



Original installation and operation manual

METPOINT® CID

■ Table of contents

1. Safety instructions	4
1.1 About this document	4
1.1.1 General safety instructions	4
1.1.2 Using Class 2 lasers	4
2. Servicing and maintenance	5
3. Environmental protection	5
4. Intended use	6
5. Technical data	6
6. Marking	7
6.1 Type plate.....	7
6.2 Laser warning label	7
6.3 Label locations.....	7
6.3.1 The METPOINT® CID (standard and laser distance module)	7
6.3.2 Parabolic mirror.....	7
7. Device components and controls	8
8. Overview of sensor types and description of their use	9
8.1 Assembly with horn.....	11
8.2 Assembly with focus tube	11
8.3 Assembly with gooseneck.....	12
8.4 Assembly with parabolic mirror.....	12
9. Commissioning / use	13
9.1 Switching on the device	13
9.2 Headphone volume up / down	13
9.3 Sensitivity level.....	14
9.4 Laser ON / OFF.....	14
10. Automatic distance measurement	15
11. Pinpointing leaks	17
11.1 Leak pinpointing process.....	17
11.2 Possible causes of leaks	18
11.3 Leak pinpointing procedure	18
11.4 Superficial leak detection	19
12. How to use	20
12.1 Initialization	20
12.2 Display.....	21

12.3	Home screen.....	22
12.3.1	Configuration.....	23
12.3.1.1	Selecting a sensor type (measuring tool).....	26
12.3.1.1.1	Intelligent tools.....	26
12.3.1.1.2	Selecting the sensor type manually	26
12.3.1.2	Saving a measurement	27
12.3.1.3	Parameters for measurement (check).....	27
12.3.1.4	Fault description	28
12.3.1.5	Storing a measurement on the internal SD card.....	29
12.3.2	Export / Import.....	29
12.3.2.1	Export	30
12.3.2.1.1	Export Leakage data	30
12.3.2.1.2	Exporting system settings.....	31
12.3.2.2	Import.....	32
12.3.2.2.1	Importing system settings.....	32
12.3.2.2.2	Importing a new measuring tool.....	33
12.3.2.3	Exporting / importing company databases	34
12.3.3	Viewing bitmaps	35
12.3.4	Device settings.....	36
12.3.4.1	Setting a password	36
12.3.4.2	Device settings	37
12.3.4.2.1	Language	37
12.3.4.2.2	Date and time.....	38
12.3.4.2.3	SD card.....	38
12.3.4.2.4	Updating the system	39
12.3.4.2.5	Checking for updates.....	40
12.3.4.2.6	Updating channels	40
12.3.4.2.7	Resetting to factory settings	41
12.3.4.2.8	Unique USB ID	41
12.3.4.2.9	Calibrating the touch panel	42
12.3.4.2.10	Display brightness.....	42
12.3.4.2.11	Cleaning.....	43
12.3.4.2.12	System overview	44
12.3.4.2.13	About METPOINT® CID.....	44
12.4	Using the BEKO Leak Management software.....	44
13.	Charging the battery	45
14.	Scope of delivery.....	46
15.	Appendix	47
16.	Notes	54

1. Safety instructions

1.1 About this document

Carefully read this documentation and familiarize yourself with the product before using it. Observe all safety instructions and warnings in particular so as to prevent injury and damage to the product. Keep this documentation within reach so that you will be able to consult it if necessary.

Pass on this documentation to later users of the product.

1.1.1 General safety instructions

	<ul style="list-style-type: none">• Use the product properly and exclusively as intended and within the parameters specified in the technical data. Do not use force.• Do not, under any circumstance, use the device to measure on or close to live parts! When detecting leaks on electrical systems, please make sure to maintain a safe distance so as to avoid dangerous electric shock!• Avoid direct contact with hot rotating parts.• Always switch the device on before connecting the headphones! The volume can be high when the signal levels are high (headphone bars in red range). You can use the sensitivity setting to reduce the volume.• Observe the specified storage and operating temperatures.• Using the device improperly or trying to use force on it will void the warranty.• Tampering of any kind that is not in conformity with the intended and described processes will void the warranty and exclude all liability.• The device is intended exclusively for the purpose described.
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1.1.2 Using Class 2 lasers

	<ul style="list-style-type: none">• Do not, under any circumstance, point the integrated laser directly at people!• Do not, under any circumstance, hit a person's or animal's eyes with the laser beam!• If a Class 2 laser beam hits your eyes, close your eyes and immediately move your head out of the beam's path.• Do not look into the direct or reflected beam.• Horn and parabolic mirror laser exit points: <div data-bbox="389 1630 807 1861"></div> <div data-bbox="1046 1570 1347 1906"></div>
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2. Servicing and maintenance

Servicing and maintenance work must be performed exclusively by authorized personnel.

3. Environmental protection



- Dispose of faulty rechargeable batteries and dead batteries in compliance with all applicable regulations.
- After this product reaches the end of its service life, dispose of it as e-waste (in compliance with all local regulations) or return the product to **BEKO TECHNOLOGIES** for disposal.

This electrical device contains the following rechargeable battery:

Battery type	Chemical system
Rechargeable battery	Li-ion 2S1P

How to safely remove the battery

- Warning: Make sure that the battery is completely discharged.
- Remove the rechargeable battery as shown below:



Remove the battery lid



Unplug the connector



Carefully pull out the battery

- Carefully remove the rechargeable battery. You can now dispose of the rechargeable battery and the device together.

4. Intended use

The **METPOINT® CID** is a leak detection device used to quickly and reliably detect leaks in compressed air systems.

The **METPOINT® CID** leak detection device analyses the ultrasonic waves produced by a leak as a function of distance and pressure.

It is designed exclusively for the intended purpose described here and may only be used accordingly.

The operator must check whether the device is suitable for the use chosen.

The technical data listed on the data sheet are binding. Inappropriate handling and operation outside the technical specifications is not permitted.

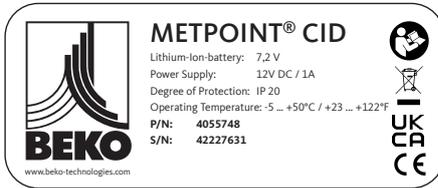
Claims of any kind due to non-intended use are excluded.

5. Technical data

Handheld housing dimensions	263 x 96 x 280 mm (11.55 x 3.78 x 11.02 in) with preamplifier and horn
Weight	0.55 kg (1.21 lb) with preamplifier and horn. Approx. 3.0 kg (6.61 lb) for the complete kit in its case
Operating frequency	40 kHz (+/-2 kHz)
Power supply, internal	7.2 V Internal lithium-ion battery
Power supply, external	12 VDC 1 A External power supply unit (included)
Operating time	> 9 h (continuous operation)
Charging time	Max. 4 h
Laser	645 – 660 nm wavelength, output power < 1 mW (Class 2 laser)
Connections	3.5 mm headphone jack for headphones. Power supply connector for connecting an external charger. USB port
Colour display	Transmissive TFT 3.5" touch panel
Interface	USB for importing / exporting data, SW updates, etc.
Data logger	16 GB memory card (Class 4 microSD)
Intended area for use	Indoors
Operating temperature	-5 °C ... +50 °C (+23 ... +122 °F)
Storage temperature	-20 °C ... +60 °C (-4 ... +140 °F)
Altitude	Up to 4000 m (13,123 ft) above sea level
Max. air humidity	< 95% RH, non-condensing
Permissible pollution degree	2
Degree of protection	IP20

6. Marking

6.1 Type plate



6.2 Laser warning label



6.3 Label locations

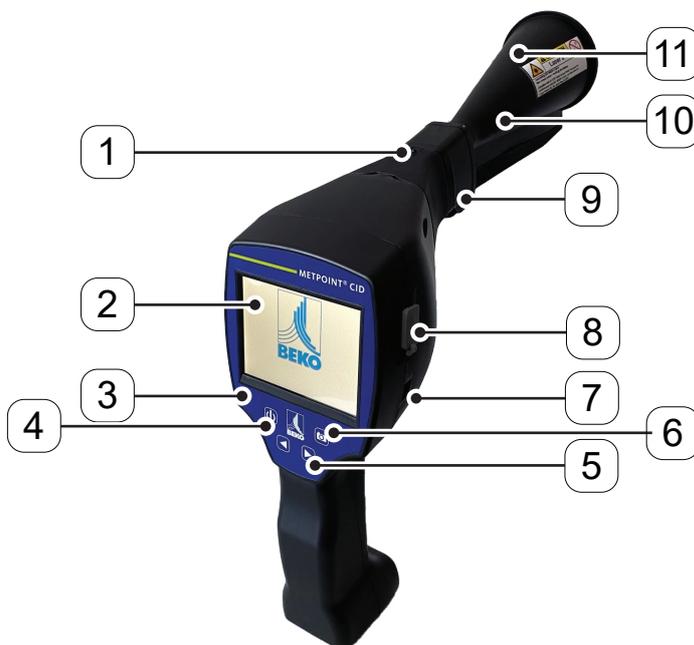
6.3.1 The METPOINT® CID (standard and laser distance module)



6.3.2 Parabolic mirror



7. Device components and controls



Position number	Description / Explanation
[1]	Release button for preamplifier module
[2]	3.5" TFT colour display with touch panel
[3]	Membrane keypad (four keys)
[4]	ON / OFF button
[5]	Volume (+/-)
[6]	"Save" key
[7]	Connector for power supply unit (battery charging connector)
[8]	USB port
[9]	Preamplifier module
[10]	Camera
[11]	Horn

3.5 mm jack
for headphones



8. Overview of sensor types and description of their use

Horn (standard attachment)	Focus tube
<div data-bbox="379 349 568 488" data-label="Image"> </div> <p data-bbox="161 524 804 741">The horn bundles incident ultrasonic waves together, increasing the device's range this way. This makes it ideal for medium distances. Leaks can be heard across long distances, but the user needs to get closer to the leak and always follow the "loudest" point to pinpoint it accurately. The user must then scan the individual compressed air components to pinpoint exact locations.</p> <p data-bbox="161 792 635 824">Quantification distance: 1 ... 6 m (3 ... 20 ft)</p> <p data-bbox="161 875 408 907">When to use the horn:</p> <ul data-bbox="161 913 804 1122" style="list-style-type: none"> • Medium distance from line / component of 0.2 ... 6 mm (0.66 ... 20 ft) • Low noise • Freely accessible leak • Use at distances of up to six meters if there is no parabolic mirror 	<div data-bbox="991 367 1286 479" data-label="Image"> </div> <p data-bbox="826 524 1414 645">The tip of the focus tube only lets very few ultrasonic waves through in the direction of the ultrasonic transducer, making it possible to pinpoint leaks very exactly.</p> <p data-bbox="826 658 1414 748">Accordingly, it is recommended to use the focus tube at short distances in order to accurately pinpoint the corresponding leak.</p> <p data-bbox="826 799 1342 831">Quantification distance: 0 ... 0.2 m (0 ... 0.66 ft)</p> <p data-bbox="826 882 1137 913">When to use the focus tube:</p> <ul data-bbox="826 920 1430 1128" style="list-style-type: none"> • Short distance from line / component of 0.05 m (0.16 ft) • Freely accessible line / component • The lines and components being inspected are very close to each other • Use if there is no gooseneck available

Gooseneck	Parabolic mirror
 <p>The gooseneck should be used when the lines and components being inspected are physically very close to each other. In addition, the gooseneck's shape can be adjusted as necessary in order to make it possible to comfortably inspect lines and components that are difficult to access.</p> <p>The gooseneck's sensitivity has been reduced in order to attenuate noise.</p> <p>Accordingly, it is exceptionally well-suited to inspecting compressed air components in a targeted and local manner when there is high noise, such as is the case inside compressed air distributor cabinets and with systems that use pneumatic cylinders.</p> <p>Quantification distance: 0 ... 0.05 m (0 ... 0.16 ft)</p> <p>When to use the gooseneck:</p> <ul style="list-style-type: none">• Short distance from line / component of 0.05 m (0.16 ft)• Freely accessible line / component• The lines and components being inspected are physically very close to each other• Medium to high noise	 <p>The parabolic mirror bundles horizontally incident ultrasonic waves together at its focal point, where the ultrasonic transducer is located. This results in the measured ultrasound being significantly amplified (long range), as well as in very precise directional characteristics, as any ultrasound that is not horizontally incident is simply reflected by the reflector.</p> <p>The combination of these two properties means that the parabolic mirror can be used to accurately pinpoint leaks across long distances.</p> <p>Quantification distance: 3 ... 12 m (9.84 ... 39.38 ft)</p> <p>When to use the parabolic mirror:</p> <ul style="list-style-type: none">• Long distance from line / component of 3 ... 12 m (9.84 ... 39.38 ft)• Noise• Leak not freely accessible• Leaks physically close to each other (overlapping)

8.1 Assembly with horn

By bundling sound waves together, the horn makes acoustic amplification possible and helps pinpoint leaks accurately. Its special design ensures that the integrated laser pointer will continue to be usable. The camera is integrated into the underside of the horn and is connected electrically to the preamplifier module with the jack.

Assemble the device by joining the individual components until you hear them lightly lock into place (insert them all the way).

To disassemble the device, remove the components in the opposite order. You will additionally need to press the release button in order to release the preamplifier module.



8.2 Assembly with focus tube

The focus tube with a tip is used to detect very small leaks and pinpoint them exactly. Just like the horn, the focus tube can be installed on the preamplifier with an ultrasonic receiver.

The camera **cannot** be used in this case.

To disassemble the device, remove the components in the opposite order. You will additionally need to press the release button in order to release the preamplifier module.



8.3 Assembly with gooseneck

Due to its flexibility, the gooseneck tool is used for localized measurements in areas that are difficult to access. It is connected to the **METPOINT® CID** with the included coiled cord.

The camera cannot be used in this case.

To remove the component, disconnect the connection cable. To do this, press the release button on both sides and pull off the cable.



8.4 Assembly with parabolic mirror

The parabolic mirror is used for measurements at long distances and for strict requirements regarding selectivity and leak location pinpointing.

It is connected to the **METPOINT® CID** with the included coiled cord.

To remove the component, disconnect the connection cable. To do this, press the release button on both sides and pull off the cable.



Note:

In order to use the parabolic mirror and gooseneck, these components must be enabled on the **METPOINT® CID** during the initial commissioning process in order to save the corresponding component-specific calibration parameters. If this has not been done at the factory already, the corresponding data will be included on a USB drive. For instructions on how to enable the components (importing parameters), see section “12.3.2 Export / Import”.

Parabolic mirror 2.0 and gooseneck 2.0 will be automatically detected by an intelligent **METPOINT® CID**. In this case, you will not need to import the corresponding parameters.

9. Commissioning / use



Please observe the safety instructions in section 1 first



Operating the METPOINT® CID with an external plug-in power supply unit is only permitted in ambient temperatures ranging from -5 °C (+14 °F) to +40 °C (+104 °F).

9.1 Switching on the device

Press the ON / OFF button and hold it down for about 1 second. The device will switch on and a startup sequence will be shown on the display. Pressing the button again will switch off the device.

See “Device components and controls“ for the ON / OFF button

9.2 Headphone volume up / down

You can raise and lower the headphone volume in 16 steps with the volume up / down buttons. Holding the button down will automatically raise / lower the value.

See “Device components and controls“ for volume up / down buttons



Please make sure that the headphone volume is lower than 50% before putting the headphones on.

9.3 Sensitivity level

Ultrasonic levels can be viewed as a kind of leak “volume.”

You can use the “sensitivity adjustment button” to adjust the sensitivity of the **METPOINT® CID** to the corresponding surroundings. This will heavily affect the device’s acoustic behaviour and increase or reduce the valid value range.

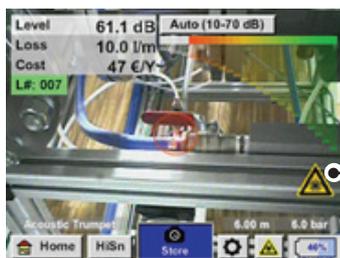
Reducing sensitivity will reduce the range of the leak measurement. However, the “relevant area” illustrated with a circle on the display will also be smaller, making exact pinpointing much easier.

Sensitivity levels	
0 ... 60 dB	The device’s maximum sensitivity level (intended for when there are small leaks and no noise); can be selected with the “ <i>HiSn button</i> ” or “ <i>sensitivity level button</i> ”
10 ... 70 dB	Leaks and noise will become “quieter” and the range will decrease
20 ... 80 dB	Leaks and noise will become “quieter” and the range will decrease
30 ... 90 dB	Leaks and noise will become “quieter” and the range will decrease
40 ... 100 dB	Least sensitive level (large leaks, a lot of noise for a heavy-duty application)
50 ... 110 dB	Leaks and noise will become “quieter” and the range will decrease
60 ... 120 dB	Least sensitive level (large leaks, a lot of noise for a heavy-duty application)

Whether the 50 ... 110 dB and 60 ... 120 dB levels are available will depend on whether the **METPOINT® CID** and the sensor are intelligent. The **METPOINT® CID** will have its auto function enabled by default and will switch between levels (10 – 70 dB to 40 – 100 dB) by itself.

9.4 Laser ON / OFF

The laser pointer can only be switched on and off with the laser ON / OFF button on the display (not with the membrane keypad). When switched on, the display will show a laser warning symbol.



Laser “ON” icon



Please observe all warnings regarding laser operation! Do not, under any circumstance, hit a person’s or animal’s eyes directly or indirectly (reflection) with the laser beam!

10. Automatic distance measurement

The new intelligent horn features an integrated distance measuring module.

Prerequisites for firmware and hardware:

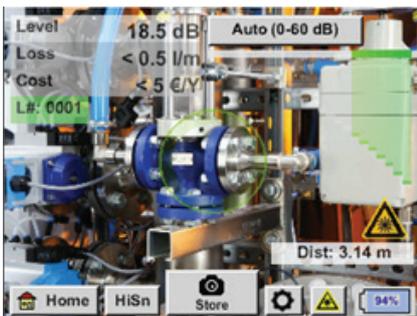
In order to be able to use this functionality, the following prerequisites must first be met:

- The main board must be “intelligent” so that the main body of the **METPOINT® CID** and the tool will be able to communicate with each other.
- The firmware version on the **METPOINT® CID** must be V3.02 or higher. The latest firmware can be downloaded from the “Downloads” section of the corresponding homepage.

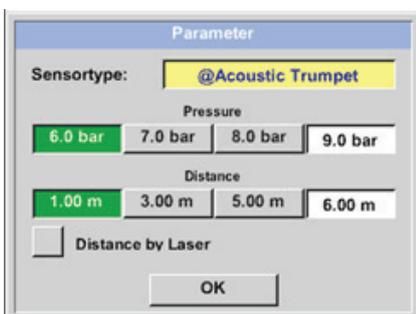
If these prerequisites are met, the **METPOINT® CID** will automatically detect that an intelligent tool with automatic distance measuring is connected.

Description of functionality:

1. The laser must be started in order to activate the distance measurement, just like with all other tools.
2. The **METPOINT® CID** will then show the measured distance on the display. In this case, the distance is 3.49 meters or 137 inches depending on the selected unit system.



3. In order to automatically use the measured distance to calculate costs, you will need to enable the “Distance by Laser” option under “Parameter.”
Important: The laser must be switched on before you enable “Distance by Laser.” Otherwise, the icon will flash yellow and red and say “Laser?”.



Note: For the horn, the valid distance range is 1 ... 6 meters (40 ... 236 inches).

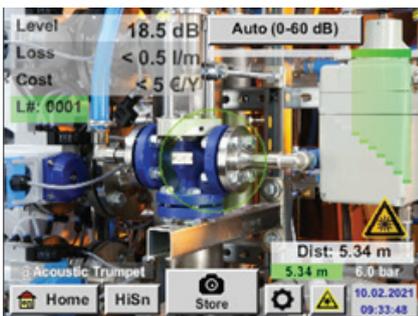
4. The **METPOINT® CID** will now update the distance automatically. The currently measured distance will be shown in the grey “Dist:” bar. Meanwhile, the distance used for cost calculations will be shown in the small bar at the bottom left next to the pressure.

State	Current distance measurement	Distance parameter used internally	Likelihood that the distance is being measured correctly
Best case	white	green	high
Assess how plausible the measurement is	yellow	yellow	medium
Move to the valid distance range	white	yellow	high, but distance outside of valid range
Move to a different surface close to the leak until the “best case” occurs and the measurement is robust	red	empty	low

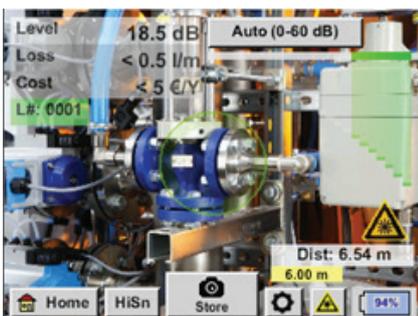
Important: The distance measurement can be challenging on black surfaces or in very bright environments, which is why distances can still be entered manually. To be able to enter manual distances, disable the “Distance by Laser” option.

States:

Best case:



“Dist:” is green, the distance module measurement is robust and the distance used falls within the valid range



Outside of range:
 Distance measurement = robust, but out of range!
 Move to the valid distance range

11. Pinpointing leaks

This section goes over how to optimally use the device in real-life scenarios.

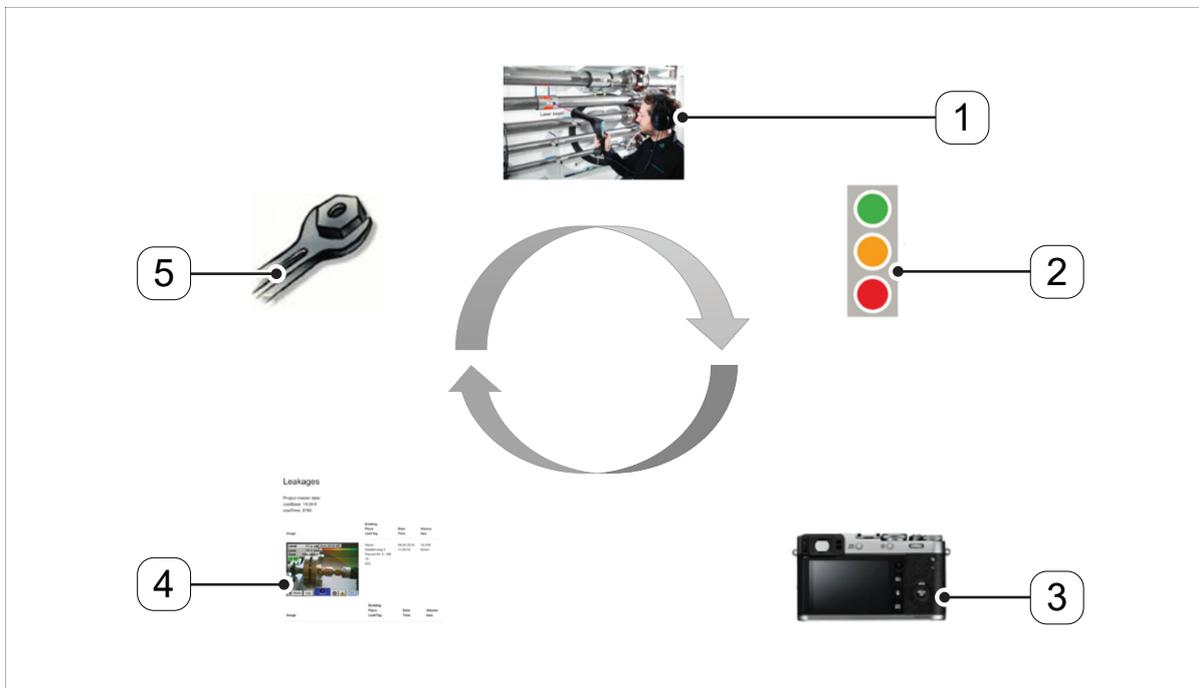
11.1 Leak pinpointing process

The following process should be carried out cyclically at the company in order to keep leakage rates as low as possible. The goal should be to have a continuous leakage rate of 5 ... 10%, as searching for leaks and fixing them one time only will not reduce the leakage rate permanently and new leaks will occur later on.

Real-life tip:

To identify the ideal time, it is recommended to use a volumetric flow sensor in the main line behind the tank. At least one week (Monday to Sunday) is recommended as the period for the measurement. When production is stopped, the volumetric flow profile will show the leakage rate. This means that if the limit is exceeded, a leak search can be ordered.

In addition, the volumetric flow measurement can be used to validate the result from the leak search and fix, as the latter should reduce the volumetric flow rate when production is stopped.



Position number	Description / Explanation
[1]	Pinpointing leaks
[2]	Quantifying leaks
[3]	Documenting leaks
[4]	Reporting leaks
[5]	Fixing leaks

11.2 Possible causes of leaks

When dealing with compressed air systems, leaks can be usually found at connecting elements.

- Leaky couplings and hose clamps
- Leaky gaskets
- Porous / faulty hoses
- Porous / faulty seals on tools and machines
- Faulty condensate drains
- Leaky or incorrectly installed dryers, filters, service units
- etc.

11.3 Leak pinpointing procedure

The specific approach recommended for pinpointing leaks depends on the specific ambient conditions in question.

Option 1 – from which direction can you hear a leak?

When using this method, you should point in all directions until you find the loudest point. After this, you should move in the direction of the loudest point in order to be able to accurately pinpoint the leak.

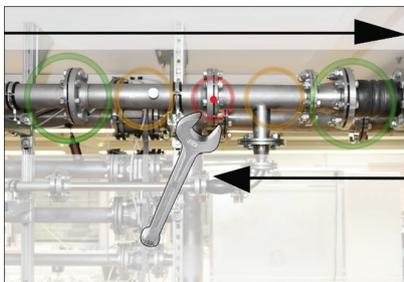
This option works well when there is **little noise**.



Option 2 – Walking along the compressed air system.

Alternatively, if there is more noise, you can make it easier to pinpoint the leak by “moving along and listening to the compressed air system bit by bit.” That is, from the compressor room all the way to the end points. If there is noise, it is recommended to manually reduce the device’s sensitivity and use either the gooseneck for short distances or the parabolic mirror for long distances.

In addition, the following generally applies when using this method: The shorter the distance from line, the easier it will be to pinpoint the leak.



Option 3 – Searching for leaks while production is stopped

Production processes can result in ultrasonic noise in certain cases. If, for example, a pneumatic system blows off air on a regular basis, the **METPOINT® CID** will detect the corresponding noise.

If noise makes pinpointing leaks significantly harder, it is recommended to use option 1 or option 2 if the lines are pressurized but the corresponding production processes are stopped. This is the easiest and fastest way to find leaks.

11.4 Superficial leak detection

After the device starts, it will be in the leak detection view. The following figure describes the various corresponding functions and indicators.



Position number	Description / Explanation
[1]	Signal level in dB
[2]	Leakage rate
[3]	Leakage costs per year
[4]	LeakTag number
[5]	Camera image
[6]	Home screen
[7]	High sensitivity
[8]	Saves the measurement
[9]	Settings
[10]	Laser ON / OFF button
[11]	Date / time and battery charge (alternating display)
[12]	Laser "ON" icon
[13]	Signal level bars
[14]	Sensitivity adjustment button

12. How to use

This device is controlled using the various screens on the touch panel. To select a screen option, simply “tap” it quickly with a finger or stylus.

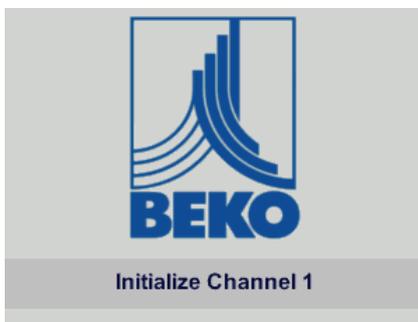
Important:

Please do not use pens or other objects with sharp edges!

Doing so may damage the touch panel film!

You can enter information into or make changes to all fields with a white background.

12.1 Initialization



After the **METPOINT® CID** is switched on, it will be initialized and then switch to the leakage screen

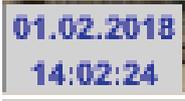
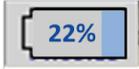


12.2 Display

Following is a description of the various display elements.



Position number	Description / Explanation
[1]	Signal level in dB
[2]	Leakage rate
[3]	Leakage costs per year
[4]	LeakTag number
[5]	Camera image
[6]	Home screen
[7]	Mode button for switching between auto or manual (HiSn)
[8]	Button for saving the measurement
[9]	Setup button
[10]	Laser ON / OFF button
[11]	Date / time and battery charge (alternating display)
[12]	Laser "ON" icon
[13]	Signal level bars
[14]	Sensitivity adjustment button

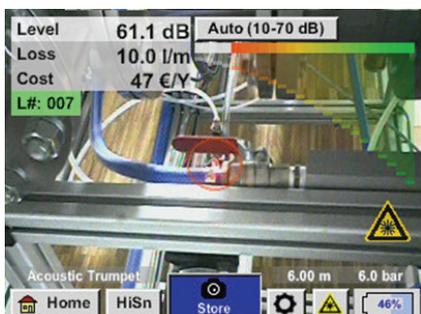
Date / time display:	Battery charge display:
	Battery charge: 
	Power supply unit connected and battery being charged: 

12.3 Home screen

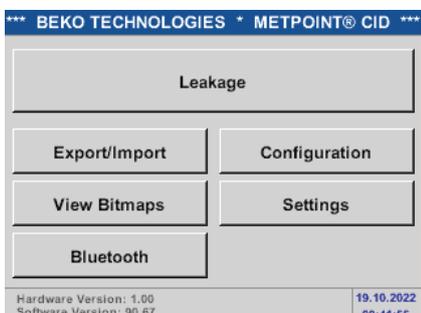
This device is controlled using the various screens on the touch panel. To select a screen option, simply “tap” it quickly with a finger or stylus.

Important: Please do not use pens or other objects with sharp edges!
 Doing so may damage the touch panel film!

Before starting the leak detection process, you will need to configure the device. To access the navigation screens, tap the “Home” button. The following figure shows the “Home” screen.



Tapping the “Home” button will open the basic navigation screen for the METPOINT® CID.



To return to the measurement, press the “Leakage” button.

12.3.1 Configuration



The configuration settings can be used to select the system of units you want and enter the parameters needed in order to calculate annual leakage costs.

- Select either the ISO or US system of units
- To define the required costs for the calculation, tap the “Cost / 1000 m³” text field There are two mode options available for selection here:

Standard:

Cost per 1000 units of volume

Enter the cost and currency

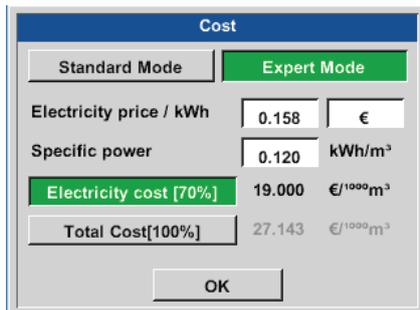
Default value: 19 € / 1000 m³ (0.538 € / 1000 cf)

Expert:

Can be used to define the electricity cost / kWh and the system’s specific power in detail.

There are three predefined system values for the specific power, as well as a custom input field that you can use to enter a different value.

-> Enter the operating hours per year



Home -> Configuration -> Parameter

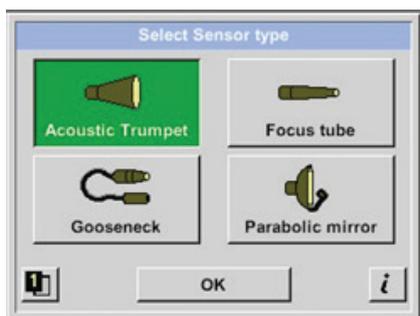
Depending on the selected sensor type, there are up to three predefined pressure and distance values that can be selected directly, as well as two (white) fields that you can use to enter any pressure and/or distance value you want.

For the various sensor types, there are various minimum and maximum defined distances between the **METPOINT® CID** and the leak that must be maintained in order to be able to calculate valid values for the leakage loss volumetric flow rate and the costs per year. Do not carry out measurements outside of these distance ranges!



-> Sensor type

Select the sensor type based on the application and ambient conditions in question; see section 8.



Select the sensor type and confirm with “OK.”

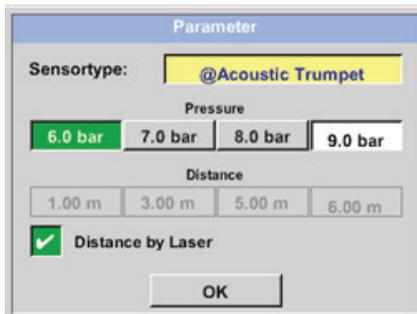


-> Pressure (line pressure in bar)

You can set the **pressure** to any value between 1 and 10 bar.

-> Distance (distance from leak in m)

The minimum and maximum distances depend on the sensor type used.



If the horn is used with laser distance measurements, the measured distance can be applied directly – to do this, please enable the “Distance by Laser” option.

Note: In addition, the laser needs to be enabled in order to use the “laser distance measurement”; see section 9.4

If the laser is disabled, the “**Laser?**” icon will flash yellow and red.



Home -> Configuration -> Meas. Point

Meas. Point

Company: BEKO TECHNOLOGIES

Building: Halle 5

Place: Maschine 1

LeakTag: 1

OK

The measuring point is stored for each leak in the corresponding leakage data and can be viewed later on in the software's leak report.

-> LeakTag: Automatically incremented by one after every stored measurement

Nr.	Company
001	BEKO TECHNOLOGIES

new delete Cancel OK

You can change all the information for the measuring point by tapping the corresponding text field or load stored measuring points from the internal database.

After this, a menu with the existing / stored entries will appear.

If you want to select a stored value, select it (it will be highlighted in green) and then tap "OK."

If you want to enter a new measuring point instead, tap the "new" button to open the input menu.

4/32 Company

x... BEKO ← Clr

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	+
Z	X	C	V	B	N	M	,	.	-

abc Abc @#%

OK Cancel

Enter the text you want and confirm by tapping "OK."

Follow the same steps for the *Company*, *Building* and *Place* information.

To delete individual entries, tap the "delete" button.

12.3.1.1 Selecting a sensor type (measuring tool)

In order to make it easier for the user to pinpoint leaks, various attachments were developed for different measuring conditions. The specified distances for quantifying the leak are always measured from the front end of the corresponding attachment.

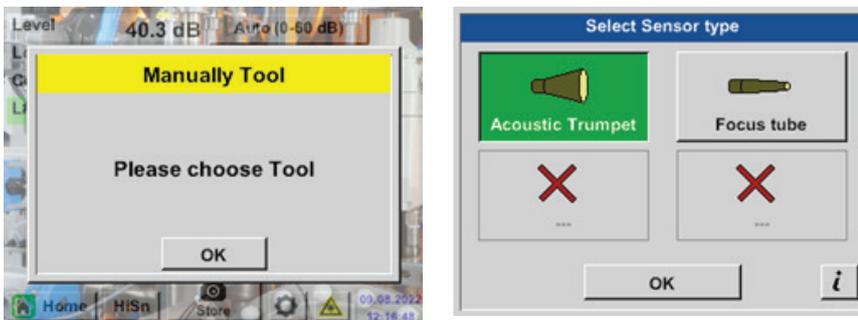
12.3.1.1.1 Intelligent tools

With firmware version 3.02 and higher, connected measuring tools will be detected automatically. However, the corresponding tools must support this functionality in order for this automatic detection to work.

If you use older sensor types (measuring tools) without automatic detection, you will need to select the corresponding tool when starting; see section “12.3.1.1.2 Selecting the sensor type manually“.

12.3.1.1.2 Selecting the sensor type manually

After starting the **METPOINT® CID** with a tool without automatic detection, you will need to select the corresponding sensor type and confirm by tapping “OK.”



If you ordered the parabolic mirror / gooseneck as an accessory later on, you will need to load the application data for the devices into the **METPOINT® CID** first. The data will be provided on a USB drive.

Import:

Home -> Export / Import -> Import new Tool -> Parabolic mirror / gooseneck serial number

12.3.1.2 Saving a measurement

To save a measurement, either press the “Save” key on the membrane keypad (see section “Device components and controls”) or tap the “Store” button on the display.

All data will be stored on the internal SD card.

The measurement data, the measuring point and the measuring point image will be saved together as a leakage data. They can then be exported and used with the BEKO Leak Management software to generate a report.

After pressing either the “Save” key or the “Store” button, you will need to complete the corresponding information for the measuring point. The display will show the measuring point information for the last set of information that was saved (company, building and place), and the LeakTag number will be incremented by 1.

For example:

store Data/Image on SdCard (0/1000)

BEKO TECHNOLOGIES

Halle 5

Maschine 1

Distance 1.00 m Pressure 6.0 bar

Fault Description

Parameter Meas. Point

store Cancel

LEAK TAG
DO NOT REMOVE

Leak Tag number: _____

Date / Datum: _____

Inspector / Prüfer: _____

Defective element / Defektes Element: _____

Priority / Priorität: high low

Loss / Verlust: _____

Costs per year / Kosten p.a.: _____

Date repaired / Reperatur am: _____

Repaired by / Reperatur durch: _____

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Leak Tag number: _____

Date / Datum: _____

Inspector / Prüfer: _____

Defective element / Defektes Element: _____

Location / Ort: _____

Gas Type / Medium: _____

Priority / Priorität: high low

Loss / Verlust: _____

Costs per year / Kosten p.a.: _____

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If necessary, fill out the LeakTag and affix it at the measuring location.

Please use the correct LeakTag number.

12.3.1.3 Parameters for measurement (check)

Store -> Parameter

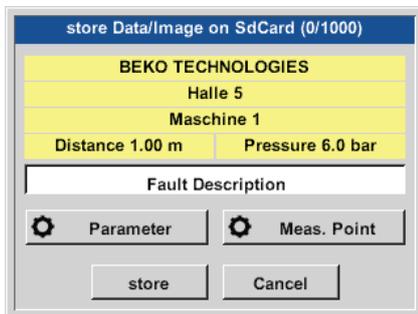
Store -> Meas. Point

At this point, make sure to check the “pressure” and “distance” parameters again if possible and correct them if necessary. Changes to the parameters will result in new leakage and cost values.

For instructions on how to make corrections, see the description in section 12.3.1

12.3.1.4 Fault description

Store -> Fault description text field



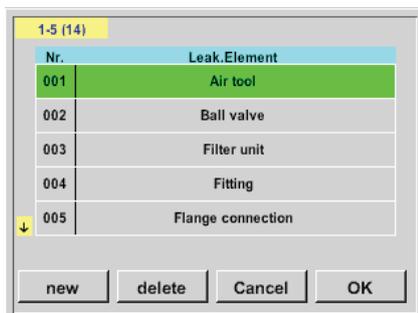
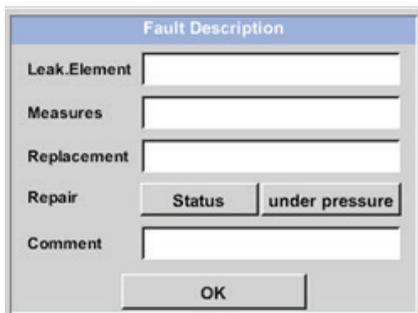
In addition to the measuring point company, building and place information, you can also enter a brief description (maximum of 32 characters).

To do this, tap the “Fault description” text field.

The following fault descriptions will make it much easier to fix the corresponding leaks later on:

- Leak.Element
- Measure
- Replacement
- Repair under pressure possible?
- Leak fixed on-site (Status)

These entries will additionally be stored in an internal database so that they can be reused at any time.

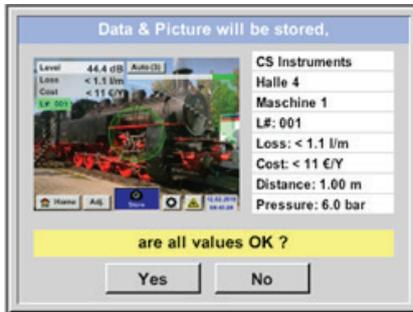


A number of suggestions come included by default already.

For example, the screenshot on the left shows the options available by default for the “Leak.Element” field.

12.3.1.5 Storing a measurement on the internal SD card

Store -> store



Before the measurement is saved for good on the internal SD card, a summary will be created and you will be asked to confirm in order to make sure that everything is correct.

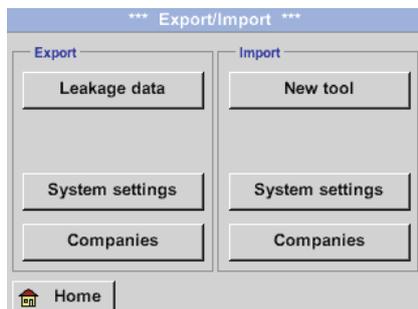
To save the measurement, confirm by tapping “Yes.”

Tapping “No” will take you back to the previous menu.

12.3.2 Export / Import

By tapping **Export / Import**, you can:

- Transfer recorded “leakage data” to a USB drive
- Export and import system settings
- Export and import measuring points (company, building and place information)
- Enable / load optional measuring tools that are not enabled



12.3.2.1 Export

12.3.2.1.1 Export Leakage data

Once all leaks have been documented, the corresponding data can be exported to a USB drive. When doing this, users can select one or more companies and choose the start and end times for the leakage data export.

Export / Import -> Export -> Leakage data

You can use the **“Change”** button to select one, multiple or all companies for exporting.

Meanwhile, **“start”** and **“end”** are used to define the period for which you want to export saved measurement data.

The selected date will always be highlighted green, while the date numbers for Sundays will be highlighted in red, just like they are in calendars.

On days when measurement data is recorded, the corresponding date numbers will be raised.

If multiple measurements were recorded on a single day, these measurements will appear after you select the corresponding date so that you can easily select the recording you want.

Tap **“OK”** to use the date as the start or end time (as applicable).

Tap the “*export*” button to transfer the selected data to the USB drive. In the example shown, three measurements are being exported.

Tapping “*ERASE Leakage data*” will clear the leakage database after you confirm a confirmation prompt.

Important:

The “**ERASE Leakage data**” option will delete **ALL** stored leak information irretrievably.

12.3.2.1.2 Exporting system settings

Export / Import -> Export -> System settings

This screen is used to define the storage location you want.

You can select the internal SD card by enabling the “**SdCard**” button or the USB drive by enabling the “**USB**” button.

To select the folder you want, select it and tap the “**goto**” button.

If you want to create a new directory, tap the “**new file**” button and then the “**new Directory**” option.

If you want to save a system file with a new name instead, simply tap the “**new File**” option instead.

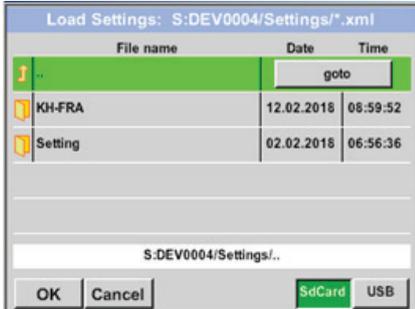
Tap “**OK**” to confirm your input.

Tapping “**Cancel**” will take you back to the previous menu.

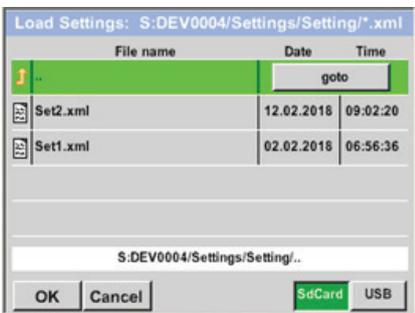
12.3.2.2 Import

12.3.2.2.1 Importing system settings

Export / Import -> Import -> System settings



You can select folders and files the same way as for exports.
 You can select the internal SD card by enabling the **“SdCard”** button or the USB drive by enabling the **“USB”** button.



To select the folder you want, select it and tap the **“goto”** button. Then select the system file you want.

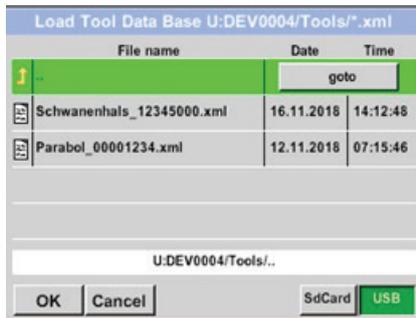
Tap **“OK”** to confirm your input.



Since this screen is used to make system-relevant changes, there will be a confirmation prompt that you will need to confirm with **“Yes.”**

12.3.2.2 Importing a new measuring tool

Export / Import -> Import -> New tool

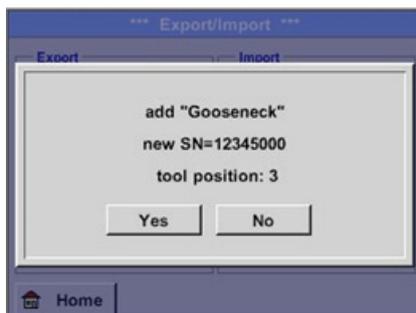


You can select folders and files the same way as for exports (e.g., system settings).

You can select the internal SD card by enabling the **“SdCard”** button or the USB drive by enabling the **“USB”** button.

To select the folder you want, select it and tap the **“goto”** button. Then select the system file you want.

Tap **“OK”** to confirm your input.



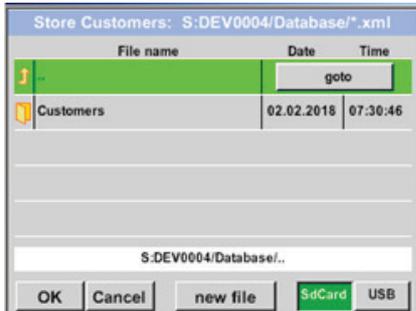
Since this screen is used to make system-relevant changes, there will be a confirmation prompt that you will need to confirm with **“Yes.”**

12.3.2.3 Exporting / importing company databases

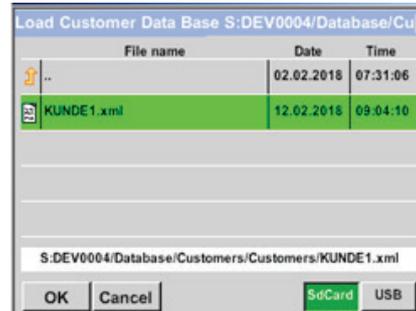
These functions can be used to take the stored measuring points (company, building and place) and export them as an XML file or to import the measuring point database exported from another **METPOINT® CID**.

I.e., there is also the option of creating a database externally and then importing it, although this does require for the XML file to have the correct format.

Export / Import -> Export -> Companies



Export / Import -> Import -> Companies



Since changes are made to data during an import, there will be a confirmation prompt that you will need to confirm with **“Yes.”**

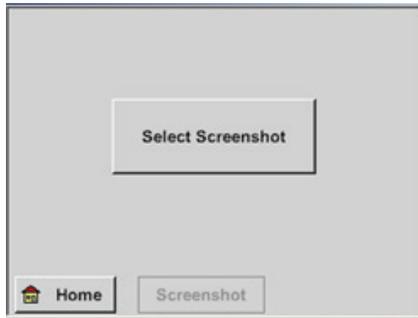
Note:

The data will be exported to the \\DEV0004/Database directory.

The data that you want to import (XML files) must be stored in the \\DEV0004/Database directory.

12.3.3 Viewing bitmaps

View Bitmaps -> Select Screenshot



You can use these screens to view the measurement images saved on the SD card or the USB drive on the display.

Tapping the “Select Screenshot” button will show the screen where you can select the image you want.



The images will be stored, organized, in directories.

The corresponding directory structure will be year / calendar week

Designation: BMyyCWxx

yy = Year xx = Calendar week

To select the folder you want, select it and tap the “goto” button.



Look for the image you want and tap “OK” to view it.

12.3.4 Device settings

All settings are password-protected!

You will generally need to confirm settings and changes with “OK”!

Note:

If you go back to the main menu and then come back to one of the settings screens, you will need to enter the password again!

Home -> Settings



Overview of *settings*

12.3.4.1 Setting a password

Home -> Settings -> Password settings



Default password (factory settings): 0000 (4 x zero).

You can change this password in the *password settings* if necessary.

You will need to enter the new password two times in a row and confirm it with OK.



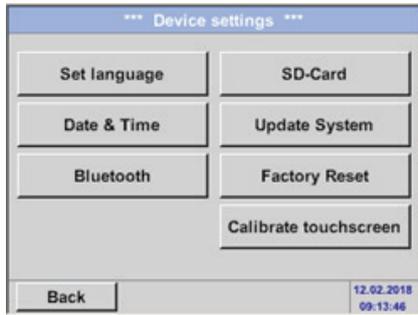
If you enter the wrong password, the *Enter Password* or *Enter new Password* screen will appear with red text.

If you have forgotten the password, you can assign a new one by entering the master password.

The master password is provided with the device documentation.

12.3.4.2 Device settings

Home -> Settings -> Device settings



Overview of settings

12.3.4.2.1 Language

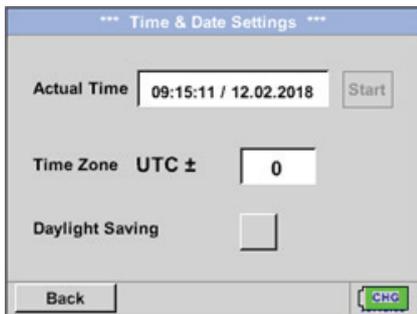
Settings -> Device settings -> Language



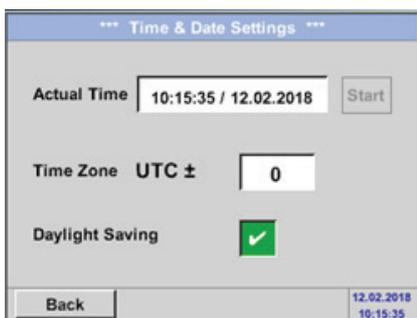
You can use this screen to select the language for the **METPOINT® CID** user interface.

12.3.4.2.2 Date and time

Settings -> Device settings -> Date & Time



Tap the *Time Zone* text field and enter the correct *UTC* to set the correct time anywhere in the world.

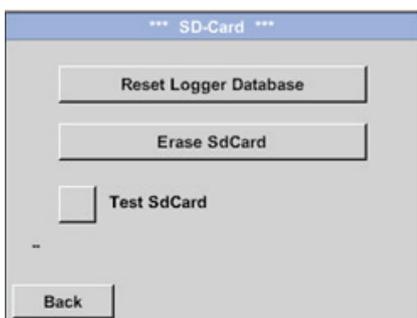


To turn daylight saving time on and off, simply tap the *Daylight Saving* checkbox

12.3.4.2.3 SD card

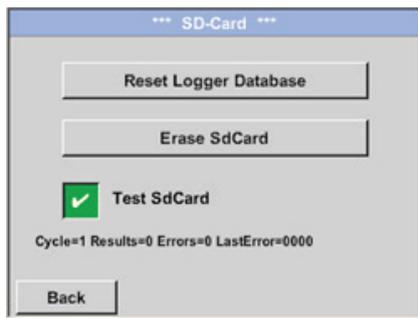
Settings -> Device settings -> SD-Card -> Reset Logger Database

Settings -> Device settings -> SD-Card -> Erase SdCard



Tapping the *Reset Logger Database* button will lock the currently saved data so that it cannot be used in the **METPOINT® CID**. However, this data will remain stored on the SD card and be available for external uses.

Tapping the *Erase SdCard* button will completely delete all data from the SD card.

Settings -> Device settings -> SD-Card -> Test SdCard

Enabling the *Test SdCard* checkbox will run an SD card test. When this test is run, data is written to the SD card and then read from it. The number of test cycles, as well as any errors and the corresponding error codes, will be shown in the status bar.

Tapping the *Back* button will take you back to the Device settings menu.

12.3.4.2.4 Updating the system

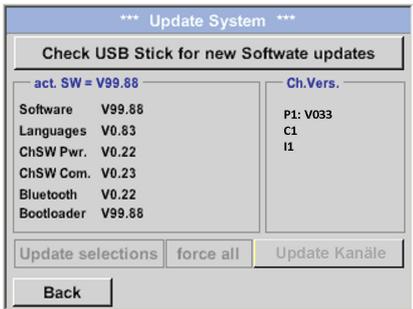
For the **METPOINT® CID**, you have the option of loading a firmware update onto the device with the USB drive if necessary. If an update becomes necessary, you can download it from the **BEKO TECHNOLOGIES** homepage. After this, you will need to unzip the file to the USB drive and transfer it to your device as shown below.

Settings -> Device settings -> Update System

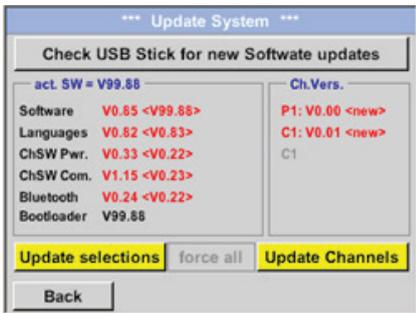
Overview of *Update System* functions

12.3.4.2.5 Checking for updates

Settings -> Device settings -> Update System -> Check USB Stick for new Software updates



If the following messages appear after tapping the *Check USB Stick for new Software updates* button, this means that the **METPOINT® CID** is not connected to the USB drive correctly or that there are no files on the USB drive.



If the **METPOINT® CID** is connected to the USB drive correctly and there are new versions of the individual SW parts, the latter will be indicated with red text.

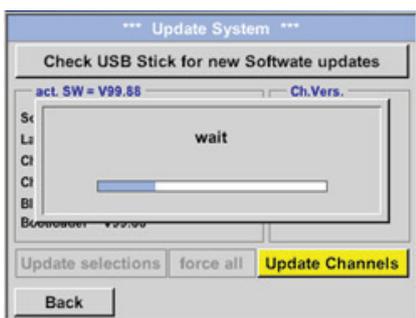
To start the update, tap the “Update selections” button.

If you need to install an older software version, use the “force all” button.

12.3.4.2.6 Updating channels

Settings -> Device settings -> Update System -> Update Channels

If there is an update for the internal channels, you will need to start it separately.



Update to the **METPOINT® CID** channels

Important:

If the *Reboot system* button appears after the update, you will need to tap it to restart the **METPOINT® CID**!

12.3.4.2.7 Resetting to factory settings

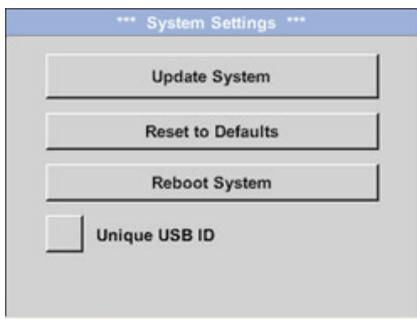
Restoring default settings

Settings -> Device settings -> Factory Reset -> Reset to Defaults



Before the device is reset to factory settings, you will need to confirm a confirmation prompt.

Note: Saved data will not be deleted or overwritten.



If necessary, you can tap the *Reboot System* button to reboot the **METPOINT® CID**.

12.3.4.2.8 Unique USB ID

When connecting to a PC, you can use this option to define a status and, accordingly, a unique USB ID. (Relevant when connecting multiple USB devices to the PC at the same time.)

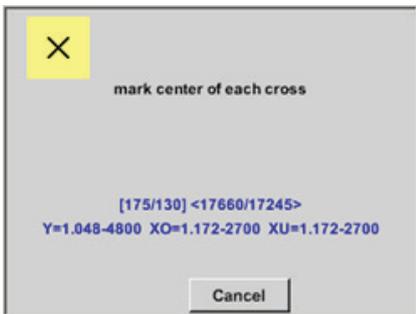
12.3.4.2.9 Calibrating the touch panel

Settings -> Calibrate touchscreen



If necessary, you can calibrate the touch panel on this screen.

Tap *Calibrate*. A calibration X will appear at the top left, then at the bottom right, then at the top right and then in the centre. Tap each of these X's as they appear.

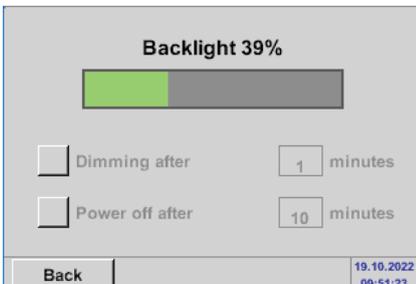


If the calibration is completed successfully, the screen will show a message saying "Calibration successful." Tap OK.

If it is not completed successfully, you can tap *Cancel* and then tap *Calibrate* again to repeat the calibration process.

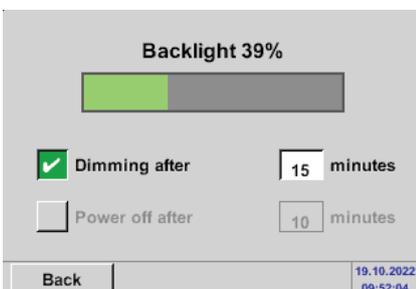
12.3.4.2.10 Display brightness

Settings -> Set backlight



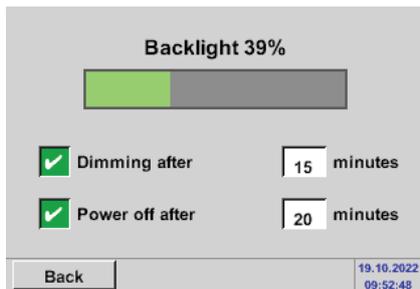
This screen can be used to directly adjust the display's *backlight* (15 ... 100%).

For example: *Backlight* to 39%



You can enable the *Backlight dimming after* checkbox to make the *backlight* be lowered to a minimum after a defined time interval (15 minutes in this example).

As soon as the dimmed screen is used again, the *backlight* will automatically return to the last brightness level set before dimming.



In order to reduce energy consumption (while the device is running), you can enable the “Backlight off after” checkbox to switch off the display backlight after a defined time interval.

Note:

In our example, the *backlight* is set back to 39% after the first touch. After this, the functions can be used “as normal” again.

Important:

If the *Backlight dimming after* option is not enabled, the backlight will remain constantly on with the *backlight* setting that is currently configured.

12.3.4.2.11 Cleaning

Settings -> Cleaning



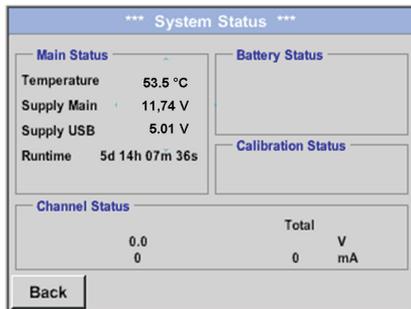
This function can be used to clean the touch panel during ongoing measurements.

If one minute is not enough to clean the panel, you can simply repeat the process as necessary.

If you are done cleaning before the minute is done, you can tap and hold down (one to two seconds) the *to abort press long* button to cancel.

12.3.4.2.12 System overview

Settings -> System Status



The *System Status* screen shows information regarding the *power supply* voltages, as well as an operating hours counter.

12.3.4.2.13 About METPOINT® CID

Settings -> About METPOINT® CID



Shows the *hardware* and *software versions*, and the *serial number* of the **METPOINT® CID**.

12.4 Using the BEKO Leak Management software

Main functions:

- Managing companies / buildings / projects / measurements
- Documentation and reporting

To install the software, run the "Setup.exe" file. The file will be found on the included USB drive and can also be downloaded from the **BEKO TECHNOLOGIES** homepage.

13. Charging the battery

The battery is charged inside the device. To do this, connect the included power supply unit to the integrated charging connector on the **METPOINT® CID** and a 230 V outlet.



Operating the **METPOINT® CID** with an external plug-in power supply unit is only permitted in ambient temperatures ranging from -5 °C (+14 °F) to +40 °C (+104 °F).



The **METPOINT® CID** will check the battery's state of charge and will start charging it automatically if necessary.

To lengthen the service life of the Li-ion battery, the device will be automatically switched off after reaching a voltage of approx. 6.4 V.

Operating temperature

14. Scope of delivery

The **METPOINT® CID** is available either as a stand-alone device or as part of a kit. The kit includes all components and accessories safely housed in a heavy-duty, shock-resistant transport case. Factory certificates for the respective components are included.



The following table lists the components together with the corresponding part numbers.

Position number	Description / Explanation	Part No.
	METPOINT® CID ultrasonic detector kit consisting of:	4055748
[1]	Transport case	
[2]	METPOINT® CID leak detection device with horn and integrated camera, 100 LeakTags for labelling leaks on-site	
[3]	Power supply unit	
[4]	Software	
[5]	Focus tube and focus tip	
[6]	Coiled cord for headphones	
[7]	Soundproof headphones with coiled cord	
[8]	LeakTags	
[9]	Directional microphone sensor	
[10]	Coiled cord for sensor extension	
	Gooseneck for detecting leaks in areas that are difficult to access (optional)	4055747
	Parabolic mirror for detecting leaks at long distances (optional)	4055749

15. Appendix

- Declaration of Conformity for electromagnetic compatibility
- Technical Data sheet for the power supply unit
- Test report for the Li-ion batteries used

BEKO TECHNOLOGIES GMBH
 Im Taubental 7
 41468 Neuss
 Tel: +49 2131 988-0
 www.beko-technologies.com



EU-Konformitätserklärung

Wir erklären hiermit, dass das nachfolgend bezeichnete Produkt den Anforderungen der einschlägigen Richtlinien und technischen Normen entspricht. Diese Erklärung bezieht sich nur auf das Produkt in dem Zustand, in dem das Produkt von uns in Verkehr gebracht wurde. Nicht vom Hersteller angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Produktbezeichnung:	METPOINT® CID
Typ:	4055748
Spannungsversorgung:	7,2 V interner Lithium-Ion-Akku 12 VDC / 1A, externes Steckernetzteil
Schutzart:	IP 20
Betriebstemperatur:	-5°C ... +50°C
Produktbeschreibung und Funktion:	Leckage-Suchgerät zur Lecksuche in Druckluftanlagen

Angewandte harmonisierte Normen: EN 6101-1:2010 + A1:2016, EN 60825-1:2014

EMV-Richtlinie 2014/30/EU

Angewandte harmonisierte Normen: EN 61326-1:2013, EN 55011:2011

ROHS II-Richtlinie 2011/65/EU

Die Vorschriften der Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten werden erfüllt.

Die Produkte sind mit dem abgebildeten Zeichen gekennzeichnet:



BEKO TECHNOLOGIES GMBH trägt die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung.

Neuss, 28.11.2022

Unterzeichnet für und im Namen von:

BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel

Leiter Qualitätsmanagement International

BEKO TECHNOLOGIES GMBH
 Im Taubental 7
 41468 Neuss
 Tel: +49 2131 988-0
 www.beko-technologies.com



EU Declaration of Conformity

We hereby declare that the product named below complies with the stipulations of the relevant directives and technical standards. This declaration only refers to the product in the condition in which it has been placed into circulation by us. Parts which have not been installed by the manufacturer and/or modifications which have been implemented subsequently remain unconsidered.

Product description:	METPOINT® CID
Type:	4055748
Voltage supply:	7.2 V internal lithium-ion battery 12 VDC 1 A external power supply unit
Degree of protection:	IP 20
Operating temperature:	-5°C ... +50 °C
Product description and function:	Leak detection device used to detect leaks in compressed air systems

Applied harmonised standards: EN 6101-1:2010 + A1:2016, EN 60825-1:2014

EMC Directive 2014/30/EU

Applied harmonised standards: EN 61326-1:2013, EN 55011:2011

ROHS II- Directive 2011/65/EU

The products meet the requirements laid down in European Directive 2011/65/EU concerning the restriction on the use of certain hazardous substances in electrical and electronic devices.

The product bears the mark shown:



BEKO TECHNOLOGIES GMBH shall have sole responsibility for issuing this Declaration of Conformity.

Neuss, 28. November 2022

Signed for and on behalf of:

BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel
 Head of International Quality Management

**18 W
AC/DC
ADAPTER**

18 Watt Value Power

HNP18I-V2 Steckernetzteil-Serie



HNP-POWER

Besondere Merkmale	Features
Steckerschaltnetzteil	Plug in switching adaptor
Mit 4 Eingangsklips (EU,US,UK,AU)	Incl. 4 input clips (EU,US,UK,AU)
Doppelte Isolation	Double insulated
Kompakter Aufbau	Small low profile package
Überlast- und kurzschlußfest	Overload, short circuit protection
Minimalster Leerlaufverlust	Lowest standby power consumption
EU CoC V5 tier 2 / EnergyStar DOE VI	EU CoC V5 tier 2/ EnergyStar DOE VI

Anwendung	Application
Einplatinencomputer	Single board computers
Drahtlose Kommunikation	Wireless communications
Peripheriegeräte	Peripherals
Netzwerktechnik	Networking
Mobile Ausrüstungen	Portable equipment
Tablets / Smartphones	Tablets / Smartphones
Telekommunikation	Telecom

Technische Daten	Specification
(bei 25°C Umgebungstemperatur)	at 25 °C ambient temperature

Eingangsdaten	Input Specifications	
Eingangsspannung	Input voltages	90...264 VAC
Eingangsfrequenz	Input frequency	47...63 Hz
Eingangsstrom	Input current	600mA(rms) @90VAC
Netzausfallüberbrückung	Hold-up time, nom.conditions	20ms @230VAC
Einschaltstromstoß	Inrush current	<60A/230VAC
Leerlaufverlust	No load power consumption	< 0.075 Watt

Ausgangsdaten	Output Specifications	
Leistung	Power	typ. 18 Watt
Wirkungsgrad	Efficiency	DOE VI / CoC V5 tier 2
Ausregelzeit ±2%	Recovery time ±2%	max. 1 s
Restwelligkeit	Ripple and noise	max. 100mV pp

Allgemeine Daten	General Specifications	
Betriebstemperatur	Operating temperature	-10°C...+40°C
Lagertemperatur	Storage temperature	-20°C...+70°C
Luftfeuchte	Humidity	10...90% RH
Isolation	Dielectric Withstand (Hipot)	3000VAC 1min 5mA inp.<->outp.
Leckstrom	Leakage current	0.25mA max.@240 VAC
Überstromschutz	Overcurrent protection	continuous, auto restart
Überspannungsschutz	Overvoltage protection	typ. 120%
Zulassungsbestimmungen	Safety requirements	TÜV/GS EN62368-1:2014+A11:2017 ETL UL 62368-1:2014 Ed.2; UKCA (see DoC) EN55032:2015; EN55035:2017 EN61000-3-2:2019;EN61000-3-3:2013+A1:2019
EMV	EMC	
RoHS	RoHS	2015/863/EU

18 Watt Value Power

HNP18I-V2 Steckernetzteil-Serie

18 W AC/DC ADAPTER

Bestell-Information / Order Information

Modell	Ausgang Output	Last/Load	
		Min.	Max.
HNP18I-050V2	5 V	0.0 A	3.0 A
HNP18I-090V2	9 V	0.0 A	2.0 A
HNP18I-120V2	12 V	0.0 A	1.5 A
HNP18I-150V2	15 V	0.0 A	1.2 A
HNP18I-240V2	24 V	0.0 A	0.75 A

Vermerk

Andere Versionen (Spannungen / Stecker / Farben) mit Mindestbestellmengen auf Anfrage

Note

Other versions (Voltages / Connectors / Colors) with minimum order quantities on request

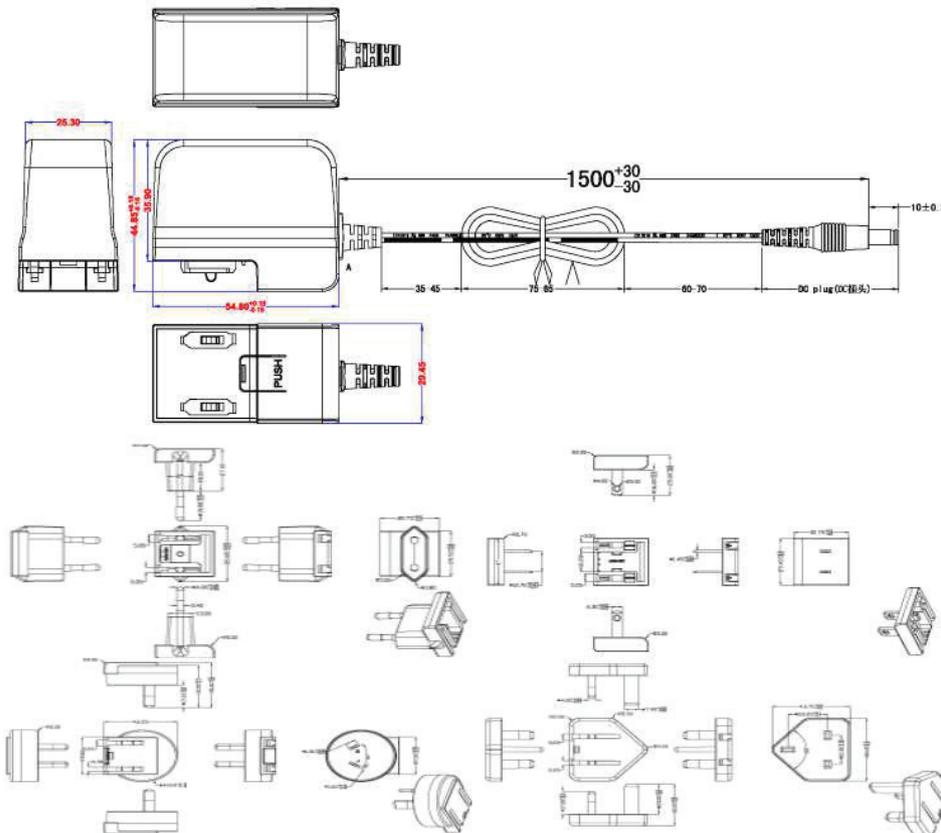
MEMO :

Mechanik

Mechanical

L×B×H	L×W×H	56 × 27 × 73 mm
Gewicht	Weight	80 g (w/o clips)
DC-Stecker	DC-connector	2.1 x 5.5 x 10 mm , inside positive, outside negative
DC-Kabel	DC-cable	L=1500mm , UL2468 20AWG (9-24 Volt) L=1000mm , UL2468 20AWG (5 Volt only)

PIN-Belegung und Zeichnung / Pin Assignments & Drawing



HN Electronic Components GmbH & Co. KG • Birkenweiherstr. 16 • D-63505 Langenselbold
Tel. (06184) 92780 • Fax (06184) 62316 • <http://www.hn-electronic.de>

Technische Änderungen vorbehalten. Version A10.2022
Technical specifications are subject to change without notice.



Lithium cells or batteries test summary according to UN38.3

<p>Battery Manufacturer:</p> <p>Jauch Quartz GmbH In der Lache24 D-78056 Villingen-Schwenningen Germany +49 7720 945-0 www.jauch.com · info@jauch.com</p>	<p>UN38.3 Test Lab:</p> <p>Waitek Testing Group (Shenzhen) Co., Ltd. Lixidian 2nd Road, Block 70, Bao'an District, Shenzhen, China Tel: +86-0755-33663308 www.waitek.com.cn sem@waitek.com.cn</p>																																				
<p>Description of cell or battery:</p> <p>Cell/battery type: <input type="checkbox"/> Lithium metal <input checked="" type="checkbox"/> Lithium-ion Cell or battery: <input type="checkbox"/> cell <input type="checkbox"/> single-cell-battery <input checked="" type="checkbox"/> battery Model name: LI18650JE 2s1p Physical Description: round cell battery stacked with wires and connector Part-no.: 249611 Voltage: 7.2V Capacity: 2550mAh Energy: 18.36Wh Lithium content: / Weight of cell/battery: Approx. 100g</p>	<p>Test report-no.: WTX21X06061626B</p> <p>Date of test report: Aug. 06, 2021</p>																																				
<p>List of tests (result: pass/fail):</p> <table border="1" data-bbox="225 1245 1019 1507"> <thead> <tr> <th>Test number</th> <th>Test Item</th> <th>Result</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>T-1</td> <td>Altitude</td> <td>pass</td> <td></td> </tr> <tr> <td>T-2</td> <td>Thermal cycling</td> <td>pass</td> <td></td> </tr> <tr> <td>T-3</td> <td>Vibration</td> <td>pass</td> <td></td> </tr> <tr> <td>T-4</td> <td>Shock</td> <td>pass</td> <td></td> </tr> <tr> <td>T-5</td> <td>External short circuit</td> <td>pass</td> <td></td> </tr> <tr> <td>T-6</td> <td>Impact /Crush</td> <td>pass</td> <td>for cell only</td> </tr> <tr> <td>T-7</td> <td>Overcharge</td> <td>pass</td> <td></td> </tr> <tr> <td>T-8</td> <td>Forced Discharge</td> <td>pass</td> <td>for cell only</td> </tr> </tbody> </table>	Test number	Test Item	Result	Remarks	T-1	Altitude	pass		T-2	Thermal cycling	pass		T-3	Vibration	pass		T-4	Shock	pass		T-5	External short circuit	pass		T-6	Impact /Crush	pass	for cell only	T-7	Overcharge	pass		T-8	Forced Discharge	pass	for cell only	<p>For air transportation only:</p> <p>State of charge <input checked="" type="checkbox"/> max. 30% <input type="checkbox"/> not applicable</p>
Test number	Test Item	Result	Remarks																																		
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Test results in accordance with the UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Test and Criteria ST/SG/AC.10/11 Rev.6, Amend. 1, 38.3. Cell manufacturing as well as battery assembly is done under the quality assurance program of ISO9001.

This document remains valid as long as no changes, modifications or additions are made to the model(s) described in this document. The model(s) has (have) been classified according to the applicable transport regulation and the UN Manual of Test and Criteria as of the date of the certification. The model(s) must be packed, labelled and documented according to country and other international regulations for transportation.

Name / Title of Signatory / Date Sönke Zacher  / Head of Project Management Aug. 31, 2021

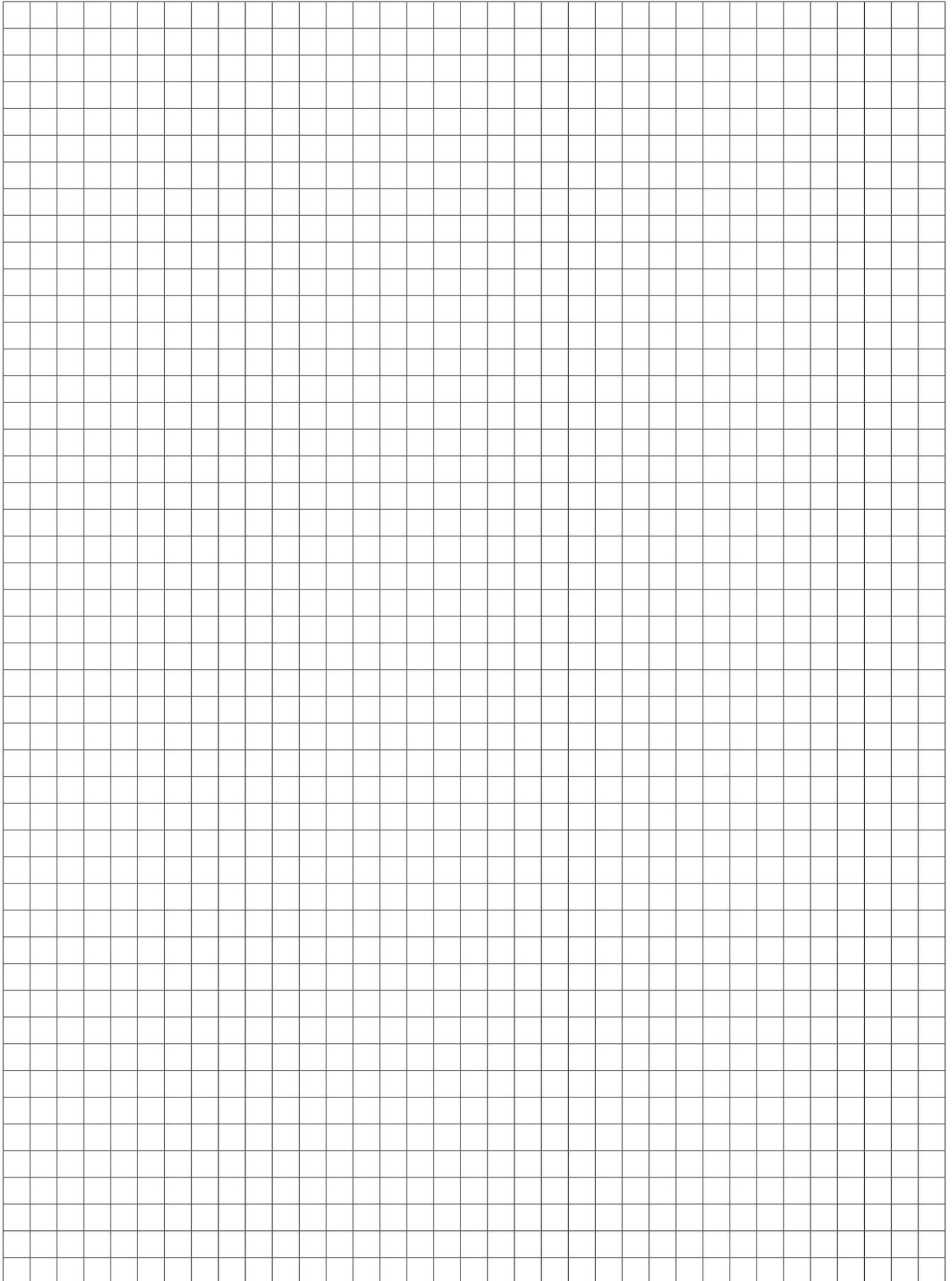
Headquarters: Jauch Quartz GmbH · In der Lache 24 · 78056 Villingen-Schwenningen · Germany
 Registry court: Freiburg HRB 602574, Managing Director: Thomas Jauch

	Ref. Certif. No. SG ITS-26038
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IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE	
Product	Rechargeable Li-Ion Battery
Name and address of the applicant	Jauch Quartz GmbH In der Lache 24, 78056 Villingen-Schwenningen, Germany
Name and address of the manufacturer	Jauch Quartz GmbH In der Lache 24, 78056 Villingen-Schwenningen, Germany
Name and address of the factory <i>Note: When more than one factory, please report on page 2</i>	Jauch Quartz GmbH In der Lache 24, 78056 Villingen-Schwenningen, Germany <input checked="" type="checkbox"/> Additional Information on page 2
Ratings and principal characteristics	7.2V, 2550mAh, 18.36Wh
Trademark (if any)	
Customer's Testing Facility (CTF) Stage used	-
Model / Type Ref.	Li18650JE 2S1P
Additional information (if necessary may also be reported on page 2)	-
A sample of the product was tested and found to be in conformity with	IEC 62133-2:2017
As shown in the Test Report Ref. No. which forms part of this Certificate	210721010GZU-001
This CB Test Certificate is issued by the National Certification Body	

Intertek Testing Services (Singapore) Pte Ltd 5, Pereira Road, #06-01 Asiatech Industrial Building Singapore 368025 Date: 30 August 2021	 Signature:	 Ong Keng Chuan
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BEKO TECHNOLOGIES GmbH

Im Taubental 7
D - 41468 Neuss
Tel. +49 2131 988 0
Fax +49 2131 988 900
info@beko-technologies.com
service-eu@beko-technologies.com

DE**BEKO TECHNOLOGIES LTD.**

Unit 11-12 Moons Park
Burnt Meadow Road
North Moons Moat
Redditch, Worcs, B98 9PA
Tel. +44 1527 575 778
info@beko-technologies.co.uk

GB**BEKO TECHNOLOGIES S.à.r.l.**

Zone Industrielle
1 Rue des Frères Rémy
F - 57200 Sarreguemines
Tél. +33 387 283 800
info@beko-technologies.fr
service@beko-technologies.fr

FR**BEKO TECHNOLOGIES B.V.**

Veenen 12
NL - 4703 RB Roosendaal
Tel. +31 165 320 300
benelux@beko-technologies.com
service-bnl@beko-technologies.com

NL**BEKO TECHNOLOGIES
(Shanghai) Co. Ltd.**

Rm.715 Building C, VANTONE Center
No.333 Suhong Rd.Minhang District
201106 Shanghai
Tel. +86 (21) 50815885
info.cn@beko-technologies.cn
service1@beko.cn

CN**BEKO TECHNOLOGIES s.r.o.**

Na Pankraci 58
CZ - 140 00 Praha 4
Tel. +420 24 14 14 717 /
+420 24 14 09 333
info@beko-technologies.cz

CZ**BEKO Tecnológica España S.L.**

Torruella i Urpina 37-42, nave 6
E - 08758 Cervelló
Tel. +34 93 632 76 68
Mobil +34 610 780 639
info.es@beko-technologies.es

ES**BEKO TECHNOLOGIES LIMITED**

Room 2608B, Skyline Tower,
No. 39 Wang Kwong Road
Kwloon Bay Kwloon, Hong Kong
Tel. +852 2321 0192
Raymond.Low@beko-technologies.com

HK**BEKO TECHNOLOGIES INDIA Pvt. Ltd.**

Plot No.43/1 CIEEP Gandhi Nagar
Balanagar Hyderabad
IN - 500 037
Tel. +91 40 23080275 /
+91 40 23081107
Madhusudan.Masur@bekoindia.com
service@bekoindia.com

IN**BEKO TECHNOLOGIES S.r.l**

Via Peano 86/88
I - 10040 Leini (TO)
Tel. +39 011 4500 576
Fax +39 0114 500 578
info.it@beko-technologies.com
service.it@beko-technologies.com

IT**BEKO TECHNOLOGIES K.K**

KEIHIN THINK Building 8 Floor
1-1 Minamiwatarida-machi
Kawasaki-ku, Kawasaki-shi
JP - 210-0855
Tel. +81 44 328 76 01
info@beko-technologies.jp

JP**BEKO TECHNOLOGIES Sp. z o.o.**

ul. Pańska 73
PL - 00-834 Warszawa
Tel. +48 22 314 75 40
info.pl@beko-technologies.pl

PL**BEKO TECHNOLOGIES S. de R.L. de C.**

BEKO Technologies, S de R.L. de C.V.
Blvd. Vito Alessio Robles 4602 Bodega 10
Zona Industrial
Saltillo, Coahuila, 25107
Mexico
Tel. +52(844) 218-1979
informacion@beko-technologies.com

MX**BEKO TECHNOLOGIES CORP.**

900 Great Southwest Pkwy SW
US - Atlanta, GA 30336
Tel. +1 404 924-6900
Fax +1 (404) 629-6666
beko@bekousa.com

US