

User Manual

Pressure Logger

Sebalog P-3 mini

Mess- und Ortungstechnik
Measuring and Locating Technologies

Elektrizitätsnetze
Power Networks



Kommunikationsnetze
Communication Networks



Rohrleitungsnetze
Water Networks



Abwassernetze
Sewer Systems



Leitungsortung
Line Locating



Consultation with SebaKMT

The present system manual has been designed as an operating guide and for reference. It is meant to answer your questions and solve your problems in as fast and easy a way as possible. Please start with referring to this manual should any trouble occur.

In doing so, make use of the table of contents and read the relevant paragraph with great attention. Furthermore, check all terminals and connections of the instruments involved.

Should any question remain unanswered or should you need the help of an authorized service station, please contact:

Seba Dynatronic Mess- und Ortungstechnik GmbH	Hagenuk KMT Kabelmesstechnik GmbH
Dr.-Herbert-lann-Str. 6 D - 96148 Baunach Phone: +49 / 9544 / 68 – 0 Fax: +49 / 9544 / 22 73	Röderaue 41 D - 01471 Radeburg / Dresden Phone: +49 / 35208 / 84 – 0 Fax: +49 / 35208 / 84 249
E-Mail: sales@sebakmt.com http://www.sebakmt.com	

© SebaKMT

All rights reserved. No part of this handbook may be copied by photographic or other means unless SebaKMT have before-hand declared their consent in writing. The content of this handbook is subject to change without notice. SebaKMT cannot be made liable for technical or printing errors or shortcomings of this handbook. SebaKMT also disclaims all responsibility for damage resulting directly or indirectly from the delivery, supply, or use of this matter.

Terms of Warranty

SebaKMT accept responsibility for a claim under warranty brought forward by a customer for a product sold by SebaKMT under the terms stated below.

SebaKMT warrant that at the time of delivery SebaKMT products are free from manufacturing or material defects which might considerably reduce their value or usability. This warranty does not apply to faults in the software supplied. During the period of warranty, SebaKMT agree to repair faulty parts or replace them with new parts or parts as new (with the same usability and life as new parts) according to their choice.

This warranty does not cover wear parts, lamps, fuses, batteries and accumulators.

SebaKMT reject all further claims under warranty, in particular those from consequential damage. Each component and product replaced in accordance with this warranty becomes the property of SebaKMT.

All warranty claims versus SebaKMT are hereby limited to a period of 12 months from the date of delivery. Each component supplied by SebaKMT within the context of warranty will also be covered by this warranty for the remaining period of time but for 90 days at least.

Each measure to remedy a claim under warranty shall exclusively be carried out by SebaKMT or an authorized service station.

This warranty does not apply to any fault or damage caused by exposing a product to conditions not in accordance with this specification, by storing, transporting, or using it improperly, or having it serviced or installed by a workshop not authorized by SebaKMT. All responsibility is disclaimed for damage due to wear, will of God, or connection to foreign components.

For damage resulting from a violation of their duty to repair or re-supply items, SebaKMT can be made liable only in case of severe negligence or intention. Any liability for slight negligence is disclaimed.

Since some states do not allow the exclusion or limitation of an implied warranty or of consequential damage, the limitations of liability described above perhaps may not apply to you.

Contents

Consultation with SebaKMT3

Terms of Warranty4

1 Safety Instructions7

1.1 General Notes7

1.2 General Safety Instructions and Warnings.....8

2 Technical description9

2.1 Function.....9

2.2 Features10

2.3 Communication methods.....10

2.3.1 Log RI Radio Interface11

2.3.2 Reader-3 used as Radio Interface12

2.4 Technical Data13

2.5 Scope of Delivery15

2.6 Optional accessories15

3 The loggers17

3.1 Function.....17

3.2 Design17

3.3 Switching on/off18

3.4 Memory.....18

3.5 Power supply.....19

3.6 Installing the logger20

4 SebaDataView-3 software.....21

4.1 Installation21

4.2 Function and structure.....22

4.3 Device administration24

4.3.1 Creating / deleting folders24

4.3.2 Creating / deleting zones.....24

4.3.3 Creating / deleting groups25

4.3.4 Adding / deleting single devices26

4.4 Map function27

4.4.1 Creating a map.....27

4.4.2 Executing a map.....29

4.5 System settings31

4.5.1 Managing the storage location of the measurement database31

4.6 Updating the firmware of a device.....32

5 Working with Log P-3 loggers35

5.1 Programming loggers35

5.2 Details regarding the configuration screen.....36

5.3	Reading the measured data	38
5.4	Managing saved measurement data	39
5.5	Displaying measurement data	40
5.5.1	Calling up older measurement data	40
5.5.2	Displaying pressure surges	42
5.6	Carry out real-time measurement	43



1 Safety instructions

1.1 General notes

Safety precautions This manual contains basic instructions for the commissioning and operation of the device / system. For this reason, it is important to ensure that the manual is always available to the authorised and trained operator. He needs to read the manual thoroughly. The manufacturer is not liable for damage to material or humans due to non-observance of the instructions and safety advices provided by this manual.

Locally applying regulations have to be observed!

Labelling of safety instructions The following symbols may be present on the packaging material, on the instrument and in the manual:

Symbol	Description
	Caution (refer to accompanying manual for instructions)! Indicates a potential danger that may lead to slight or moderate injury.
	The notes contain important information and useful tips for using the system. Failure to observe them can render the measurement results useless.

Check contents Check the contents of the package for completeness and visible damage right after receipt. In the case of visible damage, the device must under no circumstances be taken into operation. If something is missing or damaged, please contact your local sales representative.

Working with products from SebaKMT It is important to observe the generally applicable electrical regulations of the country in which the device will be installed and operated, as well as the current national accident prevention regulations and internal company directives (work, operating and safety regulations).

After working on the system, it must be voltage-free and secured against reconnection as well as having been discharged, earthed and short-circuited.

Use genuine accessories to ensure system safety and reliable operation. The use of other parts is not permitted and invalidates the warranty.

Repair and maintenance Repair and maintenance work has to be carried out by SebaKMT or authorised service partners using original spare parts only. SebaKMT recommends having the system tested and maintained at a SebaKMT service centre once a year.

SebaKMT also offers its customers on-site service. Please contact your service centre as needed.

Special transportation requirements The lithium batteries of the device are dangerous goods. The transport of the batteries themselves and of devices which contain such batteries is subject to regulations based on the UN Model Regulations "Transport of Dangerous Goods" (ST/SG/AC.10-1).

Please inform yourself about the transportation requirements and follow them when shipping the device.

Electromagnetic radiation This device is designed for industrial use. When used at home it could cause interference to other equipment, such as the radio or television.

The interference level from the line complies with the limit curve B (living area), the radiation level complies with the limit curve A (industrial area) according to EN 55011. Given that living areas are sufficiently far away from the planned area of operation (industrial area), equipment in living areas will not be impaired.

1.2 General safety instructions and warnings



- There is a risk of injury when dealing with water under high pressure! Always be prudent and careful.
- Special hygienic requirements apply when working on the drinking water network. Pay attention to the relevant rules and regulations.
- Do not drop the device / the system's components or subject it / them to strong impacts or mechanical shocks.
- The limits described under Technical Data may not be exceeded.
- The device / system must be in a technically perfect condition for measurement.

2 Technical description

2.1 Function

Standard measurement Sebalog P-3 mini loggers (short: Log P-3 mini) are used for general pressure monitoring of water distribution networks.

Measurement of the water pressure on a regular basis allows you to determine whether the quantity of water being fed into the pipe network needs to be increased or decreased in order to keep the pressure conditions in the network constant. This ensures that the requirements of the consumers are constantly being met. Even network pressure is also easier on the pipe system material.

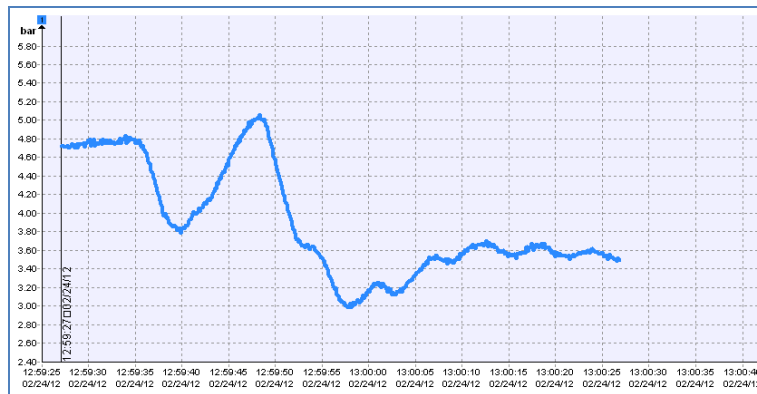
The loggers are connected to the pipe network using a pressure hose and suitable adapters. There you carry out pressure measurements on a regular basis at an adjustable interval.

The recorded measured values are saved internally by the loggers and can be called up at any time using a PC/laptop or 'Reader-3'. Thanks to wireless transmission, direct access to the logger is not required. The data can be read out during ongoing measurement operation.

The measurement data can be evaluated using the SebaDataView-3 software on a computer. The recorded pressure history can be precisely traced and further analysed there.

Pressure surge measurement In addition to standard pressure measurement, it is possible to document sudden increases or drops in pressure (referred to as 'pressure surges' below).

If this function is activated, the logger constantly senses the pressure level in the pipe in addition to the standard measurement. If a pressure surge occurs, it is recorded and saved in the logger with approximately 60 seconds of the subsequent pressure history. Each pressure surge recording is thus one minute long in total.



Every sudden pressure change that has either risen or dropped at least by a programmed value within a second is considered to be a 'pressure surge'. The sampling rate of the recording is 10 Hz or 1 Hz, depending on the programming, that is, the individual measurements are made at an interval of 0.1 seconds or 1 second.

Real-time measurement Using the 'real-time measurement' function, a measurement can be carried out with a logger and observed 'live' on a computer or on the Reader-3.

2.2 Features

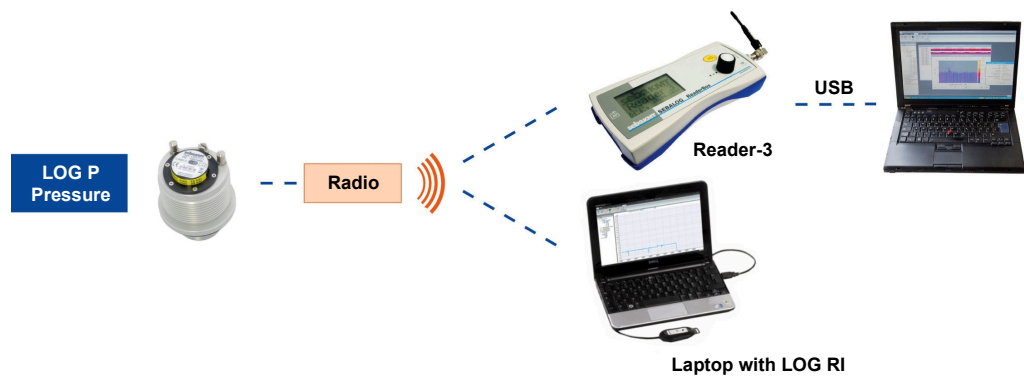
The pressure loggers provide the following customer benefits:

- Huge internal memory for more than 1 Mio measurements
- Log interval of 1 s to 24 h selectable for standard measurement
- Highly accurate log interval of 0.1 seconds for pressure surge measurement
- Compact design; logger fits in any underground hydrant
- Aluminium housing for all types of weather
- Comfortable and safe wireless communication
- User-friendly software incl. database of historical data, export and log functions, map display (also with GPS support) etc.

2.3 Communication methods

The SebaDataView-3 software is used on a PC/laptop to program the logger before the measurement. After the measurement, the measurement data is also read out with the computer or, alternatively, with the reading device 'Reader-3' from SebaKMT.

The devices communicate wirelessly using short range radio. In this way you can conveniently program and read from a logger installed underground without having to open a hydrant cover, etc. The loggers do not have a connection for data cables.



The loggers have an integrated wireless module. To communicate with the logger, a wireless interface must be connected to the computer.



To keep the battery from running down, a logger can only be wirelessly 'addressed' every 10 seconds.

That means that establishing a wireless connection to the logger can take up to 10 seconds before sending and calling up of data.

2.3.1 Log RI radio interface

Log RI The compact 'Log RI' radio interface is the standard interface for communicating with Log P-3 mini loggers.



Log RI+ The radio interface 'Log RI+' is available as accessory from SebaKMT. Compared to the Log RI the device has a higher-performing radio module which allows a higher radio range.



Use Simply connect the Log RI / Log RI+ to a USB port of the computer. The device switches itself on. The device is automatically detected by the computer and immediately ready to establish the radio link. There are no further adjustments to be done.

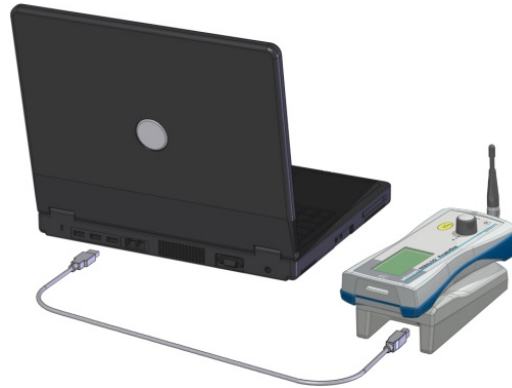
Status LED The device has a status LED:

- 1x red, 1x green ... switching on
- blue ... data transfer in progress
- red ... malfunction

Update It is recommended to always use the device with the latest firmware. For detailed information please consult the firmware update section in this manual (see page 32).

2.3.2 Reader-3 used as radio interface

The 'Reader-3' reading device from SebaKMT can be used to establish radio communication, too.



Connect the Reader-3 to the USB port of your PC using the Docking Station and switch it on. The device automatically starts in USB mode. It is automatically detected by the computer and immediately ready to establish the radio link. There are no further adjustments to be done. For further information please consult the operating instructions of your Reader-3.

2.4 Technical data

Logger The Sebalog P-3 mini pressure loggers are specified by the following technical parameters:

Parameter	Value
Sensor	1 channel pressure sensor
Measuring range	0 ... 25 bar
Max. error	<1%
Theoret. resolution	0.03%, (~0.008 bar)
Log interval	
<ul style="list-style-type: none"> • Standard measurement • Pressure surge meas. 	1 s ... 24 h (adjustable) 0.1 s or 1 s (adjustable)
Data transfer	bi-directional wireless interface 868 MHz (EU) 913.02 MHz (US) 913 / 916 MHz (depending on the country)
Display	status LED
Memory	4 MB (corresponds to >1 Mio measurements)
Power supply	internal lithium battery
Battery life	approx. 5 years or 10 Mio measurements (depending on use)
Operating temperature	-20 ... 70°C (-4°F ... 158°F)
Storage temperature	-20 ... 70°C (-4°F ... 158°F)
Dimensions (B x H)	120 x 63 mm Ø
Weight	ca. 365 g
Degree of protection	IP68

Log RI The Log RI radio interface is specified by the following technical parameters:

Parameter	Value
Display	status LED
Wireless interface (bi-directional)	
<ul style="list-style-type: none"> • Range • Frequency 	max. 10 m (depending on surroundings) 868 MHz (EU) 913.02 MHz (US) 913 / 916 MHz (depending on the country)
USB port	USB 2.0 for connecting to a PC / laptop
Power supply	via USB
Operating temperature	0 ... 40°C (32°F ... 104°F)
Storage temperature	0 ... 40°C (32°F ... 104°F)

Parameter	Value
Dimensions (L x W x H)	83 x 17 x 47 mm
Weight	50 g
Degree of protection	IP22

Log RI+ The Log RI+ radio interface is specified by the following technical parameters:

Parameter	Value
Display	status LED
Wireless interface (bi-directional) <ul style="list-style-type: none"> • Range • Frequency 	depending on surroundings 868 MHz (EU) 913.02 MHz (US) 913 / 916 MHz (depending on the country)
USB port	USB 2.0 for connecting to a PC / laptop
Power supply	via USB
Operating temperature	-20 ... 50°C (-4°F ... 122°F)
Storage temperature	-20 ... 70°C (-4°F ... 158°F)
Dimensions (L x W x H)	70 x 60 x 116 mm
Weight	Approx. 140 g

2.5 Scope of delivery

A Sebalog P-3 mini set is delivered with the following as standard:

Designation	Description	Item No.:
LOG P-3-MINI	1 x pressure logger with internal radio interface	
	LOG P-3-MINI-868 (868 MHz)	1004701
	LOG P-3-MINI-913 (913 MHz)	1004782
	LOG P-3-MINI-916 (916 MHz)	1004781
	Hydraulic hose, max. 35 bar, 0.5 m (quick coupling NW 5, coupler to connector)	128310977
	1 x magnet to engage the logger	820015167
CSW DATAVIEW-3	1 x SebaDataView-3 user software	118302210

2.6 Optional accessories

The following optional accessories are available:

Designation	Description	Item No.:
	1 x hydraulic hose, max. 35 bar, 2 m (quick coupler NW 5 to 1/4" male thread)	118304220
LOG RI	Wireless interface for PC/laptop	
	LOG RI (868 MHz)	820025783
	LOG RI-M (913 MHz)	118307697
	LOG RI-916 (916 MHz)	1004347
LOG RI-PLUS	Wireless interface with increased coverage	
	LOG RI-PLUS (868 MHz)	138316100
	LOG RI-PLUS-913 (913 MHz)	1005440
	LOG RI-PLUS-916 (916 MHz)	1005441
LOG GPS	External GPS receiver for PC/laptop, USB	820013945
NB-8 DE	Netbook Dell, HD display, German	118302799
NB 8 EN	Netbook Dell, HD display, English	820024436

3 The loggers

3.1 Function

Sebalog P-3 mini is a data logger with integrated pressure sensor for pressure monitoring on pipeline networks. The device also has the following main applications:

- Standard measurement ('monitoring') – regular measurement and recording of the water pressure in the pipe in an adjustable interval
- Pressure surge measurement – registration and recording of pressure fluctuations that occur suddenly
- Real-time measurement – option to carry out and observe a pressure measurement in real time

For the measurement, the logger is connected to the pipe network at a suitable access point, e.g. a hydrant, using a pressure hose and suitable adapters. A PC/laptop is used to program the devices and read the measurement data.

3.2 Design

There is a pressure sensor, internal memory, a lithium battery and a wireless antenna inside of each Log P-3 mini.

The loggers have the following external characteristics:



Element	Description
1	On/Off contact field contact area of the internal magnetic switch for turning the device on/off
2	Status-LED <ul style="list-style-type: none"> • 1x red, 3x green ... When being switched on. • Flashes blue ... When switched on and ready for radio communication. • Lights up blue ... Data transfer in progress.



Element	Description
3	Connector for hydraulic pressure hose Quick coupling NW 5

On the type plate, you can find information including the **identification number (ID)** of the device. This is needed in order to be able to register the logger in the SebaDataView-3 software.

3.3 Switching on/off

The logger is switched on using a magnetic switch.

Move the supplied magnet over the On/Off contact field **1**. The status LED **2** first lights up red; after the magnet is removed, it flashes green three times. Regular blue flashing then indicates that the logger is switched on and ready to receive.

To switch off the logger, keep the magnet on the On/Off contact field **1** for a few seconds. The LED first lights up yellow. As soon as it lights up red, you can remove the magnet. The logger then switches off and the LED goes out.



For switching the device on/off a relatively strong magnet is required. You should therefore always use the magnet delivered.

3.4 Memory

The internal memory of a logger enables the recording of far more than 1 million measurements.

By default the oldest measurements are deleted and replaced with new measurements once the end of the memory is reached. This 'ring memory function' can be activated/deactivated when the logger is programmed (see page 36).

3.5 Power supply

Battery life The logger is equipped with an internal lithium battery. Its capacity is theoretically sufficient to record up to 10 million measurements.


In reality, the battery life depends a great deal on the actual use of the device. The 'pressure surge measurement' function and frequent wireless contacts in particular have a negative effect on the battery status.

Battery status You can find out the current battery status by reading the configuration of the logger using the SebaDataView-3 software.

To do this, follow steps 1 to 4 as they are described in the section on programming loggers (see page 35). In the **Status** segment of the configuration window, you find one of the following statements:

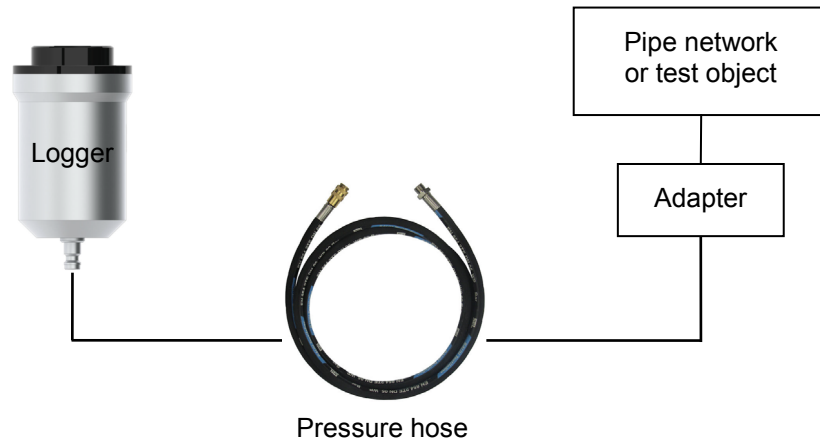
- Battery full** ... Battery is above 20% of power
- Battery OK** ... Battery is below 20% of power
- Battery critical** ... Battery must be changed

Flat batteries cannot be recharged. They must be replaced.

 CAUTION	SebaKMT or an authorised service partner must change the batteries. Otherwise water- and dirt-resistance of the logger can no longer be guaranteed. Lithium batteries are classified as hazardous material. Please note the corresponding legal regulations when shipping the device.
--	--

3.6 Installing the logger

Introduction The logger has a quick coupling connector **3**. Using a pressure hose and suitable adapters the device is connected to the pipe network or test object.



A pressure hose is supplied. At its one end it is equipped with a suitable coupler. At the other end it is equipped with a 1/4" male thread.

Connecting / disconnecting Connect the hose to the logger. You must feel and hear the coupling latch in. Connect the other end of the hose to the pipeline network or test object.

Before removing the hose from the logger again, make sure that the connection to the pipeline network is closed and depressurised. Move the coupling's lock-ring backwards and pull the hose down from the connection. Do not use any force!



Special hygienic requirements apply when working on the drinking water network. Pay attention to the relevant rules and regulations.

4 SebaDataView-3 software

SebaDataView-3 (abbreviation: SDV-3) is the multifunctional application software for working with devices in the 'Sebalog' series. You can use it to configure the majority of devices and read out the measurement data from the devices. The measurement data can be displayed and analysed in greater detail using various functions on the computer.

4.1 Installation

System requirements Your machine must meet the following minimum system requirements in order to run the SebaDataView-3 software:

- PC or notebook with Windows 7® or higher
- min. Pentium compatible CPU
- min. 1 GB memory
- CD ROM drive
- USB interface

Installation To install the software insert the provided CD, execute the installation file and follow the instructions on the screen. The application is installed to the following folder: *C:\Program Files\SebaKMT\SebaDataView*.

Furthermore, a database is created in the Windows standard folder for application data (see page 8).

Software start Start the application by double-clicking on the desktop icon created during the installation process. Alternatively, the application can be started via the Windows start menu.

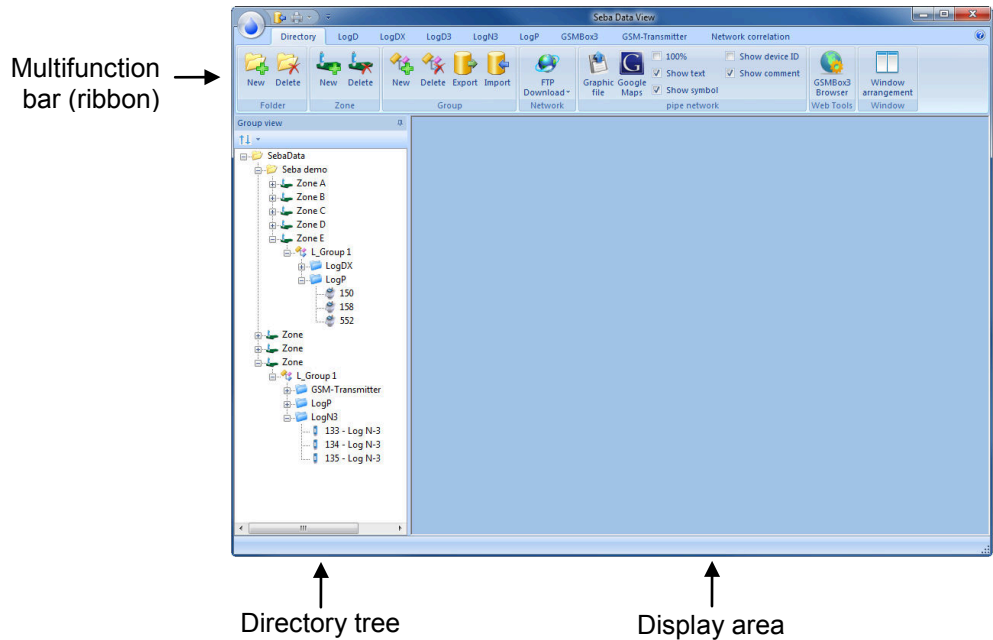
Language selection During start-up you are asked to select the language of the user interface. Make your choice from the drop-down-list and click on **OK**.

Software update During start-up, the current version of the software is displayed on the screen. Please check www.sebakmt.com regularly for updates. To install a new version of the software, store the respective file on your PC, execute it and follow the instructions on the screen.

4.2 Function and structure

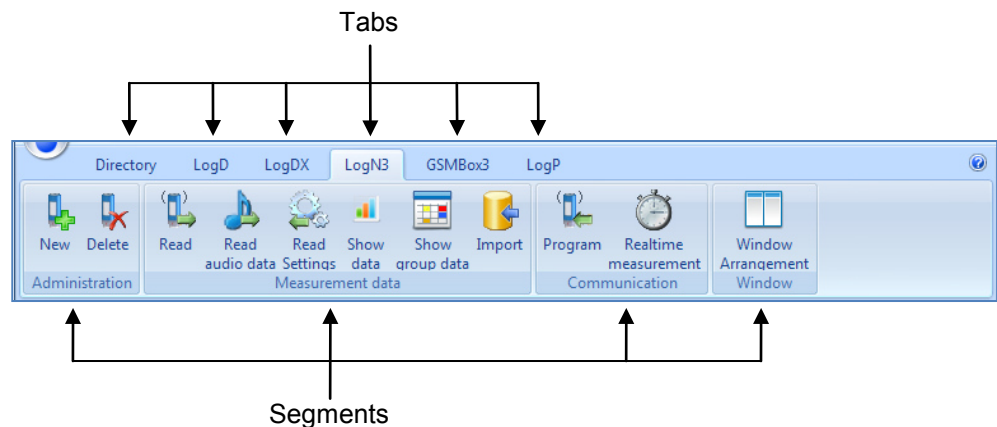
Introduction SebaDataView-3 (SDV-3) is the multifunctional user software for working with devices of the Sebalog series. Using the software, loggers can be programmed prior to the measurement. After measurement the recorded data can be queried from the loggers, displayed and analyzed.

User interface The SDV-3 user interface is based on the Microsoft Office suite (2007 and later). In all menu levels the display shows the following structure:



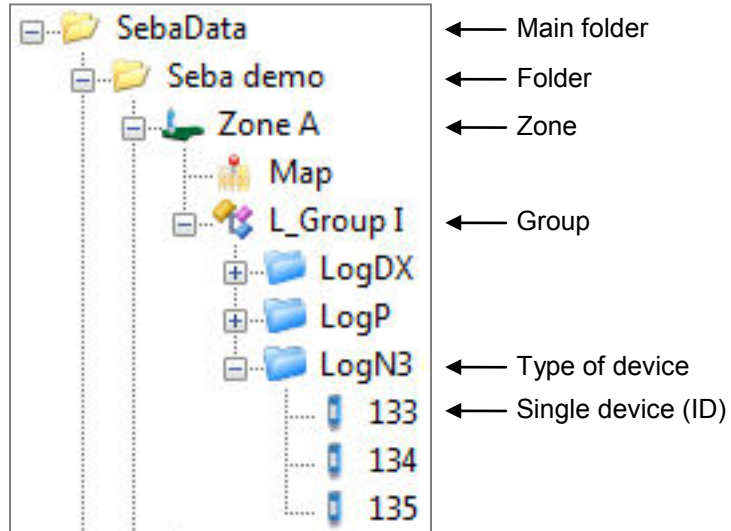
Multifunction bar All function and command buttons are arranged in a panel, called 'ribbon', as it is known from Microsoft Office applications.

Every Sebalog device series that can be managed using the SDV-3 software has its own 'tab'. All the commands needed when working with this device are grouped in the 'segments' of this tab.



Directory tree On the left of the screen the directory structure of the software database is displayed. All the devices added to the database by means of their identification number can be found in this so called 'directory tree'.

The directory tree shows the following structure of folders and sub-folders:



Display area All dialogue and display windows of the various functions appear in the display area.

4.3 Device administration

4.3.1 Creating / deleting folders

Create a folder To create a new folder in the directory tree, proceed as follows:

Step	Description
1	Mark the folder 'SebaData', or any other existing folder which the new folder should be added to as a sub-directory.
2	Open the tab Directory in the multifunction bar.
3	In the segment Folder , click on New .
4	In the window which opens, enter the Name and a Comment for the new folder and confirm the entries by pressing OK .
	Result: The new folder has now been created in the database and will appear in the directory tree.

Delete a folder To remove a folder from the directory tree, proceed as follows:

Step	Description
1	Mark the folder to be deleted.
2	Open the tab Directory in the multifunction bar.
3	In the segment Folder , click on Delete .
4	Answer the security query with Yes .
	Result: The corresponding folder is removed from the directory tree.



If a folder is deleted, all loggers/devices assigned and all the collected data are deleted, too.

4.3.2 Creating / deleting zones

Create a zone To create a new zone in the directory tree, proceed as follows:

Step	Description
1	Mark the folder in the directory tree in which the new zone should be created.
2	Open the tab Directory in the multifunction bar.
3	In the segment Zone , click on New .
4	In the window which opens, enter the Name and a Comment for the new zone and confirm the entries by pressing OK .
	Result: The new zone has now been created in the database and will appear in the directory tree.

Delete a zone To remove a zone from the directory tree, proceed as follows:

Step	Description
1	Mark the zone to be deleted.
2	Open the tab Directory in the multifunction bar.
3	In the segment Zone , click on Delete .
4	Answer the security query with Yes .
	Result: The corresponding zone is removed from the directory tree.



If a zone is deleted, all loggers/devices assigned and all the collected data are deleted, too.

4.3.3 Creating / deleting groups

Create a group To create a new group in the directory tree, proceed as follows:

Step	Description
1	Mark the zone in the directory tree in which the new group should be created.
2	Open the tab Directory in the multifunction bar.
3	In the segment Group , click on New .
4	In the window which opens, enter the Name and a Comment for the new group and confirm the entries by pressing OK .
	Result: The new group has now been created in the database and will appear in the directory tree.

Delete a group To remove a group from the directory tree, proceed as follows:

Step	Description
1	Mark the group to be deleted.
2	Open the tab Directory in the multifunction bar.
3	In the segment Group , click on Delete .
4	Answer the security query with Yes .
	Result: The corresponding group is removed from the directory tree.




If a group is deleted, all loggers/devices assigned and all the collected data are deleted, too.

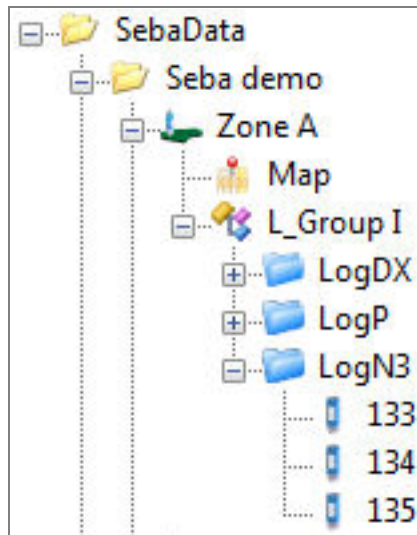
4.3.4 Adding / deleting single devices

Add a device To add a device to a group in the directory tree, e.g. a logger, proceed as follows:

Step	Description
1	Mark the group in the directory tree to which the device should be added.
2	In the multifunction bar, open the tab LogP .
3	In the segment Administration , click on New .
4	<p>In the window which opens, enter the Identification Number (ID) of the device or use the "Automatic detection" (find more information below in the text). Furthermore, add a comment for the new device or change the automatically created one, if necessary. Click on OK to add the device to the group.</p> <p>Result: The new device has now been created in the database and will appear in the directory tree. Add more devices to the group successively or close the window.</p>

 There is the possibility to add devices of different types to the same group. Then, automatically new sub-directories are created by the software to which the various devices are added according to their type.

Example: "Group I" has LogDX, Log P and Log N3 loggers:



Automatic detection A radio interface (e.g. Log RI) needs to be connected to the computer in order to be able to use the „Automatic detection“ when signing on devices.

Tick the checkbox „Automatic detection“ in the window which opens. Then bring the device which has to be turned off near the computer and switch it on. The identification number of the device will be recognised and displayed on the screen.

Click **OK** or **Insert** in order to accept the ID and to add the device to the group.

If you tick the checkbox „Automatic insertion“, the recognised devices will be added automatically to the group.

Delete a device To remove a device from the directory tree, proceed as follows:

Step	Description
1	Mark the device to be deleted.
2	In the multifunction bar, open the tab LogP .
3	In the segment Administration , click on Delete .
4	Answer the security query with Yes . Result: The corresponding device with all its measuring data is removed from the directory tree.

4.4 Map function

You have the opportunity to mark the location of installation of each of your devices on a virtual map. Thus, you obtain an overview of the zone and all the devices used.

4.4.1 Creating a map

Introduction You have the chance to import any image file into the software - e.g., a sector of a pipe network plan or a detail of a map, etc.

If you have access to the Internet, the software also provides the possibility to call up the 'Google Maps' web service, in order to create a map of the respective zone.

Import an image file To import an image file and add it to a zone in the directory tree, proceed as follows:

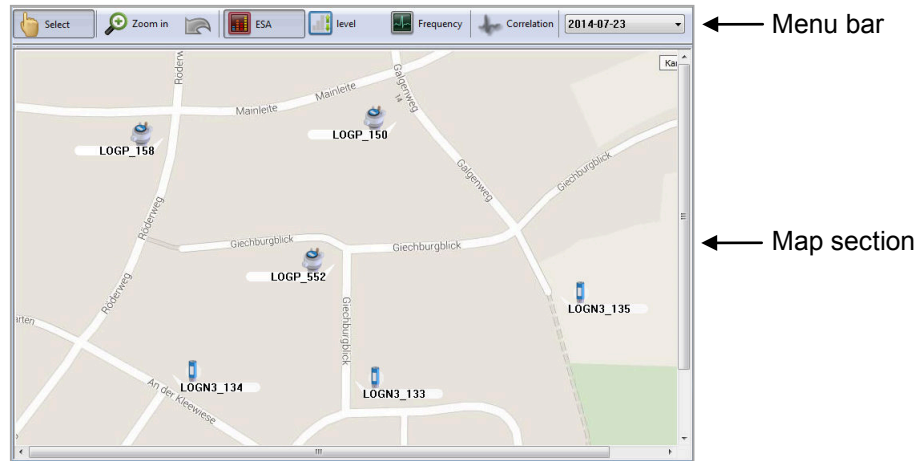
Step	Description
1	Mark the zone in the directory tree to which the map should be added.
2	Open the tab Directory in the multifunction bar.
3	In the segment Pipe network , click on Graphic file .
4	Use the window that opens to navigate to the source folder, from where the image file is to be imported ('jpg', 'bmp' and 'png' format are possible). Select the file and click on OK . Result: The image file is imported into the software and now appears in the directory tree in the form of a sub-folder called Map . A new window opens, where the newly created map is shown.
5	To mark the place of installation of a device, in the directory tree click on the device concerned, keep the left mouse button pushed and drag the device to the point desired on the map displayed. Proceed in the same way to place the other devices of the zone on the map.

Create a map using 'Google Maps' To create a map using the 'Google Maps' web service and add it to a zone in the directory tree, proceed as follows:

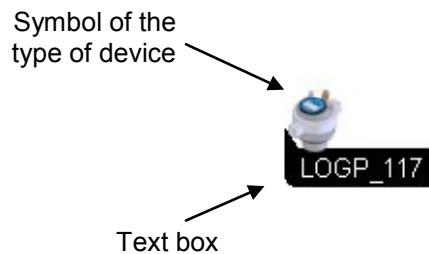
Step	Description
1	Mark the zone in the directory tree to which the map should be added.
2	Open the tab Directory in the multifunction bar.
3	In the segment Pipe network , click on Google Maps . Result: A connection to 'Google Maps' is established. A new window opens, showing the known 'Google Maps' user interface. Additionally, you find some input fields and controls.
4	To get a certain destination area displayed, use one of the following options: <ul style="list-style-type: none"> • Mark the checkbox Address and enter the destination address desired into the field right beside, or • mark the checkbox Coordinate and enter a GPS position, using the fields Latitude and Longitude. Confirm your entry by pressing the ENTER key on your keyboard.
5	Use the known tools of the 'Google Maps' user interface (moving, zooming, etc.) to customize the map section displayed.
6	Click on OK . Result: The adjusted map section is stored as an image file and now appears in the directory tree in the form of a sub-folder called Map . A new window opens, where the newly created map is shown.
7	To mark the place of installation of a device, in the directory tree click on the device concerned, keep the left mouse button pushed and drag the device to the point desired on the map displayed. Proceed in the same way, in order to place the other devices of the zone on the map.

4.4.2 Executing a map

To open the map window of a zone, in the directory tree double-click on the **Map** sub-folder of the zone concerned.



The markings, indicating the positions of the single devices on the map, show the following design:





Thanks to the pictogram (symbol), the type of device marked can easily be recognized.



The text box shows 'type & identification number' or the 'comment' of the device marked - depending on the settings made in the **Pipe network** segment of the multifunction bar (see page 29).

Create a marking To mark the place of installation of a device, in the directory tree click on the device concerned, keep the left mouse button pushed and drag the device to the point desired on the map displayed.


Move a marking To move a marking on the map, proceed as follows:

Step	Description
1	In the menu bar of the window, click on Select . Result: The mode of the cursor changes from 'show'  to 'select'  .
2	Click on the marking concerned, keep the left mouse button pushed and move it to a new position.
3	Finally, click on the Select button once again in order to deactivate it.

Zoom function You have the chance to get a section of the map magnified in an extra window. Proceed as follows:

Step	Description
1	In the menu bar of the window, click on Zoom . Result: The cursor changes from mode „show“  to mode „enlarge“  .
2	On the map, mark the area that is to be magnified. (For this, click on the map, keep the left mouse button pressed and move the cursor diagonally across the area of interest.) Result: The map section selected is magnified.

Undo last step

In order to undo the last steps click the arrow button  in the menu bar.


In order to leave the magnified map view click once again the **Zoom** button.

Costumize the view You have the chance to costumize the map view. For this purpose, open the **Directory** tab of the multifunction bar. There, in the **Pipe network** segment, the following checkboxes are available:

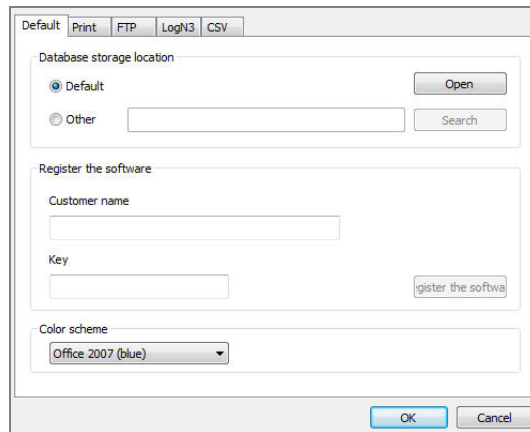
Option	Description
100 %	If this checkbox is enabled, the map section is scaled up or down corresponding to the size of the window displayed If it is disabled, the size of the map remains static.
Show text	If this checkbox is disabled, the text box of the markings is hidden.
Show symbol	If this checkbox is disabled, the pictogram of the markings is hidden.
Show device ID	If this checkbox is enabled, the text box of a marking shows the type and the identification number” of the device.
Show comment	If this checkbox is enabled, the text box of a marking shows the comment/name of the device.

4.5 System settings

In the System settings menu you can make various basic settings for use of the SDV-3 software or specify frequently recurring parameters etc.

To open the menu, first click the water drop symbol  in the top left. Then, click the **Settings** button in the appearing context menu.

A new window appears showing the system settings menu:



4.5.1 Managing the storage location of the measurement database

During installation of the software, a directory with the name 'data' is created on the computer by default. All recorded data is saved to this directory.

In the system settings of the software, you have the option to display the current storage location of the measurement data or set up another storage location.

To get access to the storage location management tools, you have to open the **Default** tab.

Displaying the storage location To display the current storage location of the measurement data, click **Open** in the **Database storage location** segment. The current target directory opens in an Explorer window. (With the default setting, it is the 'data' directory mentioned above.) The precise target path is displayed in the address line.

Changing the storage location You have the option to define another storage location in place of the standard target directory of 'data'.

Select the **Other** radio button in the **Database storage location** segment. Then click **Search (Browse)** and use the Explorer window that opens to set a new target directory. After the next restart of the software, all newly saved measurement data will be saved in this folder. All previously saved measurement data remains in the previous target folder. There is no longer access to this data from SDV-3.

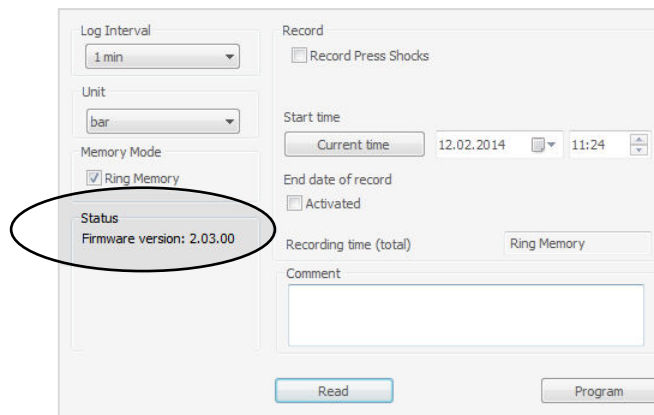
If you define a new storage location and want to still have access to the previously saved measurement data, you need to first move the entire previous target directory to the new storage location. Only after you do this should you set the new target path, as described above, by selecting the **Other** checkbox and defining the new target path by pressing the **Search (Browse)** button.

4.6 Updating the firmware of a device

Introduction SebaKMT makes improved versions of the firmware available in the download area of www.sebakmt.com on a regular basis. We recommend that you keep the firmware of all devices current at all times.


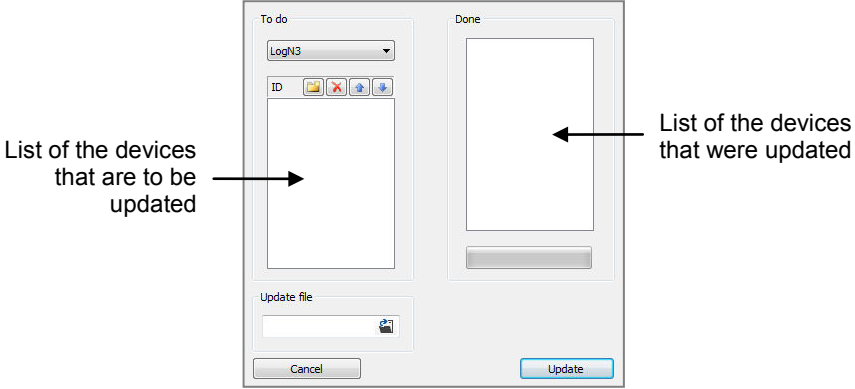





In order to determine which firmware version is currently installed on a device, you can read the device's configuration. (For this, locate the switched on device within the computer's radio range, select the device in the directory tree of the SDV-3 software, click on **Program** in the multifunction bar and then on **Read** in the appearing configuration window.)

The version of the firmware is displayed in the **Status** segment of the configuration window.



All data stored in the device's internal memory may be deleted by the firmware update. Therefore, retrieve all data from the device before carrying out an update.

Procedure To update the firmware of one or more devices, proceed as follows:

Step	Description
1	Download the file for the update from the download area of www.sebakmt.com onto your computer.
2	Open the SebaDataView-3 software.
3	<p>Click the water drop symbol  on the top left of the window and select the option Firmware Update in the window that opens.</p> <p>Result: The following window opens.</p>  <p>List of the devices that are to be updated</p> <p>List of the devices that were updated</p>
4	<p>In the drop-down list in the top left, select the type of devices whose firmware is to be updated.</p> <p>Several devices can be updated at the same time. However, they all need to be of the same type – just LogN3 loggers or just LogDX loggers, for example.</p>
5	<p>At the top of the list on the left, click the folder symbol .</p> <p>A new input field opens.</p> <p>There, enter the identification number (ID) of the relevant device, and confirm with the ENTER key on your keyboard.</p> <p>Repeat the process until all devices to which the firmware update is to be transferred are in the list.</p> <p>If you want to remove a device from the list, select the relevant ID and click the symbol for 'Delete'  at the top of the list.</p> <p>If you want to change the position of a device within the list, select the relevant ID and move it up or down with the arrow keys  .</p>
6	<p>In the Update file segment on the lower left of the window, enter the location where you saved the update file that you downloaded to your computer in step 1.</p> <p>To do this, click the folder symbol  and use the Explorer window that opens.</p>
7	<p>Click OK to start the firmware update.</p> <p>Result: The update file is transferred to the devices and installed there. A bar under the list on the right shows the progress of this process. After the file is installed, each device restarts automatically. The IDs of the successfully updated devices switch from the left to the right side on the screen. As soon as the firmware update is successfully completed for all devices, a corresponding message appears in the update window.</p>

5 Working with Log P-3 mini loggers

5.1 Programming loggers

Introduction Before being used for measurement, every logger must be programmed. In the process, the device is provided with important parameters for measurement.

The corresponding settings are made using the SDV-3 software and then wirelessly transmitted from the computer to the logger.

Requirements For a logger to be programmed, the following conditions must be met:

- The relevant logger must be registered in the software.
- A wireless interface must be connected to the computer (e.g. Log RI).
- The logger must be in the wireless range of the computer and be switched on.

Procedure To program a logger, proceed as follows:

Step	Description
1	Select the relevant logger in the directory tree of the SDV-3 software.
2	Open the LogP tab in the multifunction bar.
3	Click Program in the Communication segment. Result: The input screen for programming Log P pressure loggers opens. (You will find more detailed information about this configuration screen below.)
4	If this logger was newly created in the SDV-3 software, there are no buttons or action fields available within the screen except for the 'Read' button. The current programming of the logger must first be read. Click Read . Result: A wireless connection is established between the computer and the logger. The current programming of the device is transferred to the computer. After transfer is complete, the data is displayed on the configuration screen on the PC.
5	Make the settings with which the logger is to be reprogrammed for the upcoming measurement use.
6	Click Program to complete the process. Result: The configuration data is transferred to the logger. At the same time, the system time of the logger is synchronised with time on the computer. Once the data transfer is complete, a corresponding message appears on the screen.



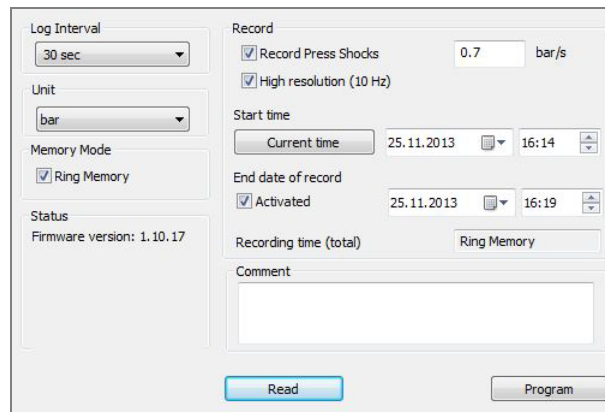
Do not switch off the logger after it has been programmed.
After being switched back on, the logger's internal clock would no longer be correct. The device would have to be reprogrammed.

After being programmed the logger can be installed on site if this has not already occurred.

At the programmed point in time, the logger begins pressure measurement.


5.2 Details regarding the configuration screen

The following figure shows the configuration dialogue of Log P-3 mini loggers:



You will find explanations of the individual segments of the screen in the following table:

Segment	Parameter
Log interval	In the drop-down list, select the intervals in which pressure measurements are to be carried out and recorded.
Unit	In the drop-down list, select the unit for the recorded values.
Memory mode	<p>Ring memory checkbox</p> <p>Here you can activate or deactivate the ring memory function.</p> <p>Explanation: A total of far more than 1 million standard pressure measurements can be saved in the logger.</p> <p>If the ring memory function is activated, the oldest standard pressure measurements are deleted to make room for new measurements once the logger's memory is full.</p> <p>If the ring memory function is not activated, no further measurements are saved once the memory is full.</p>
Record	<p>Record Press Shocks checkbox</p> <p>Here you can define whether sudden pressure fluctuations, known as pressure surges (see page 9), are to be recorded in addition to standard measurement.</p> <p>Threshold input field</p> <p>Using the input field to the right of the checkbox, you specify how much a measuring value has to differ from the previous value in order to classify a pressure fluctuation as a 'pressure surge'.</p> <p>Example: If '0.5' is set, pressure surge recordings start as soon as a measuring value is min. 0.5 bar higher or lower than the preceding value.</p> <p>High resolution checkbox</p> <p>Here you can define which sampling interval should be used for the 60 second pressure surge recordings:</p> <ul style="list-style-type: none"> checkbox de-selected: 1 sec sampling interval checkbox selected: 0,1 sec sampling interval <p>Using the short 0,1 sec interval allows a more detailed recording.</p>

Segment	Parameter
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  Please note that the high resolution recording of pressure surges requires more energy and, thus, has a strong negative impact on the logger's battery life. </div> <p>A total of 100 pressure surge recordings can be saved in the logger. After that, the oldest recordings are deleted and replaced with new recordings. The Ring memory checkbox in the Memory mode segment (see above) has no effect on the saving of pressure surges.</p>
	<p>Start time (date and time) Enter the time at which the logger is to begin recording measurements. If you click Current time, the actual system date and time of the computer is filled in.</p> <p>End of record (date and time) You have the chance to specify the time at which the measurement is to end. For this, select the Activated checkbox and enter the desired date and time. If you don't specify an end time, the measurement runs until the logger is switched off or it is programmed again.</p>
Status	The most important logger data is displayed here. This data relates to the point in time of the last data readout.
Comment	Here you can change the logger comment if required.

5.3 Reading the measured data

Introduction Once it has begun, an installed logger continues measurement until it is switched off or reprogrammed.

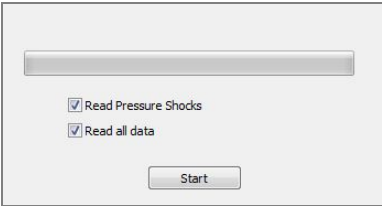
The recorded measurements are read using the SDV-3 software.

Measurements can also be retrieved from the logger with the Reader-3 reading device and later transferred to a computer. You can find more information about this in the Reader-3 operating manual.

Requirements In order to be able to use the computer to read the recorded measurements out of a logger, the following requirements must be met:

- The relevant logger must be registered in the software.
- A wireless interface must be connected to the computer (e.g. Log RI).
- The logger must be in the wireless range of the computer and be switched on.

Procedure To read measurements from a logger using the computer, proceed as follows:

Step	Description
1	Select the relevant logger in the directory tree of the SDV-3 software.
2	Open the LogP tab in the multifunction bar.
3	In the Measurement data segment, click Read >> USB /RF . Result: The following window opens.
	
4	Use the checkboxes to decide which measurements you want to read from the logger. <ul style="list-style-type: none"> • Read all data checkbox If this checkbox is activated, all standard pressure measurement data stored in the logger is read. If this checkbox is not activated, the standard pressure measurement data recorded since the last data readout is read. • Read Pressure Surges checkbox If this checkbox is activated, the recordings of sudden pressure fluctuations (pressure surges) are read in addition to the standard pressure measurement data.
5	Click Start . Result: The transfer of the measurement data from the logger to the computer starts. The bar on the screen shows the progress of the transfer. Once the transfer is complete, the window for displaying measurement data opens automatically (see page 40). You can also display the data by double-clicking the respective logger in the directory tree.

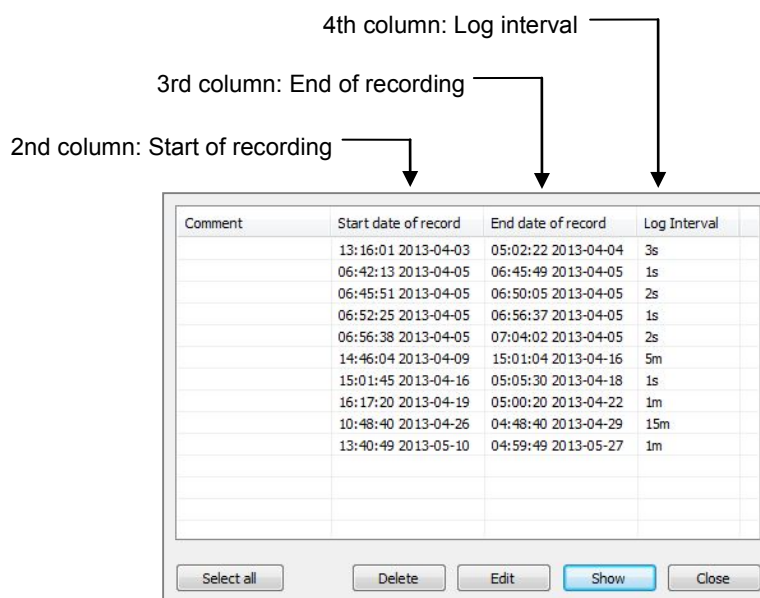
5.4 Managing saved measurement data

In the database of the software, a large number of measurement data records can be saved for each logger.

You can display all measurement data records of a logger in a list. Proceed as follows:

Step	Description
1	Select the relevant logger in the directory tree of the SDV-3 software.
2	Open the LogP tab in the multifunction bar.
3	Click Show data in the Measurement data segment. Result: A new window opens. It displays the list of measurement data records of the logger (see figure). If only one measurement data record is saved for the logger, the window for displaying measurement data is displayed immediately instead of the measurement data list (see page 40).

View The window contains a table in which all measurement data records saved for this logger in the database of the software are listed. These are results from standard pressure measurements (with and without pressure surges) as well as recordings of real-time measurements.



Using the buttons at the bottom of the window, you can call up and manage the individual measurement data records.

Select the relevant line in the list and click the desired button:

- Show** ... The measurement data is shown.
- Edit** ... A window that can be used to edit the comment text for this measurement opens.
- Delete** ... The data record is deleted from the database of the software. Answer the confirmation prompt with **Yes**.



If it is not clear from the comment whether the data record is a standard measurement or real-time measurement, the following can help:

- Long period of measurement and long measurement interval
→ standard measurement
- Short period of measurement and one-second measurement interval
→ real-time measurement

5.5 Displaying measurement data

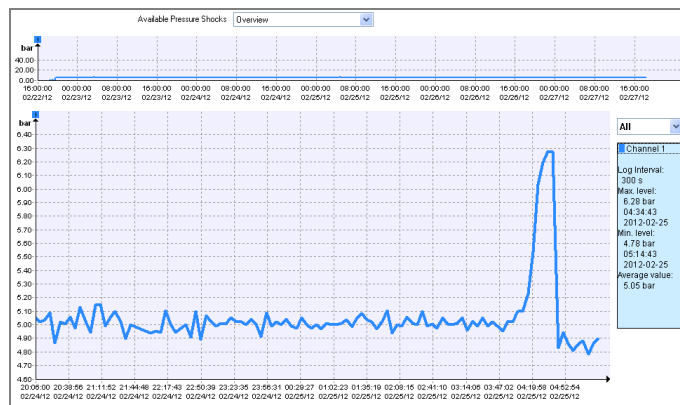
5.5.1 Calling up older measurement data

Calling up the most recent measurement To call up the most recently saved measurement data of a logger, double-click this logger in the directory tree of the software. The window for displaying the measurement data opens (see below).

Calling up a particular measurement To call up the results of a particular measurement, proceed as follows:

Step	Description
1	Select the relevant logger in the directory tree.
2	Open the LogP tab in the multifunction bar.
3	Click Show data in the Measurement data segment. Result: The window for managing measurement data opens (see page 39). (If only one measurement data record is saved for the logger, this window does not appear. Instead, the measurement data display opens immediately.)
4	Select the required data record in the list and click Show . Result: The measurement data is shown.

View The following figure shows the window for displaying measurement data:



In the top diagram, the complete curve of the entire measurement is displayed.

The bottom diagram is used for viewing enlarged subareas of the measurement curve (known as the 'ZoomView' – see below).

If pressure surges were also recorded in addition to the standard measurements, they can be called up using the **drop-down list** at the very top of the screen and displayed in the bottom diagram.

The X-axis corresponds to the chronological sequence of a measurement. The Y-axis corresponds to the measured pressure in bar.

In the blue info window on the right, you can find the most important key data of the measurement. The information relates exclusively to the section of the measurement that is currently displayed in the bottom diagram.





Selecting the zoom area You have the following options for displaying an enlarged subarea of the overall measurement curve:

- **Free selection of a section of the curve**
 Select the desired area of the measurement curve in the top diagram. To do this, click inside the diagram, hold down the left mouse button and guide the cursor diagonally across the relevant area. The selected area will be displayed in the bottom diagram.
 If you click the coloured area that was selected and hold down the left mouse button, you can freely move the selection within the top diagram. This function is practical for use as a 'magnifying glass'.
- **Selecting time frames from the list**
 Using the drop-down list on the right next to the diagram, you can restrict the time frame of the displayed area to a month, a week, a day or an hour.

Moving in the diagram Using the mouse wheel (if available), you can move within the diagram along the axes:

- **Mouse wheel ...** Movement along the X-axis
- **Shift key + mouse wheel ...** Movement along the Y-axis

Other functions A **context menu** opens after you right-click in the diagram view. A number of other functions for working with the diagram are available here:

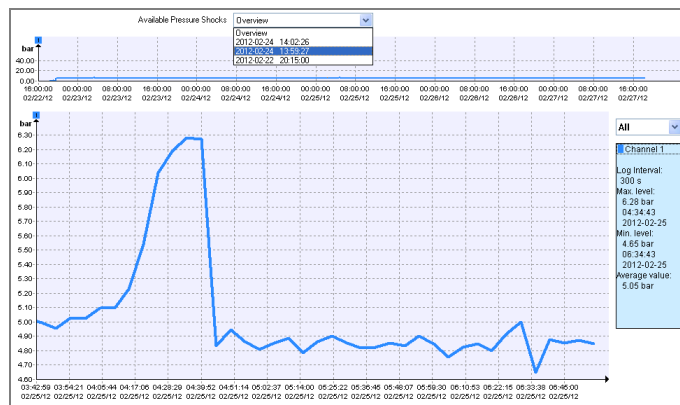
Function	Description
Zoom in	You can use this function to select an area in the diagram for enlarged display. The cursor symbol switches from  to  . Left-click in the diagram, hold down the button and guide the cursor to the desired area.
Pan	You can use this function to grab and move the displayed measurement area. The cursor symbol switches from  to  . Left-click in the diagram, hold down the button and freely move the image section in all directions.
Select	You use this command to end the functions Zoom in and Pan .
Measure	You can use this function to display the time span and pressure difference between any two points on the displayed measurement curve. Left-click in the diagram on the desired starting point, hold down the button and guide the cursor to the desired ending point. The time span between the two points is displayed.

Function	Description
Insert label	<p>You can use this function to create text fields (labels) within the diagram. These fields can be used to add comments to any points in the diagram. Labels remain saved after the diagram display is closed.</p> <p>Edit text ... Double-click the text field – input text – then click once outside of the field</p> <p>Move label ... Click the text field once – then ‘grab onto it’ (click it and hold down the left mouse button) and move it wherever you would like</p> <p>Delete label ... Click the text field once – then press the ‘Delete’ key on your keyboard</p>
Print	You can use this function to print the diagram view.
Reset	You use this function to reset the diagram view back to the way it was in the beginning.

5.5.2 Displaying pressure surges

If pressure surges (see page 9) were also recorded in addition to standard measurements, you will see a **drop-down list** at the very top of the displayed window. All recorded pressure surges are in this list.

In order to display the one-minute recording of an individual pressure fluctuation, click the desired recording time point in this list. The corresponding measurement curve will be displayed in the bottom diagram.



With the tools described above, you can view the recording in detail and carry out a closer analysis (see page 40).

To return to the standard measurement display, click **Overview** in the drop-down list.

5.6 Carry out real-time measurement

Introduction Using the 'real-time measurement' function, you can carry out a pressure measurement and track its course at the same time on a computer.

A real-time measurement can be helpful when checking whether pipe sections are tight or to confirm the results of other measurement devices, for example.

- Requirements** To be able to carry out a real-time measurement, the following conditions must be met:
- You need a portable computer with SDV-3 software.
 - The relevant logger must be registered in the software.
 - A wireless interface must be connected to the computer (e.g. Log RI).
 - The logger must be in the wireless range of the computer and be switched on.

Procedure To carry out a real-time measurement, proceed as follows:

Step	Description
1	Install a logger that is switched on and unprogrammed. You can also carry out a real-time measurement with a logger that is already installed and currently carrying out standard measurement. The standard measurement is not affected by the real-time measurement and continues to run in parallel.
2	Select the relevant logger in the directory tree of the SDV-3 software.
3	Open the LogP tab in the multifunction bar.
4	Click Realtime measurement in the Communication segment.
5	<p>Result: The connection to the logger is established. The bar on the screen shows the progress of the transfer.</p> <p>The real-time measurement begins. A window opens in which the measurement is displayed in a diagram as a continuously updated curve.</p> <div style="text-align: center;"> </div>
6	<p>In order to end the real-time measurement, click the Stop button in the multifunction bar in the Controls segment.</p> <p>Result: A window opens. Here you are asked whether you want to save the real-time measurement that was just carried out in the database of the software. If you answer the question with Yes, you can recall the data of this measurement at any time (see page 40).</p>



Tento symbol indikuje, že výrobek nesoucí takovéto označení nelze likvidovat společně s běžným domovním odpadem. Jelikož se jedná o produkt obchodovaný mezi podnikatelskými subjekty (B2B), nelze jej likvidovat ani ve veřejných sběrných dvorech. Pokud se potřebujete tohoto výrobku zbavit, obraťte se na organizaci specializující se na likvidaci starých elektrických spotřebičů v blízkosti svého působiště.



Dit symbool duidt aan dat het product met dit symbool niet verwijderd mag worden als gewoon huishoudelijk afval. Dit is een product voor industrieel gebruik, wat betekent dat het ook niet afgeleverd mag worden aan afvalcentra voor huishoudelijk afval. Als u dit product wilt verwijderen, gelieve dit op de juiste manier te doen en het naar een nabij gelegen organisatie te brengen gespecialiseerd in de verwijdering van oud elektrisch materiaal.



This symbol indicates that the product which is marked in this way should not be disposed of as normal household waste. As it is a B2B product, it may also not be disposed of at civic disposal centres. If you wish to dispose of this product, please do so properly by taking it to an organisation specialising in the disposal of old electrical equipment near you.



Този знак означава, че продуктът, обозначен по този начин, не трябва да се изхвърля като битов отпадък. Тъй като е B2B продукт, не бива да се изхвърля и в градски пунктове за отпадъци. Ако желаете да изхвърлите продукта, го занесете в пункт, специализиран в изхвърлянето на старо електрическо оборудване.



Dette symbol viser, at det produkt, der er markeret på denne måde, ikke må kasseres som almindeligt husholdningsaffald. Eftersom det er et B2B produkt, må det heller ikke bortskaffes på offentlige genbrugsstationer. Skal dette produkt kasseres, skal det gøres ordentligt ved at bringe det til en nærliggende organisation, der er specialiseret i at bortskaffe gammelt el-udstyr.



Sellise sümboliga tähistatud toodet ei tohi käidelda tavalise olmejäätmena. Kuna tegemist on B2B-klassi kuuluva tootega, siis ei tohi seda viia kohaliku jäätmeäituspunkti. Kui soovite selle toote ära visata, siis viige see lähimasse vanade elektriseadmete käitlemisele spetsialiseerunud ettevõttesse.



Tällä merkinnällä ilmoitetaan, että kyseisellä merkinnällä varustettua tuotetta ei saa hävittää tavallisen kotitalousjätteen seassa. Koska kyseessä on yritysten välisen kaupan tuote, sitä ei saa myöskään viedä kuluttajien käyttöön tarkoitettuihin keräyspisteisiin. Jos haluatte hävittää tämän tuotteen, otakaa yhteys lähimpään vanhojen sähkölaitteiden hävittämiseen erikoistuneeseen organisaatioon.



Ce symbole indique que le produit sur lequel il figure ne peut pas être éliminé comme un déchet ménager ordinaire. Comme il s'agit d'un produit B2B, il ne peut pas non plus être déposé dans une déchetterie municipale. Pour éliminer ce produit, amenez-le à l'organisation spécialisée dans l'élimination d'anciens équipements électriques la plus proche de chez vous.



Cuireann an siombail seo in iúl nár cheart an tairgeadh atá marcáilte sa tslí seo a dhiúsairt sa chóras fuoilí teaghlaigh. Os rud é gur tairgeadh ghnó le gnó (B2B) é, ní féidir é a dhiúsairt ach oiread in ionaid dhiúsairtha phobail. Más mian leat an tairgeadh seo a dhiúsairt, déan é a thógáil ag eagraíocht gar duit a sainfheidhmiú in ndiúsairt sean-fhearas leictirigh.



Dieses Symbol zeigt an, dass das damit gekennzeichnete Produkt nicht als normaler Haushaltsabfall entsorgt werden soll. Da es sich um ein B2B-Gerät handelt, darf es auch nicht bei kommunalen Wertstoffhöfen abgegeben werden. Wenn Sie dieses Gerät entsorgen möchten, bringen Sie es bitte sachgemäß zu einem Entsorger für Elektroaltgeräte in Ihrer Nähe.



Αυτό το σύμβολο υποδεικνύει ότι το προϊόν που φέρει τη σήμανση αυτή δεν πρέπει να απορρίπτεται μαζί με τα οικιακά απορρίματα. Καθώς πρόκειται για προϊόν B2B, δεν πρέπει να απορρίπτεται σε δημοτικά σημεία απόρριψης. Εάν θέλετε να απορρίψετε το προϊόν αυτό, παρακαλούμε όπως να το παραδώσετε σε μία υπηρεσία συλλογής ηλεκτρικού εξοπλισμού της περιοχής σας.



Ez a jelzés azt jelenti, hogy az ilyen jelzéssel ellátott terméket tilos a háztartási hulladékokkal együtt kidobni. Mivel ez vállalati felhasználású termék, tilos a lakosság számára fenntartott hulladékgyűjtőbe dobni. Ha a terméket ki szeretné dobni, akkor vigye azt el a lakóhelyéhez közel működő, elhasznált elektromos berendezések begyűjtésével foglalkozó hulladékkezelő központhoz.



Questo simbolo indica che il prodotto non deve essere smaltito come un normale rifiuto domestico. In quanto prodotto B2B, può anche non essere smaltito in centri di smaltimento cittadino. Se si desidera smaltire il prodotto, consegnarlo a un organismo specializzato in smaltimento di apparecchiature elettriche vecchie.



Št zíme noráda, ka izstrādājumu, uz kura tā atrodas, nedrīkst izmest kopā ar parastiem mājsaimniecības atkritumiem. Tā kā tas ir izstrādājums, ko cits citam pārdod un lieto tikai uzņēmumi, tad to nedrīkst arī izmest atkritumos tādās izgāztuvēs un atkritumu savāktuvēs, kas paredzētas vietējiem iedzīvotājiem. Ja būs vajadzīgs šo izstrādājumu izmest atkritumos, tad rīkojieties pēc noteikumiem un nogādājiet to tuvākajā vietā, kur īpaši nodarbojas ar vecu elektrisku ierīču savākšanu.



Šis simbolis rodo, kad juo paženklinto gaminio negalima išmesti kaip paprastų buitinių atliekų. Kadangi tai B2B (verslas verslui) produktas, jo negalima atiduoti ir buitinių atliekų tvarkymo įmonėms. Jei norite išmesti šį gaminį, atlikite tai tinkamai, atiduodami jį arti jūsų esančiai specializuotai senos elektrinės įrangos utilizavimo organizacijai.



Dan is-simbolu jindika li l-prodott li huwa mmarkat b'dan il-mod m'ghandux jintrema bħal skart normali tad-djar. Minhabba li huwa prodott B2B , ma jistax jintrema wkoll f'centri ċiviċi għar-rimi ta' l-iskart. Jekk tkun tixtieq tarmi dan il-prodott, jekk jogħġbok għamel dan kif suppost billi tiegħu għand organizzazzjoni fil-qrib li tispeċjalizza fir-rimi ta' tagħmir qadim ta' l-eletriku.



Dette symbolet indikerer at produktet som er merket på denne måten ikke skal kastes som vanlig husholdningsavfall. Siden dette er et bedriftsprodukt, kan det heller ikke kastes ved en vanlig miljøstasjon. Hvis du ønsker å kaste dette produktet, er den riktige måten å gi det til en organisasjon i nærheten som spesialiserer seg på kassering av gammelt elektrisk utstyr.



Ten symbol oznacza, że produktu nim opatrzonego nie należy usuwać z typowymi odpadami z gospodarstwa domowego. Jest to produkt typu B2B, nie należy go więc przekazywać na komunalne składowiska odpadów. Aby we właściwy sposób usunąć ten produkt, należy przekazać go do najbliższej placówki specjalizującej się w usuwaniu starych urządzeń elektrycznych.



Este símbolo indica que o produto com esta marcação não deve ser deixado fora juntamente com o lixo doméstico normal. Como se trata de um produto B2B, também não pode ser deixado fora em centros cívicos de recolha de lixo. Se quiser desfazer-se deste produto, faça-o correctamente entregando-o a uma organização especializada na eliminação de equipamento eléctrico antigo, próxima de si.



Acest simbol indică faptul că produsul marcat în acest fel nu trebuie aruncat ca și un gunoi menajer obișnuit. Deoarece acesta este un produs B2B, el nu trebuie aruncat nici la centrele de colectare urbane. Dacă vreți să aruncați acest produs, vă rugăm s-o faceți într-un mod adecvat, ducând-ul la cea mai apropiată firmă specializată în colectarea echipamentelor electrice uzate.



Tento symbol znamená, že taktó označený výrobok sa nesmie likvidovať ako bežný komunálny odpad. Keďže sa jedná o výrobok triedy B2B, nesmie sa likvidovať ani na mestských skládkach odpadu. Ak chcete tento výrobok likvidovať, odneste ho do najbližšej organizácie, ktorá sa špecializuje na likvidáciu starých elektrických zariadení.



Ta symbol pomeni, da izdelka, ki je z njim označen, ne smete zavreči kot običajne gospodinske odpadke. Ker je to izdelek, namenjen za druge proizvajalce, ga ni dovoljeno odlagati v centrih za civilno odlaganje odpadkov. Če želite izdelek zavreči, prosimo, da to storite v skladu s predpisi, tako da ga odpeljete v bližnjo organizacijo, ki je specializirana za odlaganje stare električne opreme.



Este símbolo indica que el producto así señalado no debe desecharse como los residuos domésticos normales. Dado que es un producto de consumo profesional, tampoco debe llevarse a centros de recogida selectiva municipales. Si desea desechar este producto, hágalo debidamente acudiendo a una organización de su zona que esté especializada en el tratamiento de residuos de aparatos eléctricos usados.



Den här symbolen indikerar att produkten inte får blandas med normalt hushållsavfall då den är förbrukad. Eftersom produkten är en så kallad B2B-produkt är den inte avsedd för privata konsumenter, den får således inte avfallshanteras på allmänna miljö- eller återvinningsstationer då den är förbrukad. Om ni vill avfallshandera den här produkten på rätt sätt, ska ni lämna den till myndighet eller företag, specialiserad på avfallshandtering av förbrukad elektrisk utrustning i ert närområde.