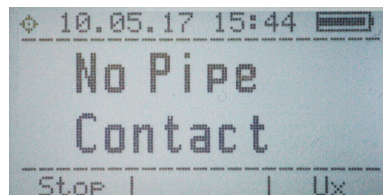


- **How to connect the pipe connection monitor**

Using the banana plugs plug the two black measurement lines into the sockets of the supplied pipe connection magnet (13) and position the latter parallel to the service pipe to establish a secure point of contact.

Where there is no pipe connection magnet (13), the two black measurement lines must be connected to the medium pipe without touching each other. This is the only way to ensure that the pipe is included in the measurement.

In the event that the black measurement lines are connected incorrectly, a “No Pipe Contact” error message will appear on the display and the measurement will be discontinued (see page 14).



Operation

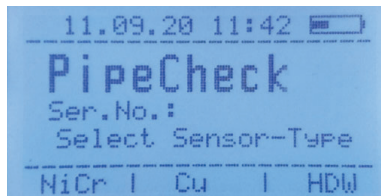
How to turn on the PipeCheck

The PipeCheck is supplied ready for use in a protective bag. During operation the device can remain in the protective bag.

- Open the protective bag and fasten the flap in place using the Velcro closure on the back of the bag.
- Press and hold the power switch (2) on the device's front side for approx. 1 second. The PipeCheck is now switched on.
- The display (1) will show the device's initialisation messages.
- The start screen will then be shown.
- The PipeCheck is now ready for use.
- If the PipeCheck is left unused for longer than 15 minutes, an acoustic signal will sound and the device will turn off automatically.



2



Key

Explanation of symbols



GPS satellite indicator, flashes, if there is no satellite connection, e.g. inside buildings
Is visible, when there is a satellite connection.



Rechargeable battery indicator displays the charge level of the built-in rechargeable battery.



Moves the cursor up one position.



Moves the cursor down one position.



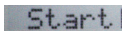
Increases an adjustable value.



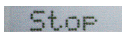
Decreases an adjustable value.



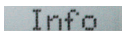
Moves up one level from the current screen and copies a value selected from a list.



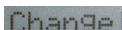
Starts a measurement run.



Ends a measurement run.



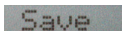
Opens the menu for device settings and information.



Opens the setting mode for certain parameters.



Switches to the next adjustable value in the setting mode.



Saves a changed value.



Mix up of measurement lines a and b.

Terms

NiCr	Measurement procedure with a nickel chrome measuring wire .
Cu	Measurement procedure with a copper measuring wire .
HDW	Measurement procedure according to the HDW system .
Iso	Measurement value for insulation resistance .
Loop	Measurement value for loop resistance .
MH	MH level indication. See page 22 for more information about this.
Ux	Displays the element or external voltage.
GPS	Global position system: Location tracking by satellite.
I_P	Measurement value for insulation resistance measuring wire a against the pipe .
I_ab	Measurement value for insulation resistance measuring wire a against b .
Ux aP	Measurement value for voltage measuring wire a against the pipe .
Ux ab	Measurement value for voltage measuring wire a against b .
Q	Quickstart

Measurements

The PipeCheck determines the MH level as well as the insulation and loop resistance.

The automatic reversal of the measuring voltage eliminates any element voltage interference and typical measurement errors are thereby avoided.

To select the measurement procedure

Using the soft keys you can select one of the following measurement procedures:

- „NiCr“
For pipes with nickel chrome monitoring wires.
- „Cu“
For pipes with copper monitoring wires.
- „HDW“
For pipes with an HDW monitoring system.



NiCr measurements

Once the “NiCr” measurement procedure has been selected, the corresponding measurement screen will appear.

Press the “Start” soft key to start the measurement.



The PipeCheck will now continuously measure first the insulation and then the loop resistance. The current measurement is indicated by the “>” sign.

The respective last measured values are shown on the display. See page 22 for information on how to interpret the values.



During measurements the element voltage Ux can be displayed by pressing and holding the “Ux” soft key.

The presence of an element voltage can be an indication of moisture in the insulation layer.



Press the “Stop” soft key to end the measurement and freeze the display.

Shown are:

The insulation resistance,
loop resistance,
MH level and
the measuring section length.



Once the measurement has been completed, measurement values can be stored in the SD card’s “NICR.CSV” CSV file by pressing the “Save” soft key.

--> See chapter “How to save measurement values” on page 13.

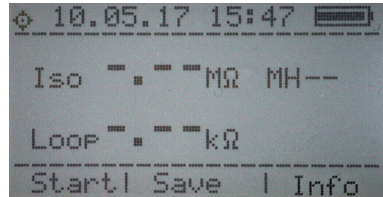
Press and hold the power switch (2) on the device’s front side for approx. 1 second to call up the home screen. A different measurement procedure can now be selected.



Cu measurements

Once the “Cu” measurement procedure has been selected, the corresponding measurement screen will appear.

Press the “Start” soft key to start the measurement.



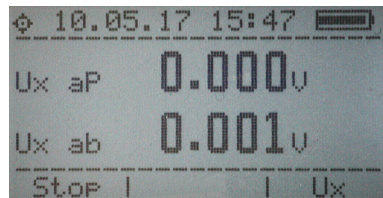
The PipeCheck will now continuously measure first the insulation and then the loop resistance. The current measurement is indicated by the “>” sign.

The respective last measured values are shown on the display. See page 22 for information on how to interpret the values.



During measurements the element voltage Ux can be displayed by pressing and holding the “Ux” soft key.

The presence of an element voltage can be an indication of moisture in the insulation layer.



Press the “Stop” soft key to end the measurement and freeze the display.

Shown are:

The insulation resistance,
loop resistance and
MH level



Once the measurement has been completed, measurement values can be stored in the SD card’s “CU.CSV” CSV file by pressing the “Save” soft key.

--> See chapter “How to save measurement values” on page 13.

Press and hold the power switch (2) on the device’s front side for approx. 1 second to call up the home screen. A different measurement procedure can now be selected.



2

HDW measurements

Once the “HDW” measurement procedure has been selected, the corresponding measurement screen will appear.

Press the “Start” soft key to start the measurement.

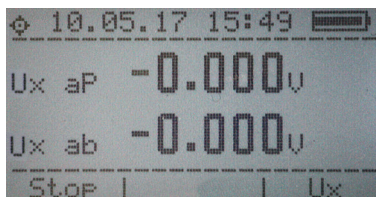


The PipeCheck will now continuously measure first the loop and then the insulation resistance. The current measurement is indicated by the “>” sign.

The respective last measured values are shown on the display. See page 22 for information on how to interpret the values.

During measurements the element voltage Ux can be displayed by pressing and holding the “Ux” soft key.

The presence of an element voltage can be an indication of moisture in the insulation layer.



Press the “Stop” soft key to end the measurement and freeze the display.

Shown are:

- the loop resistance
- the insulation resistance for measuring wire a against b,
- the insulation resistance for measuring wire a against the pipe,
- the insulation resistance for measuring wire b against the pipe.



Once the measurement has been completed, measurement values can be stored in the SD card’s “HDW.CSV” CSV file by pressing the “Save” soft key.

--> See chapter “How to save measurement values” on page 13.

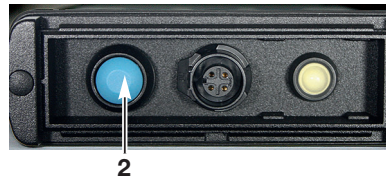
Error message “Measuring wire mix up”

Where wires a and b are mixed up due to incorrect installation or incorrectly connected measurement lines, this will lead to incorrect measurements.

The *PipeCheck_{plus}* will detect this kind of error and show it on the display as “Loop interrupted” and “a<>b”.



Press and hold the power switch (2) on the device's front side for approx. 1 second to call up the home screen. A different measurement procedure can now be selected.



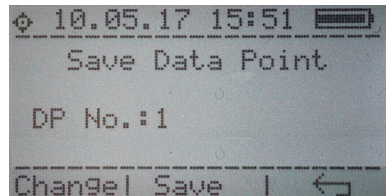
How to save measurement values

Every measurement can be stored on the SD card in a CSV file by pressing the "Save" soft key (here shown using a CU measurement as an example).



The value of the measuring point, under which the measurement values will be saved, can be freely determined.

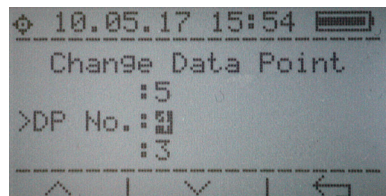
The corresponding display is called up by pressing the "Change" soft key.



Pressing the „^“ or „v“ soft keys increases or decreases the value of the data point.

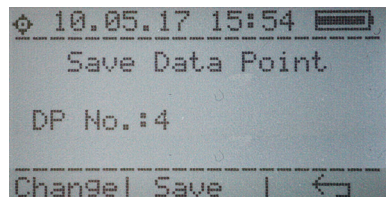
However, this will not overwrite any existing measuring points.

Once the desired measuring point has been set, press the „<-“ soft key to end the input.

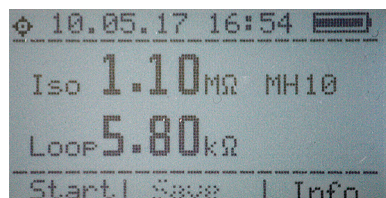


Pressing the "Save" soft key stores the measurement values under the specified measuring point, stops the measurement storage procedure and calls up the measurement screen.

Find out more about how to evaluate data stored in the log file on page 21.



If no SD card is inserted, the "Save" menu item will appear in a lighter grey and it will not be possible to select it or to save measurement values.



Error messages

The PipeCheck automatically detects and displays pipe connection errors (an incorrect connection of the black measurement lines and the pipe connection magnet to the medium pipe, see page 7), interruptions in the measuring loop as well as errors due to element voltages.

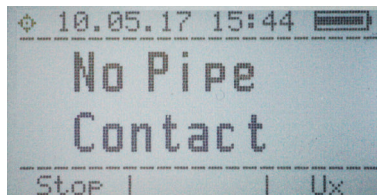
Pipe connection errors

If a **pipe connection error** occurs (an incorrect connection of the black measurement lines and the pipe connection magnet to the medium pipe, see page 7), the display will show the “No pipe contact” error message.

The measurement will then be suspended until the error is fixed.

Pressing the “Stop” soft key makes the display return to the measurement screen.

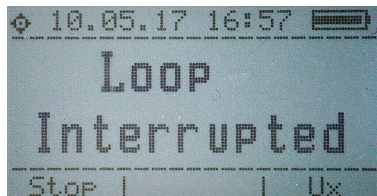
No measurement values will be shown.



Broken measurement loops

If a **measurement loop is interrupted**, the display will show the “Loop interrupted” error message.

Once the error is corrected, the determined measurement value will be shown.



Contact between the pipe/measuring wire

If the display shows a “C” for “contact” above the insulation resistance unit, this could indicate a **metallic contact between the medium pipe and measuring wire**.



Error message “Measuring wire mix up”

Only for HDW measurements!

Where wires a and b are mixed up due to incorrect installation or incorrectly connected measurement lines, this will lead to incorrect measurements.

The *PipeCheck_{plus}* will detect this kind of error and show it on the display as “Loop interrupted” and “a<>b”.



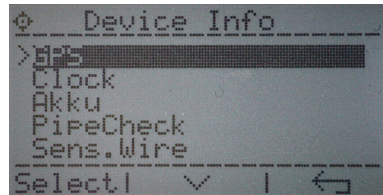
Device settings

Device settings and information can be called up from all measurement screens by pressing the “Info” soft key.



On the information screen the desired menu item can be selected by moving the “>” cursor using the „∨“ soft key.

Pressing the “Select” soft key opens the menu item.



GPS info

Displays the current location and GPS signal quality.

Lati.: Displays geographic latitude coordinates (latitude) with an indication of the position respective to the equator (**N**orth or **S**outh).

Long.: Displays geographic longitude coordinates (longitude) with an indication of the position respective to the prime meridian (Greenwich) (**W**est or **E**ast).

GPS-Q:

1. Digit = 0: No satellite reception
= 1: Satellite reception available

2. Digit = Number of received satellites

H-Pre: Reception quality, values

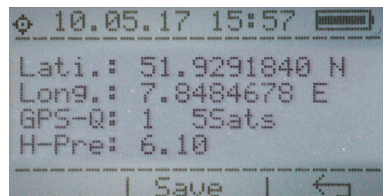
from 0 to 99.0

0 = Best value

Values < 2.0 = Good reception quality,

Values < 5.0 = Serviceable reception quality,

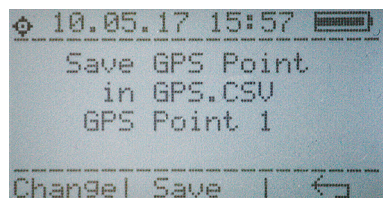
Values > 5.0 = The quality of reception is too low to determine the location!



Pressing the “Save” soft key stores the coordinates in the GPS.CSV file on the PipeCheck’s SD memory card.

Memory points can be chosen freely (see page 12).

Press the „←“ soft key to return to the GPS display.

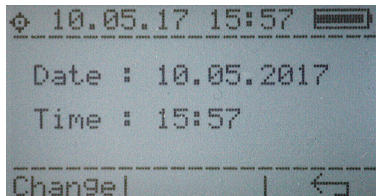


Renewed pressing of the „←“ soft key calls up the information home screen.

Clock information

Displays the date and time set on the device.

Pressing the “Change” soft key activates the settings mode.



The last two digits of the year are underlined.

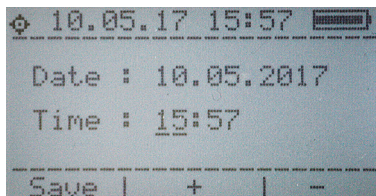
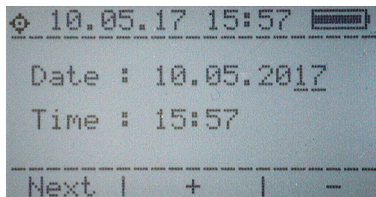
Pressing the “+” or “-” soft keys increases or decreases the year setting.

Pressing the “Next” soft key moves the cursor on to the number for the month, which can now be changed by pressing the “+” or “-” soft keys.

The same applies for setting the other values in the order of “Day”, “Minute” and “Hour”.

The changes are not stored on the device until the “Save” soft key is pressed when the “Hour” setting is shown.

Pressing the „↶“ soft key calls up the information home screen.



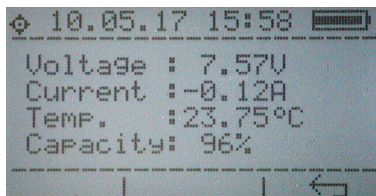
Battery pack information

Shows the status of the integrated rechargeable battery pack.

Pressing the „↶“ soft key calls up the information home screen.

NOTE!

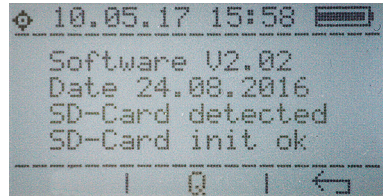
For test purposes the unit does NOT switch off automatically after 15 minutes in this mode.



PipeCheck information

Shows the current firmware version and the status of the SD memory card.

Pressing the „←“ soft key calls up the information home screen.



You may switch from „-“ to „0“ = **Quickstart** with the middle key.

Pressing the „←“ soft key calls up the information home screen.

Quickstart

In Quickstart mode the *PipeCheck* remembers the area in which it was last used. After switching off and later on again, it starts again in exactly this area.

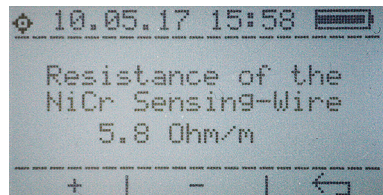
The last measuring method used is retained and the device does not carry out any calibration. So it is ready for use more quickly.

Sensor wire information

Shows the resistance value for the sensor wire set on the device in Ω/m .

Pressing the “+” or “-” soft keys increases or decreases the resistance value.

Pressing the „←“ soft key stores the changes and calls up the information home screen.



Important!

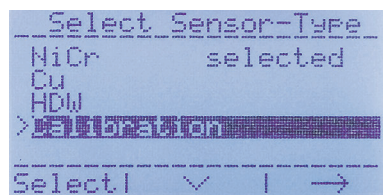
Once the PipeCheck device has been switched off, the resistance value automatically resets itself to the factory setting of 5,8 Ω/m since other values represent a significant exception.

The resistance value for the sensor wire is important for accurate calculations of the measuring section length.

Select sensor type (only if Quickstart is activated)

On the screen the desired sensor or calibration can be selected by moving the cursor „█“ with the „▼“ soft key.

Pressing the "OK" soft key selects the menu item.



LED light

For work in poorly lit areas the PipeCheck is fitted with an illuminated display and an LED light.

The display light comes on automatically with each keystroke for a period of 5 minutes.

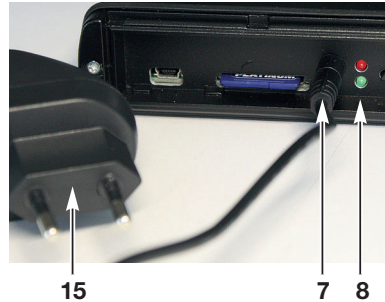
For workplace illumination, for example when connecting the measuring cable, the LED light on the PipeCheck's front side can be switched on and off by briefly pressing the power switch (2).



How to charge the rechargeable battery

The *PipeCheck* is fitted with an integrated rechargeable battery. The charge level appears in the top right-hand corner of the display (1).

To charge the rechargeable battery connect the supplied mains charger (15) to the device's charging socket (7) and an electrical outlet or connect the USB cable (14) to the USB interface (5).



The charging process is indicated by the lit up red and green diodes on the charge indicator (8) next to the charging socket (7). If the device is switched on during charging, the charge indicator bar will move from empty to full on the display (1). When charging via USB cable, the display is always automatically switched on and the charging capacity is displayed.

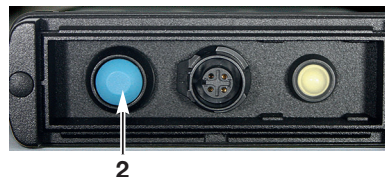
When charging is complete,

- The **green diode (8) will light up** (the charging voltage is connected),
 - The **red diode (8) will go out** (if the device is switched off),
 - The **battery charge indicator** will not move (on the display (1)) (if the device is switched on).
 - The **capacity indicator shows 100%** (on display (1), charging with USB cable)
- Disconnect the mains charger (15) and store it in the accessories compartment.

How to switch off the PipeCheck

- Press and hold the power switch (2) on the device's front side for approx. 3 seconds.

The PipeCheck device is now switched off, the screen will go off.



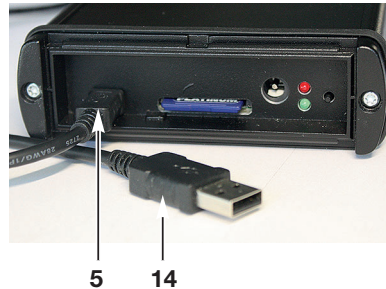
How to transfer measurement data to a PC

All measurement values and GPS data stored on the PipeCheck's SD memory card exist in two tables and in CSV format (comma separated values). These can be interpreted by spreadsheet programs, such as MS Excel.

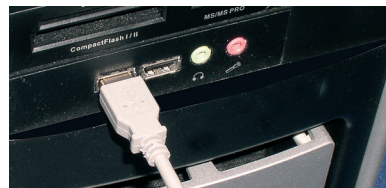
Data transmission via USB cable

- **Connect the USB cable (14)**

To do this, disconnect the sensor wire and mains plug, if they are still connected to the device, now insert the cable's mini plug into the USB interface (5) on the PipeCheck's underside.



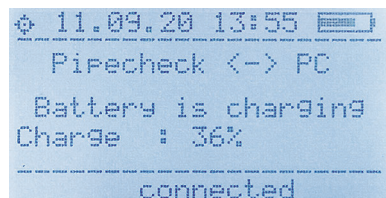
Connect the plug at the cable's other end to one of the PC's free USB ports.



The *PipeCheck^{plus}* starts up automatically. The data connection will be shown on the PipeCheck's display.

The battery is charged at the same time.

The *PipeCheck* appears as a USB drive of the PC.



Important!

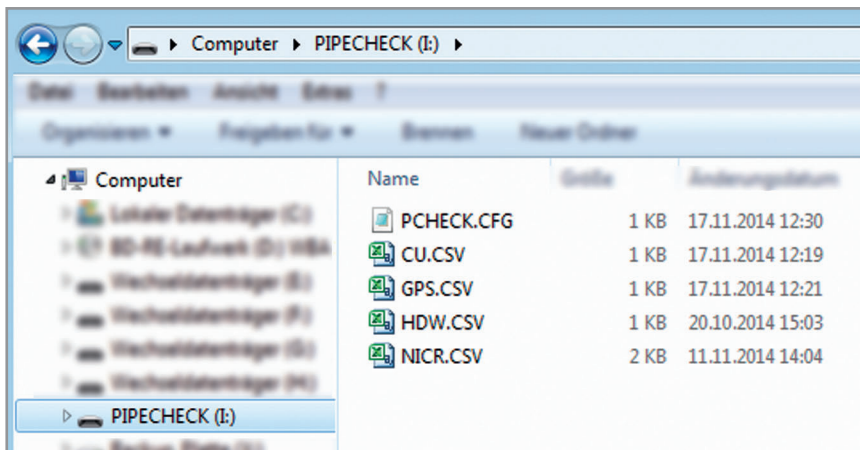
A joint operation of sensor wire, mains plug and USB cable is not intended. The sensor wire and mains plug must be disconnected.

How to transfer data via a card reader

- Remove the SD memory card (6) from the card slot on the device's front side by pressing on the SD card.
- Slide the SD memory card into the appropriate slot on a card reader.



Following initialisation a new removable drive will appear on the PC, in this case „PipeCheck (I:)“.



By opening the drive, the files will be displayed:

PCHECK.CFG	1 KB	17.11.2014 12:30
CU.CSV	1 KB	17.11.2014 12:19
GPS.CSV	1 KB	17.11.2014 12:21
HDW.CSV	1 KB	20.10.2014 15:03
NICR.CSV	2 KB	11.11.2014 14:04

The file names correspond to the contents:

- PCHECK.CFG Contains information about how to name data points and should not be edited. In the event that this file is accidentally deleted, the PipeCheck will automatically create a new file and begin naming data points from 1 onwards.
- CU.CSV Contains stored CU measurement data.
- GPS.CSV Contains stored GPS data.
- HDW.CSV Contains stored HDW measurement data.
- NICR.CSV Contains stored NiCr measurement data (see Page 12).

The measurement files to be archived can now be copied to any directory on the hard disk or opened directly for evaluation.

How to evaluate/process measurement data

CSV files can be opened in a spreadsheet program such as MS Excel. The settings should be selected in such a way that semicolons are interpreted as data separators.

	A	B	C	D	E	F	G	H	I	J	K
1	PipeType:Cu										
2	PipeCheck Ser.Nr.:1131100001										
3	Data Point	Date	Time	Iso	MH	Loop	Pipe	GPS-Sat	Lat/Lon		H-Pre
4	1	04.11.2014	17:03	0.194MOhm	MH 6	0.00hm	00hm	0	51.5279312,7.4749460	N,E	99.0
5	2	05.11.2014	13:15	--MOhm	MH--	0.00hm	Kein Rohr-Kontakt	0	51.5279312,7.4749460	N,E	99.0
6	2	11.11.2014	10:52	0.172MOhm	MH 6	0.00hm	00hm	0	51.5279312,7.4749460	N,E	99.0
7	5	17.11.2014	12:18	1.101MOhm	MH 10	5781.60hm	00hm	0	53.3610764,7.2147503	N,E	99.00
8	6	17.11.2014	12:19	1.101MOhm	MH 10	5781.60hm	00hm	0	53.3610764,7.2147503	N,E	99.00
9	7	17.11.2014	12:19	1.101MOhm	MH 10	5781.60hm	00hm	0	53.3610764,7.2147503	N,E	99.00
10	8	17.11.2014	12:19	1.101MOhm	MH 10	5781.60hm	00hm	0	53.3610764,7.2147503	N,E	99.00

To display the GPS log file proceed in a similar way:

	A	B	C	D	E	F	G	H	I	J	K
1	GPS Data										
2	PipeCheck Ser.Nr.:1131100001										
3	GPS Point	Date	Time	GPS-Sat	Lat/Lon		H-Pre				
4	1	20.10.2014	13:05	11:05:32	51.9663887,7.5644631	N,E	1	8	01. Feb		
5	2	17.11.2014	12:21	0	53.3610764,7.2147503	N,E	99.00				
6											

How to delete measurement data

Measurement files can be deleted individually or as a whole from the SD memory card (6) as long as it is connected to the PC. This should only be done, if they have already been archived on the hard disk or are no longer needed.



WARNING!

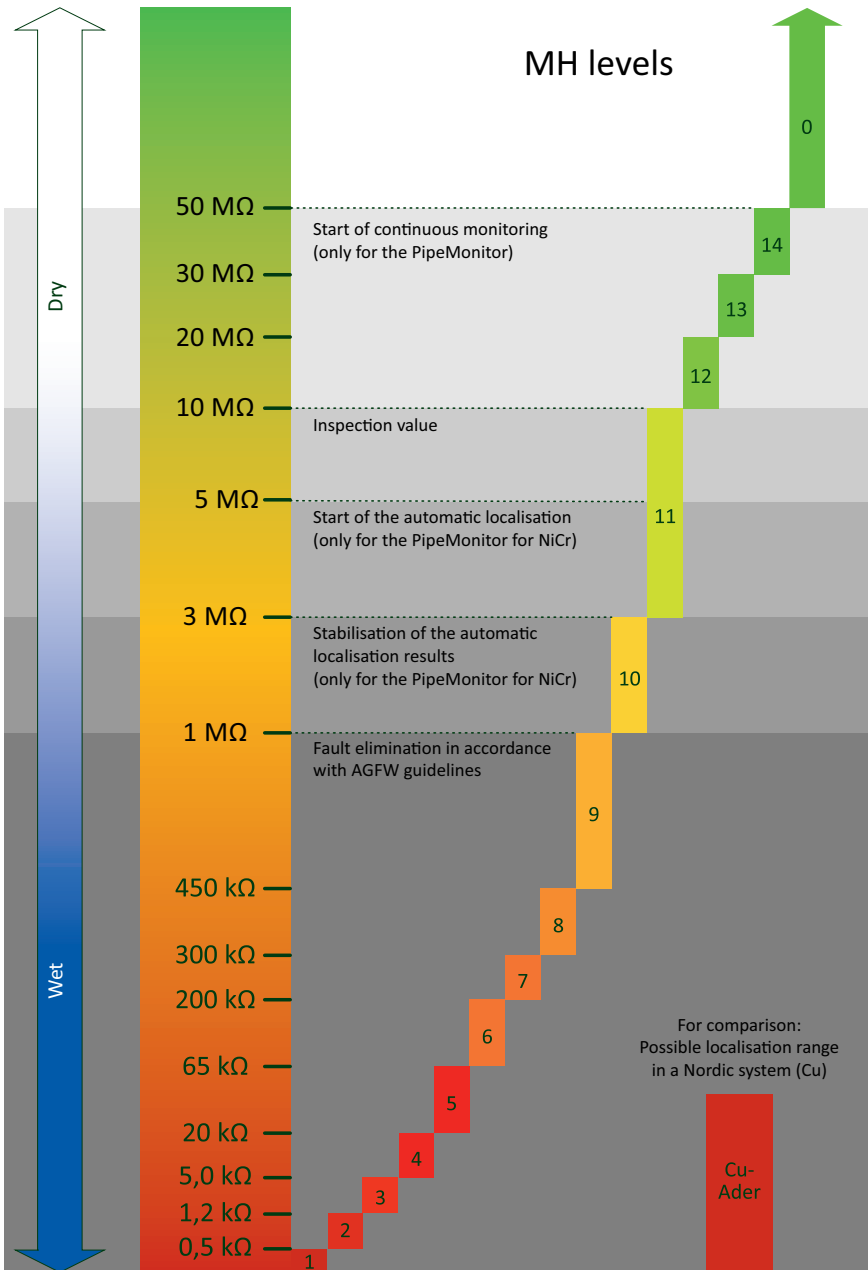
The deletion is irreversible.

SD memory cards have no backup function!

SD memory card data can be completely deleted or formatted.

Evaluation of measurement results

Measurement results are evaluated primarily on the basis of the determined MH level.



MH levels

MH level 0 means that the pipe is tight and that the insulation layer is dry.

From **MH level 12** and an **insulation resistance** of **< 20 MΩ** onwards permanent monitoring of the pipe must commence because the incipient moisture in the insulation layer implies leaks.

From **MH level 11** and an **insulation resistance of 3-5 MΩ** onwards automatic localisation must commence to obtain initial insights about the fault location. Significant amounts of moisture in the insulation layer are to be expected.

From **MH level 10** onwards the fault location must be pinpointed more accurately, as the fault must be rectified in the immediate future.

From **MH level 9** onwards fault recovery must be initiated. The insulating layer has by now become thoroughly soaked.

Calibration

LANCIER Monitoring recommends that to ensure the PipeCheck's high reliability, it is recalibrated regularly, i.e. every three years in the manufacturer's factory.

Please ship the PipeCheck to:

LANCIER Monitoring GmbH

Gustav-Stresemann-Weg 11

48155 Münster, Germany

Helpline

Tel. +49 (0) 251 674 999-0

Disposal

The PipeCheck is equipped with a Li-Ion rechargeable battery.

When necessary:

- 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.



EC Declarations of Conformity for power adaptor



COMPUTER TECHNOLOGY EUROPE, s.r.o.

EU Declaration of Conformity

Model name: **SYS1308N-xyxy series**
 (Note: 'x' is 2 digit number which represents the output power, 'y' is 2 digit number which represents the output voltage)

Name and address of the importer: **SUNNY Computer Technology Europe, s.r.o.**
 Trnkova 156, Brno, 628 00, Czech Republic
 VAT: CZ26920026, tel.: +420-544500327, fax.: +420-544500328

This declaration is issued under the sole responsibility of SUNNY Computer Technology Europe, s.r.o.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directive 2014/35/EU relating low voltage (LVD)
 Directive 2014/30/EU relating to electromagnetic compatibility (EMC)
 Directive (EU) 2015/863 provides an amendment to Annex II of RoHS (2011/65/EU) on the restriction of the use of certain hazardous substances in electrical and electronic equipment
 Directive (EU) 2019/1782 on eco design requirements for energy-related products.

References to the relevant harmonised standards used:

EN 62368-1:2014+A11:2017
 EN 55032:2015 Class B
 EN 61000-3-2:2014
 EN 61000-3-3:2013
 EN 55035:2017
 EN IEC 63000:2018
 EN 50563:2011+A1:2013

Signed for and on behalf of: **SUNNY Computer Technology Europe, s.r.o.**

Place and date of issue: **Brno, Czech Republic, 2020-07-22**

Name, Function, Signature: **Bc. Petr Nešpor, Director of European operations**



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EC Declaration of Conformity

We declare under our sole responsibility, that the product

Make: LANCIER Monitoring
Type: PipeCheck

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

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 61326-1 Electrical equipment for measurement, control and laboratory use - EMC requirements (class B)

Münster, 15.09.2020



Managing Director