The Parker Service Master COMPACT

Operating Manual

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

ENGINEERING YOUR SUCCESS.

Operating Manual
The Parker Service Master COMPACT

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Version	Date	Amendment
1.0 EN	06.02.2024	Translation of the original version

Table of Contents

About this Operating Manual

This Operating Manual is a component part of The Parker Service Master COMPACT and contains important information on the intended use, safety, operation and maintenance of the device described.

Subject to change without prior notice.

► Before each step, read the corresponding information carefully and adhere to the sequence of steps described.

► Pay particular attention to Chapter 🕮 „Notation and Symbols“ on Page 8 and follow the instructions.

INFORMATION

This Operating Manual describes the technical state of the device at the time of publication.
Some illustrations and descriptions may refer to additional options that are not part of a standard configuration.
Some of the components, functional processes or options described may be at a development stage that differs from the device actually delivered.

1. Notation and Symbols

INFORMATION

This information shows additional information and useful tips.

📖 This symbol indicates a reference to other sections, documents or sources.

■ This symbol indicates lists of information.

▶ This symbol indicates further information.

1 This symbol indicates working instructions to be completed in a specific sequence.

↳ This symbol indicates the results of working instructions completed.

bar Display texts (buttons, units of measure, etc.) and hardware buttons are shown in **bold print**.

1.1 Safety Levels

The following safety levels are used in this operating manual. The hazard levels are based on the standard DIN EN 82079-1.

DANGER

Risk of fatal or severe personal injury.
Probability of occurrence: **very high**.

WARNING

Risk of fatal or severe personal injury.
Probability of occurrence: **possible**.

CAUTION

Risk of minor to moderate personal injury.
Probability of occurrence: **possible**.

IMPORTANT

Risk of property damage.
Probability of occurrence: **possible**.

1.1.1 Structure of Warnings

The warnings are structured as follows in this operating manual:

DANGER

Type and source of the risk
Consequences of failure to observe the warning
► Measures to avoid the risk

WARNING

Type and source of the risk
Consequences of failure to observe the warning
► Measures to avoid the risk

CAUTION

Type and source of the risk
Consequences of failure to observe the warning
► Measures to avoid the risk

IMPORTANT

Type and source of the risk
Consequences of failure to observe the warning
► Measures to avoid the risk

2. Product Description

The Parker Service Master COMPACT is intended for recording the measured values of the sensors connected. The sensors must be connected at the inputs available according to the model version.

Sensors with automatic sensor detection parameterize the unit and measuring range automatically. In addition, sensors can also be connected to analog AUX inputs.

The Parker Service Master COMPACT is available in several versions with various connections.

The Parker Service Master COMPACT is operated basically by using the touch-sensitive touchscreen. Alternatively, the main functions can be selected via the six hardware keys on the device.

The USB-C port is used to connect the Parker Service Master COMPACT to a PC and thus enables measured value evaluation to be completed. In addition, the USB-C port is also used to charge the device. An appropriate power supply adapter is specified in Section "Accessories" (refer to the Chapter 📖 „Spare Parts and Accessories“ on Page 97).

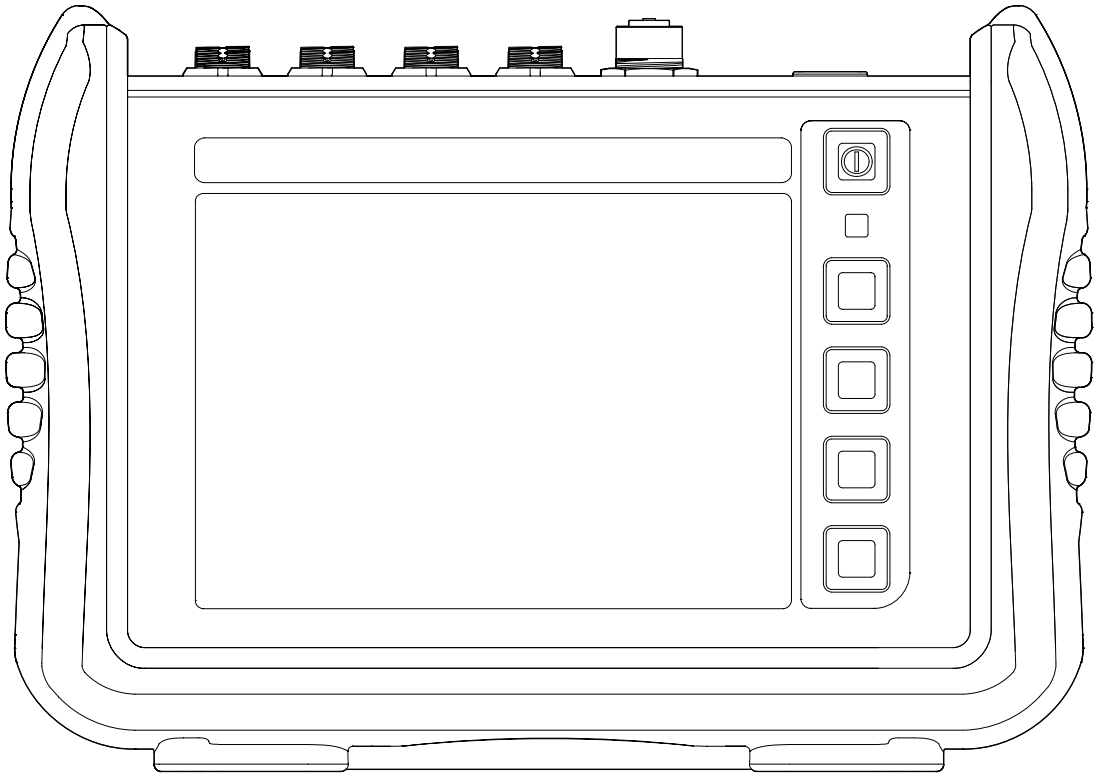


Fig. 1 The Parker Service Master COMPACT

2.1 Intended Use

The Parker Service Master COMPACT, subsequently referred to as "device", enables access to sensors used in hydraulic applications in machines and vehicles. The various connections can be used to detect, save, monitor and evaluate digital or analog sensor signals for pressure, temperature, volume flow, speed, volumes and performance, for example.

The device is exclusively designed for commercial use in mobile and stationary systems.

- The device does not comply with Directive 94/9/EC and, therefore, must not be used in potentially explosive atmospheres.

2.2 Unintended Use

All usage and conditions of use which are contrary to those described in Section "Intended Use" are deemed to be unintended use and lead to loss of all rights to claims under the terms of guarantee, warranty and liability in respect of the manufacturer.

2.3 Conformity

The device fulfills the requirements of the following standards and legal regulations:

CE conformity
The device complies with the directives, standards and standard-related documents specified in Chapter 🕮 „Certificates“ on Page 98.

▶ Further information is available in Chapter 🕮 „Certificates“ on Page 98.

2.4 Equipment Supplied

Check the parts included in the supply package prior to starting up the device.

If anything is missing, please contact your sales outlet.

- The Parker Service Master COMPACT
- USB stick
- USB cable (type A on type C)
- Quick reference guide

INFORMATION

The full operating manual is available as a download. Use the QR code on the device's rating plate for this.

▶ You will find a suitable power supply adapter for charging the device in the accessories (see Chapter 🕮 „Spare Parts and Accessories“ on Page 97).

3. Safety Information

This chapter contains important information on preventing the risk of life-threatening situations, injuries and property damage.

Before starting to work with the pressure switch, read this operating manual and observe the instructions. Failure to observe the instructions provided, particularly those related to safety, can lead to risks to human beings, the environment, equipment and systems.

The device has been produced according to state-of-the-art technology with regard to accuracy, principles of operation and safe operation of the equipment.

INFORMATION

Throughout this operating manual, warnings which relate to specific, individual functional processes or activities are provided directly preceding the corresponding instructions.

3.1 Basic Warnings

DANGER

Risk of explosion through operating electronic devices in potentially explosive atmospheres.

Risk of fatal or severe personal injury.

- ► Observe the provisions and precautionary measures applicable for potentially explosive atmospheres. The device has no approval for use in potentially explosive atmospheres.

IMPORTANT

Risk of property damage.

- ► The device must be connected and put into operation by properly trained technical personnel.
- ► Avoid using any forms of force on the device.
- ► Never expose the device to direct sunlight over an extended period of time.
- ► Never immerse the device in water or other liquids.
- ► Never attempt to repair the device yourself. The device may only be repaired by Parker Hannifin.
- ► Never clean the device with substances containing solvents. The device may only be cleaned in the way described in Section **Cleaning**.

3.2 Technical Personnel

This operating manual is intended for properly trained technical personnel who are familiar with the applicable regulations and standards regarding the area of use.

Technical personnel entrusted with starting up and operating the device must produce evidence of the necessary qualification. Qualification can be obtained through participation in a relevant training course or receiving applicable instruction.

Technical personnel must have read and understood the operating manual. Technical personnel must have access to the content of the operating manual at all times.

4. Design and Function

This chapter contains information on the design of the device and the functions provided.

The device is available in several versions with various inputs.

▶ Further information is available in Chapter 🕮 „Device Models“ on Page 93.

The inputs, pin assignments and interfaces available on the device are described.

INFORMATION

This Operating Manual describes the technical state of the device at the time of publication.
Some illustrations and descriptions may refer to additional options that are not part of a standard configuration of the device.
Some of the components, functional processes or options described may be at a development stage that differs from the device actually delivered.

4.1 Overview

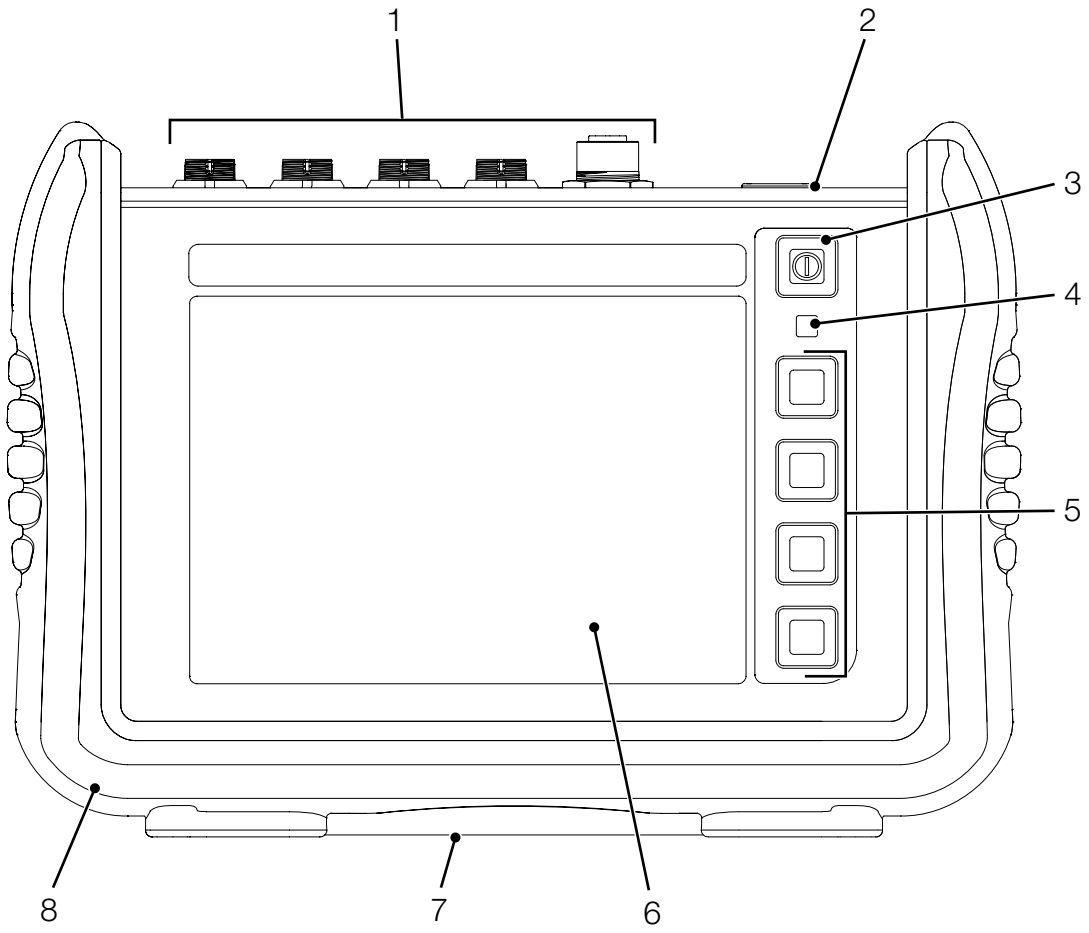


Fig. 2 Overview of The Service Master COMPACT

Pos.	Designation
1	Inputs, depending on the model version
2	1 × USB-A, 1 × USB-C
3	On/Off key
3	Status LED
5	Context-sensitive function keys
6	Display (touchscreen)
7	Stylus (on the underside, optional)
8	Shock protection

4.2 Functions and Features

The device is equipped with the following functions:

- Inputs for the connection of sensors, depending on the model version
- Measuring e.g. pressure, temperature, volume flow, speed, volumes and performance
- For recording, saving and analyzing measured data
- Various measuring methods and their representation
- Fold-out stand
- VESA standard for wall installation
- Stylus, optional
- USB flash drive to save measurements, templates, screenshots

4.3 Connections

The following illustrations show the device connections for all model versions. Detailed information on the connections and specifications is available in the following chapters.

CAN model version

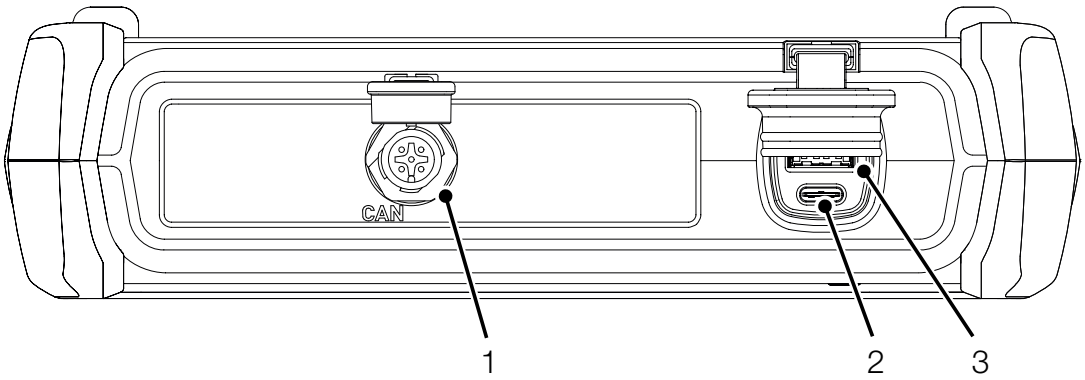


Fig. 3 Connections, CAN model version

Pos.	Designation	Description
1	CAN Bus	To connect CAN bus sensors
2	USB-C connection	For connection to the power supply adapter or to a PC
3	USB-A connector	To connect the USB memory stick

CAN + AUX model version

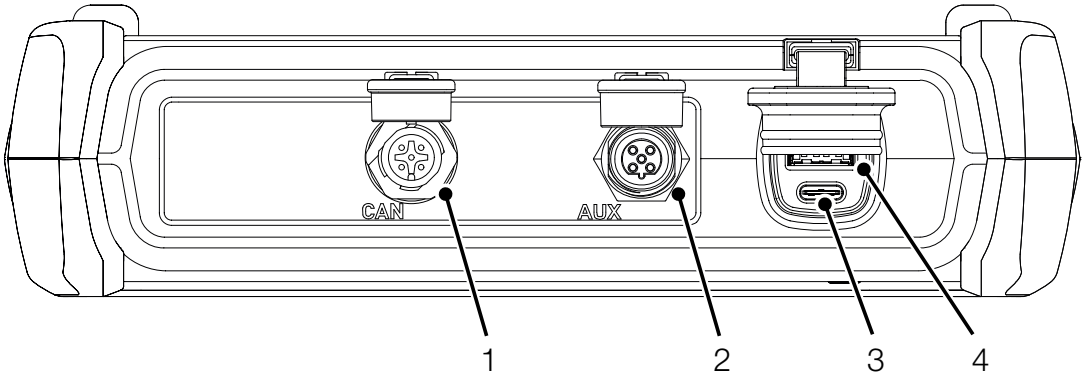


Fig. 4 Connections, CAN + AUX model version

Pos.	Designation	Description
1	CAN Bus	To connect Parker CAN bus sensors with automatic sensor detection
2	AUX connection	To connect analog external sensors
3	USB-C connection	For connection to the power supply adapter or to a PC
4	USB-A connector	To connect the USB memory stick

Analog + AUX model analog version

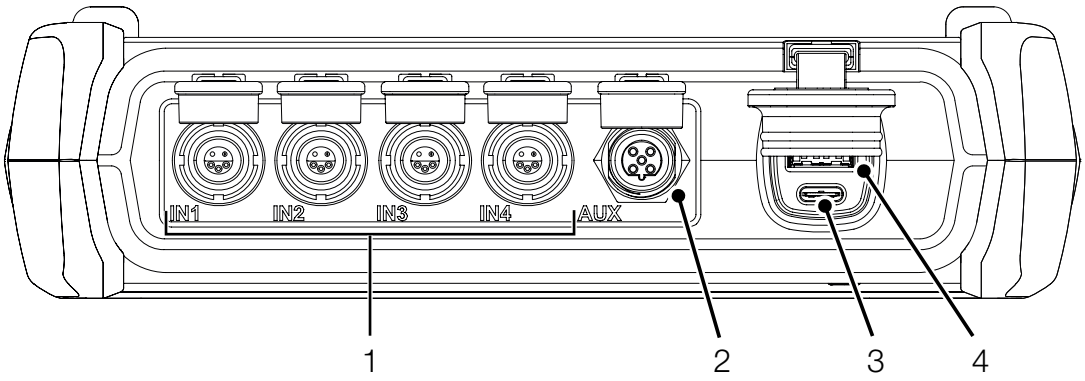


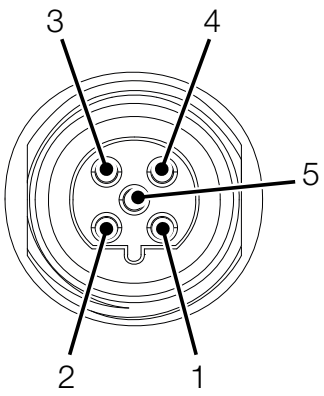
Fig. 5 Connections, Analog + AUX model version

Pos.	Designation	Description
1	Analog connections (IN1, IN2, IN3, IN4)	To connect Parker analog sensors with automatic sensor detection
2	AUX connection	To connect analog external sensors
3	USB-C connection	For connection to the power supply adapter or to a PC
4	USB-A connector	To connect the USB memory stick

4.3.1 AUX

The AUX connection is an M12 connection (female) with 5 pins for connecting analog auxiliary sensors without automatic sensor detection with standard output signals of 20 mA or 10 V.

Refer to the following overview for the PIN assignment:



PIN	Designation
1	+Ub (+24 V_{DC})
2	AUX-1
3	GND
4	AUX-2
5	GND

Fig. 6 Connection, AUX

Other external sensors without automatic sensor detection can also be connected to one of the analog connections or the CAN bus via an adapter (current/voltage converter).

INFORMATION

Further information on connecting sensors without sensor detection via an adapter is available in the manual supplied with the respective adapter.

After connecting the sensors without sensor detection, complete the necessary settings for the electrical connection and expected signal according to the properties of the sensors connected.

5. Starting Up

This chapter contains information on the steps necessary to put the device into operation.

5.1 Charging the Battery

Charge the battery prior to starting up the device.

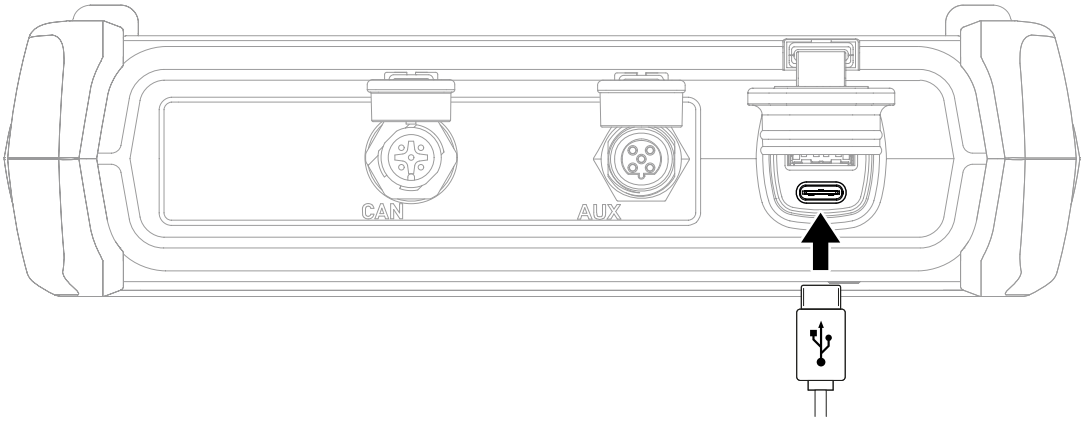


Fig. 7 Connecting USB-C power supply adapter, e.g. SCSN-445

The status LED on the device flashes while the device is being charged.

IMPORTANT

Risk of property damage.

- ▶ Do not store the device with a low battery charge status in order to prevent a total discharge.
- ▶ Avoid fully charging or total discharge of the battery to increase the service life of the battery.
- ▶ Only use the device within the temperature range permitted.
  Refer to Chapter 🕮 „Mechanical Data“ on Page 93.

INFORMATION

Observe this information regarding use of the integrated battery:

- ▶ The battery is only charged in the temperature range of 0 - 45° C. In the temperature range of 0 - 10° C, the battery is charged with half the charging current.
- ▶ If the charge status of the battery drops below a specific value, the measurement in progress is stopped. The measured values and user parameters are saved. The device switches off automatically.

5.2 Switching the Device On and Off

Switching the Device On

1. Press the **On/Off button** when the device is switched off.
   ↳ The device starts up.

After switching on, the firmware version and serial number are displayed on the start screen.

Switching the Device Off

1. Press the **On/Off button** when the device is switched on.
   ↳ The **Power Off menu** appears.
2. Tap on the  button.
   ↳ The device is switched off.

Alternatively:

1. When switched on, press and hold the **On/Off button** for at least 5 seconds.
   ↳ The device is switched off.

5.3 Connecting Sensors

Before the device can be used to take measurements, the sensors required for the measurement must be connected.

5.3.1 Connecting CAN Sensors

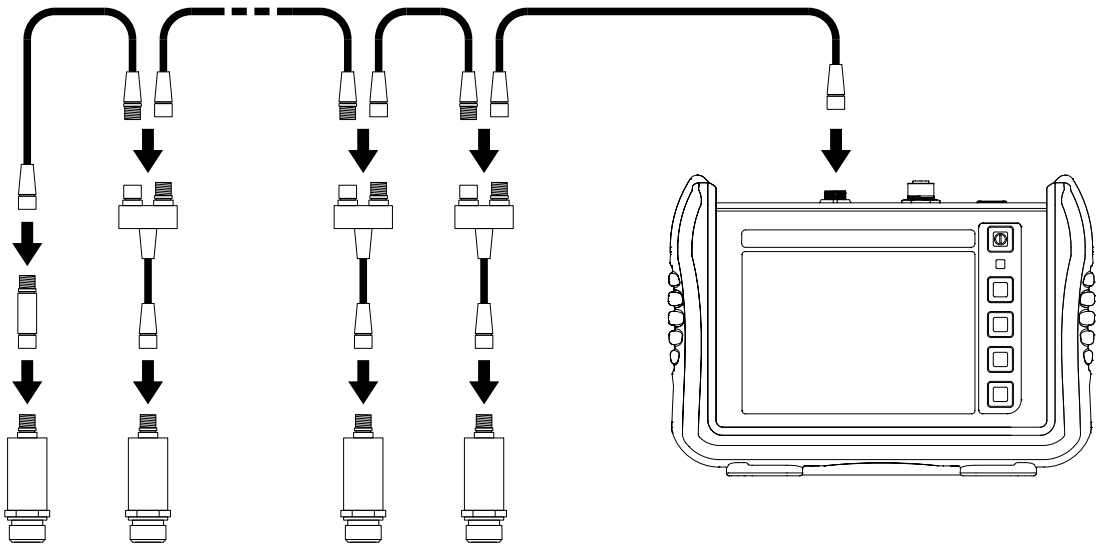


Fig. 8 Connecting CAN sensors

Connect the sensors in the following sequence:

1. Connect the sensors on the application side (e.g. hydraulic connection).
2. Connect the sensors to a bus cable or a Y-junction (refer to figure). Use a terminating resistor before the last sensor.
3. Connect a bus cable to the corresponding port on the device.

IMPORTANT

The device does not record data from sensors which are connected while a measurement is in progress.
Restart the measurements in order to record data from sensors just connected. Measuring data from sensors which are disconnected while a measurement is in progress is recorded by the device to the moment of disconnection.

5.3.2 Connecting Analog Sensors

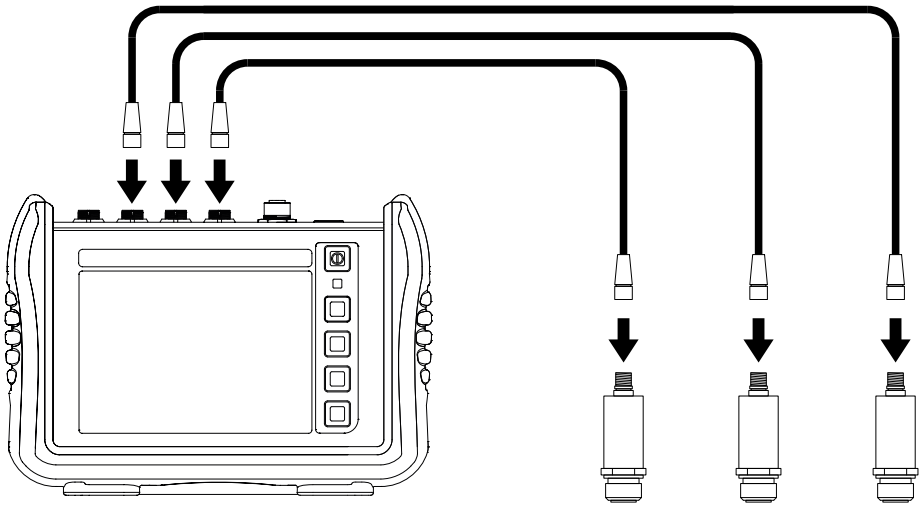


Fig. 9 Connecting analog sensors

Connect the sensors in the following sequence:

1. Connect the sensors on the application side (e.g. pressure/temperature sensor connection).
2. Connect each sensor to an analog cable.
3. Connect the analog cable to the corresponding port on the device.

IMPORTANT

The device does not record data from sensors which are connected while a measurement is in progress.
Restart the measurements in order to record data from sensors just connected. Measuring data from sensors which are disconnected while a measurement is in progress is recorded by the device to the moment of disconnection.

5.4 Using the Fold-Out Stand

You can set up the device with the fold-out stand on the rear side. The stand can be folded out to a maximum angle of 90°.

INFORMATION

Only use the stand to set up the device on a level surface.

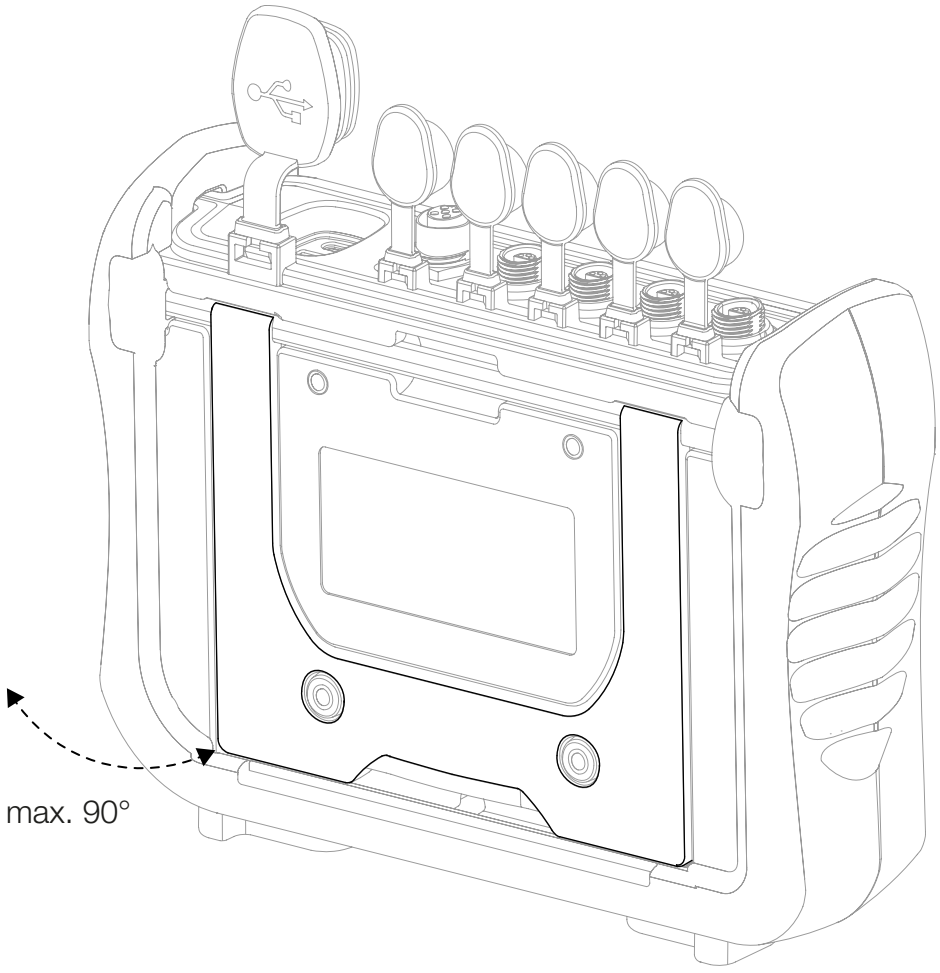


Fig. 10 Using fold-out stand

1. Pull the fold-out stand on the rear side of the device to the required position.
2. Set the device down on a level surface.

5.5 Mounting Device on VESA Holder

You can mount the device using the VESA holder (75 mm × 75 mm) on the rear side.

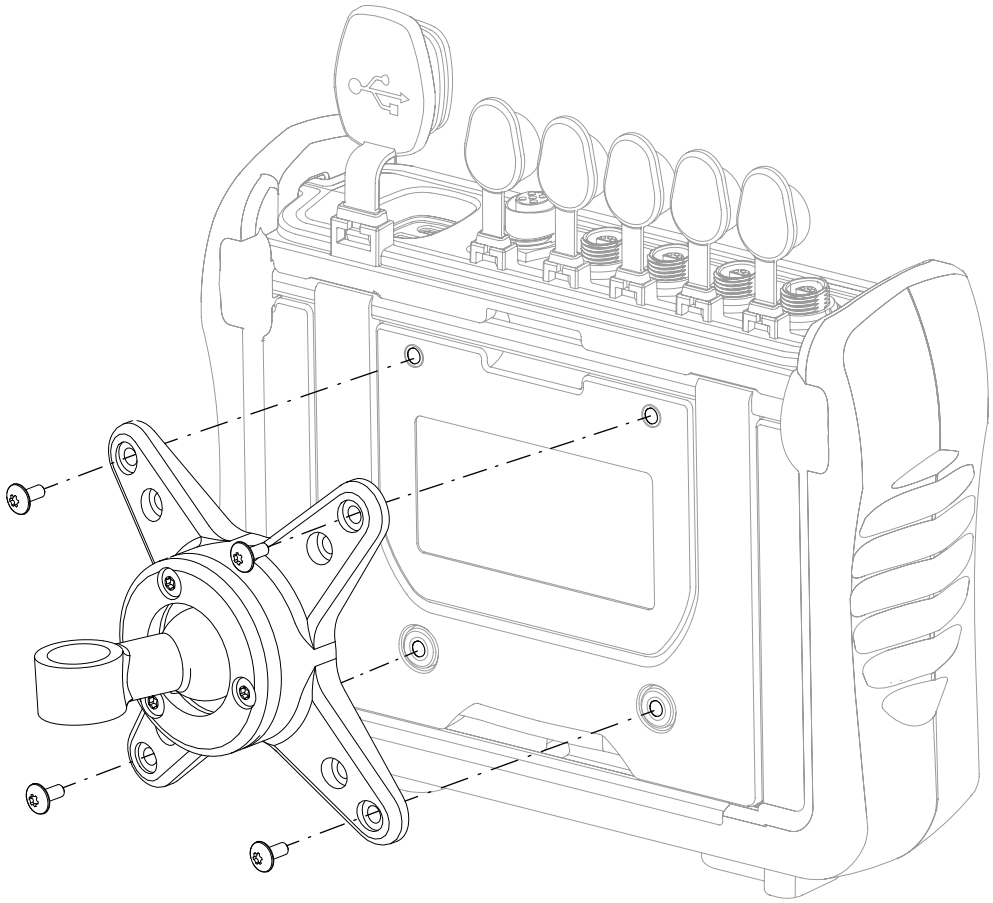


Fig. 11 Mounting device on VESA holder

Mount the device in the following sequence:

1. Assemble the VESA holder at the installation location.
   ▶ Observe the information in the manual supplied with the VESA holder.
2. Mount the device on the VESA holder.
3. Screw the device using four retaining screws and an appropriate tool.
   ↳ The device is mounted.

INFORMATION

The maximum screw-in depth for the retaining screws is 6 mm. The VESA holder and screws necessary for assembly (M4 metric) are included in the supply package.

6. Operation

This chapter contains information on the basic operation of the device.

6.1 Basic Principles of Operation

The device is immediately ready for use after being started up. The sensors connected are normally displayed in the 4-tile view.

The measurement view can be selected from three display versions.

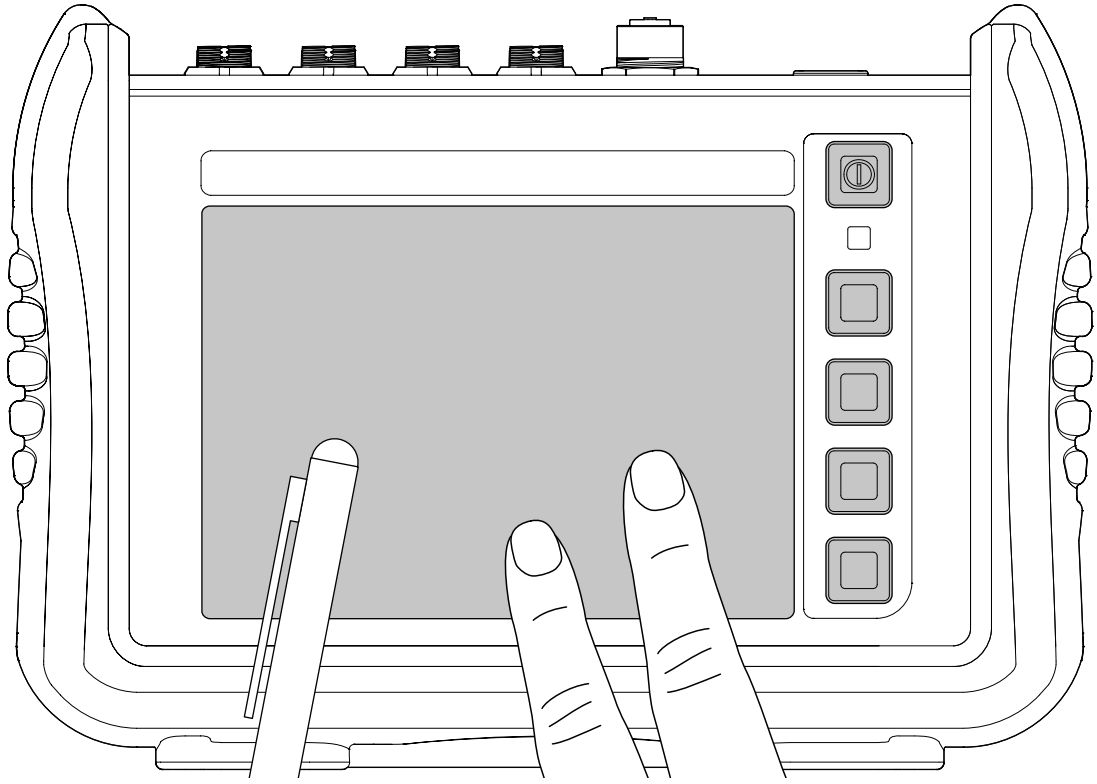


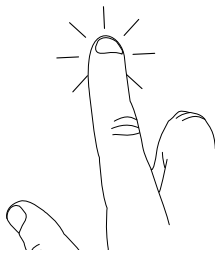
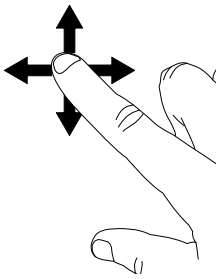
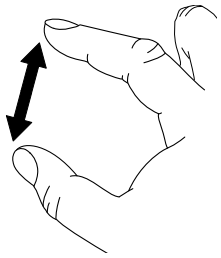
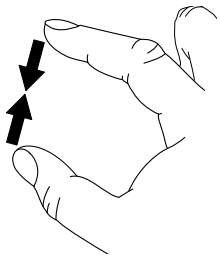
Fig. 12 Basic Principles of Operation

The device is mainly operated by using the buttons provided on the touch-screen. You can use your fingers or an appropriate stylus.

Alternatively, you can start the main functions using the context-sensitive function keys provided on the device.

Operation By Touch

The following overview shows the possible finger movements and their functions:

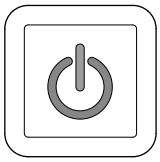
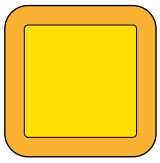
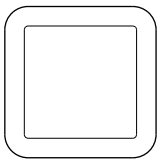
Finger movements	Function
	**Tap** your finger on the respective button or element to initiate a function.
	**Swipe** your finger through lists and views to scroll.
	**Draw** two fingers **apart** on an element or view to zoom in. This function is not available for all views.
	**Draw** two fingers **towards each other** on an element or view to zoom out. This function is not available for all views.

INFORMATION

It is also possible to use the touchscreen when wearing gloves appropriate for the purpose.

Operation Using Function Keys

The device is equipped with 5 function eyes:

Key	Function
	Press key briefly: Open the Power Off menu The following functions are available for selection in the menu: ■ Switch device off ■ Deactivate touch function ■ Switch off back-lit display Press the key for 5 sec.: Switch on/off
	Function key to start and stop measurements
	3 context-sensitive function keys to initiate functions according to the corresponding buttons in the menu area of the touch-screen

6.2 Display Layout

This chapter contains information on the basic display layout and the positions of all display elements.

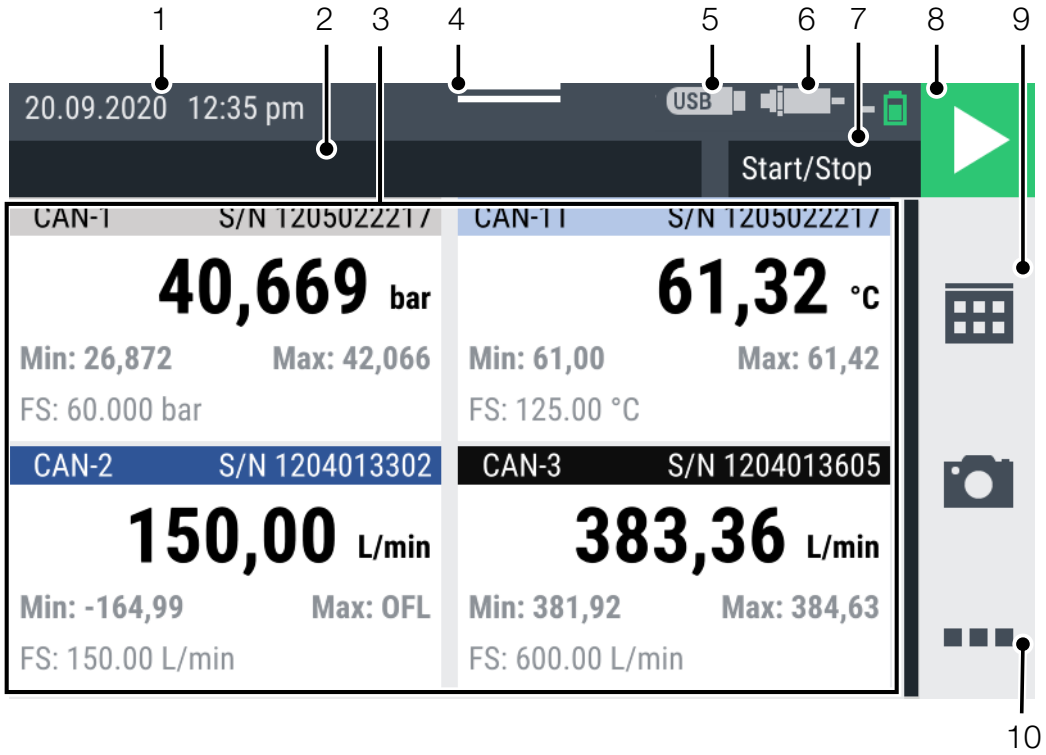


Fig. 13 Display layout

Pos.	Element	Description
1	Status bar	Display for system information
2	Information line	Current menu position, name and duration of the current measurement recording
3	Main view	Display of the current function
4	Button **Top-Down menu**	Opens the Top-Down menu
5	USB stick symbol	USB stick is connected
6	Sensors symbol	Sensor(s) connected, number of connected channels
7	Measuring methods menu area	Selects Measuring methods
8	Button, **Start/Stop**	To start/stop measurements
9	Menu Area	To initiate the main functions
10	**Options/Info** button	Measurement inactive: Display/hide Options menu Measurement active: Displays sensor information

6.2.1 Buttons

Tap your fingers directly on the buttons displayed on the screen to navigate through the device's menus and select the respective functions.

Buttons are either symbols or display texts that are shown in black. Displays can also be buttons for accessing additional submenus. The text of these buttons is shown in black. The text in displays is shown in gray.

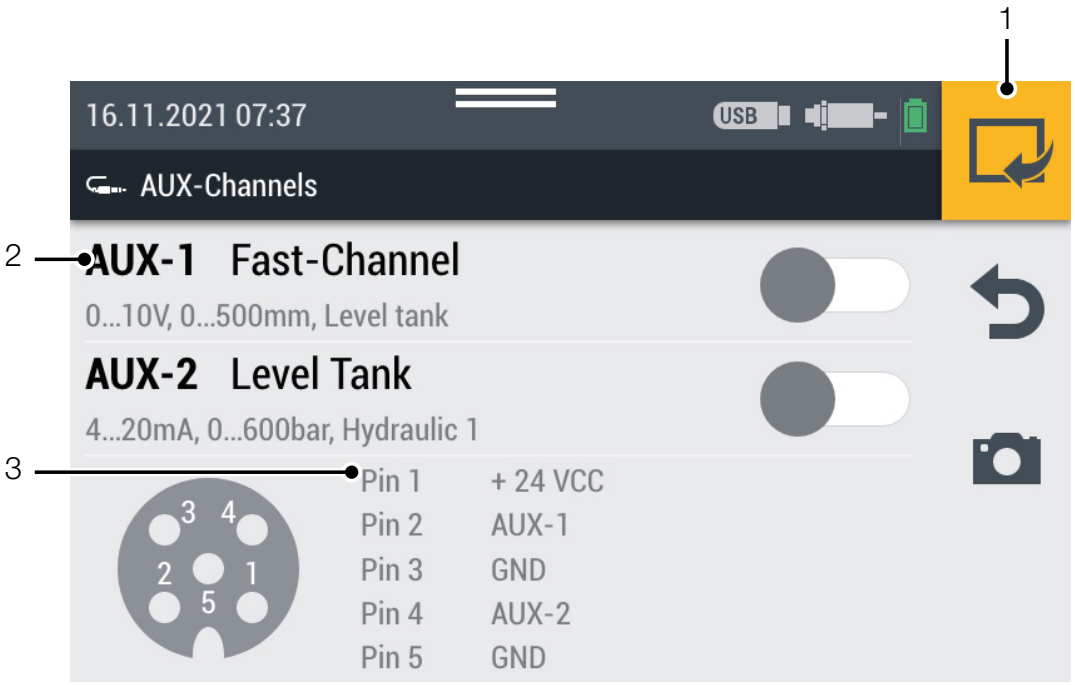


Fig. 14 Buttons

Pos.	Element	Description
1	Symbol	Button for carrying out an action
2	Symbol and black text	Button for carrying out an action
3	Symbol and gray text	A display element for information

▶ Further information on the buttons available is provided in Chapter 🕮 „Display Layout“ on Page 30.

A display keyboard for entering numbers and letters appears when you tap an input field.

▶ Further information on the display keyboard available is provided in Chapter 🕮 „Display Keyboards“ on Page 34.

6.2.2 Status Bar

The status bar displays various symbols to indicate certain system states and general information such as date and time.

The table below indicates the possible symbols:

Symbol	Function
	Connecting a storage medium to the USB port
	Number of active channels
	Battery charge status as an icon
	Ongoing online measurement via SensoWin

6.2.3 Top-Down Menu

You can access the top-down menu via the status bar.

The top-down menu enables you to carry out settings.

1. Drag your finger from top to bottom on the status bar to open the top-down menu.
2. Scroll vertically to access further menu items.

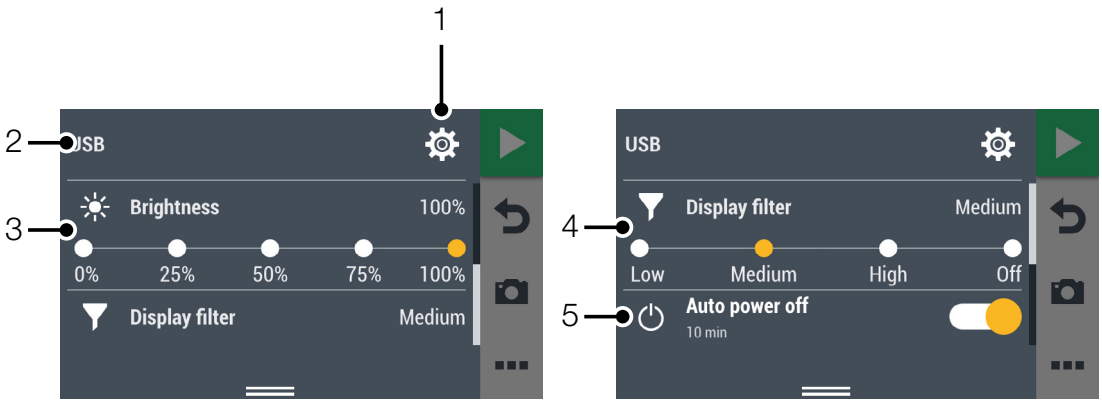


Fig. 15 Top-Down Menu

Pos.	Description
1	Switches to the Device settings menu. ► Refer to Chapter 🕮 „Device Settings“ on Page 75.
2	Shows the memory used (internal or USB)
3	Adjust display brightness in 5 steps
4	Adjust display filter in 4 steps
5	Switches the device on/off automatically

INFORMATION

Drag your finger on the top-down menu from bottom to top to close the top-down menu.

6.2.4 Display Keyboards

A display keyboard appears in the display for entering texts and numbers.

The display keyboard automatically appears when you select the corresponding input field.

The following keyboard is available to enter texts and digits:

Fig. 16 Display keyboard, characters and numbers

INFORMATION

The layout of the keyboard can be set.

► Refer to Chapter 🕮 „Selecting Keyboard“ on Page 80.

The following keyboard is available for entering numerical values:

Fig. 17 Display keyboard, numerical values

6.2.5 Menu Area

The menu area displays various buttons with functions, depending on the current view. Alternatively, these functions can be operated using the context-sensitive function keys on the device.

Not all the functions are always available.

The table below indicates the possible buttons:

Symbol	Function
	Switch to the main view
	Switch to the last menu option
	Create a screenshot of the current view
	Switch to the main menu
	Display/hide the context-sensitive options (this button is not visible during an ongoing measurement)
	Display information on the current measurement
	Add an entry
	Edit a setting
	Confirm current selection or adjusted settings
	Discard current selection or adjusted settings
	Switching the Device Off
	Deactivate touch function
	Switch off back-lit display

6.3 Measurement Views

The device can provide 3 different views to represent measurements.

You can edit the channels before carrying out a measurement.

▶ Further information on adjusting channels is available in Chapter 🕮 „Options: Edit Channels in the Measurement View (Edit Channels)“ on Page 41.

Changing the measurement view

You can switch between the individual measurement views:

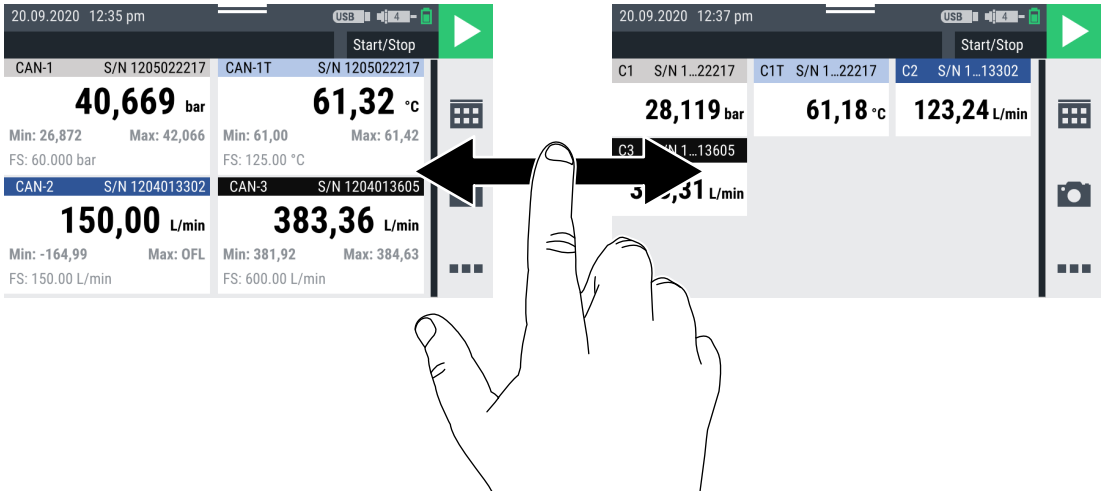


Fig. 18 Changing the measurement view

1 Swipe from right to left across the display.

↳ The next measurement view appears.

It is possible to switch between the individual measurement views while a measurement is in progress.

6.3.1 4-Tile View

The **4-tile view** provides a detailed view of the channels. A maximum of 4 channels are shown on the display.

If more than 4 channels are active, you can scroll through the list vertically.

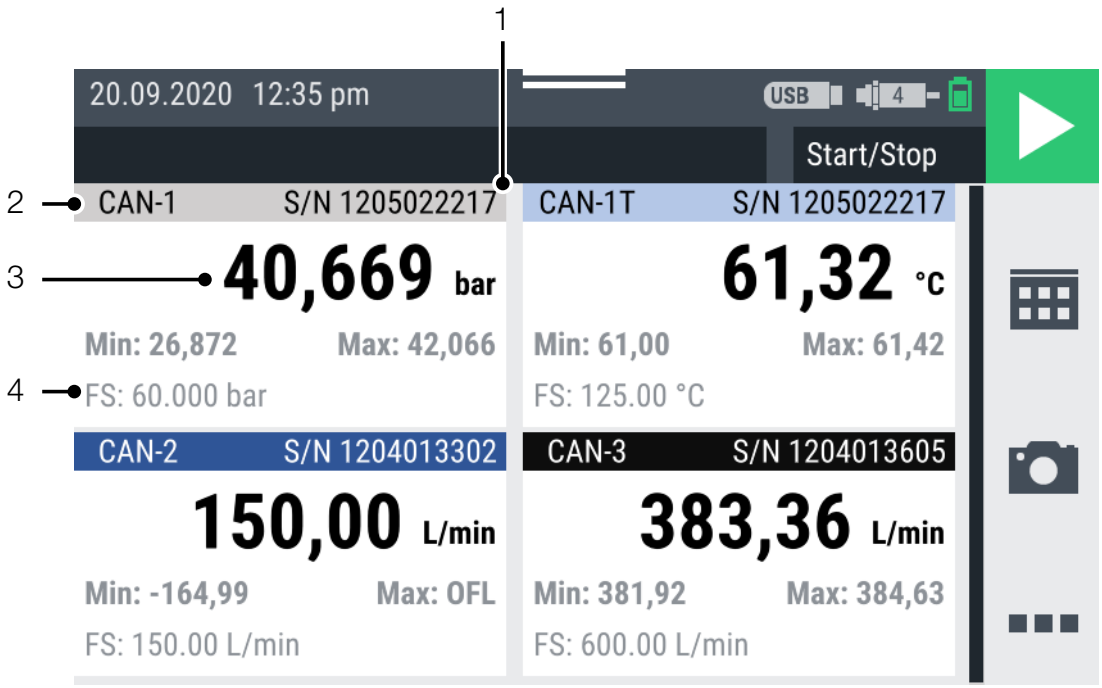


Fig. 19 4-Tile View

Pos.	Description
1	Name of the active channel
2	Designations of the active channel. The channels are automatically named by the device according to the connections used (e.g. CAN-1 to 4)
3	Current measured value of the channel
4	Shows the maximum and minimum measured values and the measuring range full scale value (FS)

Edit the details of the individual channels if necessary:

1 Tap on a channel to open the channel editing function (Edit channels).

6.3.2 9-Tile View

The **9-tile** view provides a simpler view of the channels. A maximum of 9 channels are shown on the display.

If more than 9 channels are active, you can scroll through the list vertically.

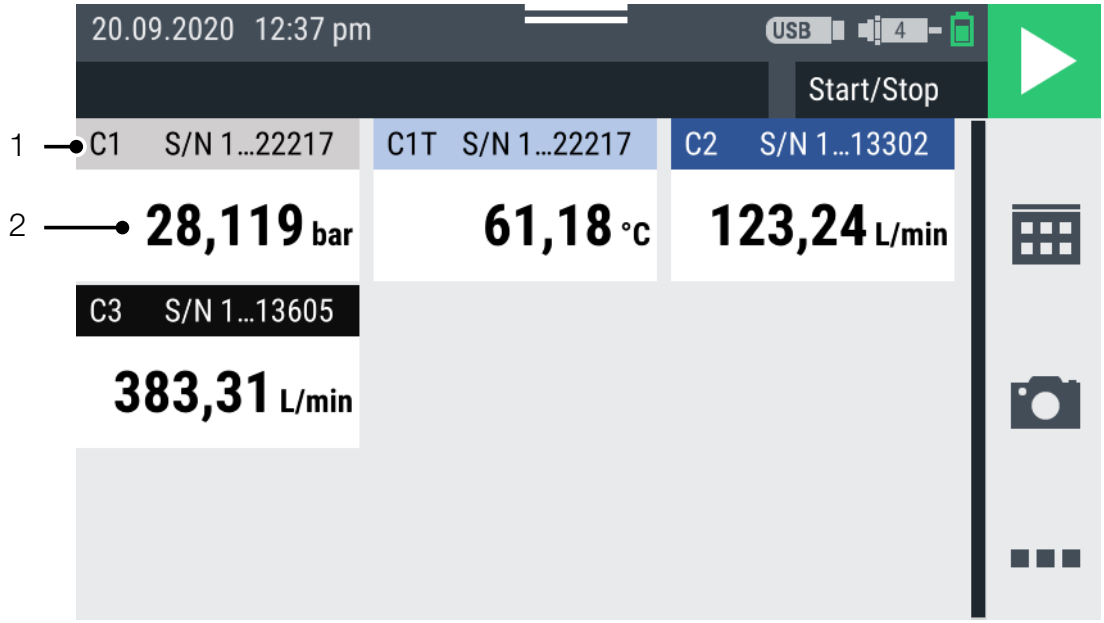


Fig. 20 9-tile view

Pos.	Description
1	Designation and name of the active channel as an abbreviation
2	Current measured value of the channel

Edit the details of the individual channels if necessary:

1. Tap on a channel to open the channel editing function (Edit channels).

6.3.3 Trend Graph View

The trend graph view can display up to 4 channels in the form of trend curves on a graph. The trend graph view displays the current measured values.

If more than 4 channels are active, you can scroll through the list horizontally.

1 Tap on a channel from the list to select the channel.

↳ The line of the corresponding channel is displayed in bold print.

INFORMATION

Save the measurement to analyze the measured values.
Refer to Chapter 🕮 „Analyzing the Measurements“ on Page 61.

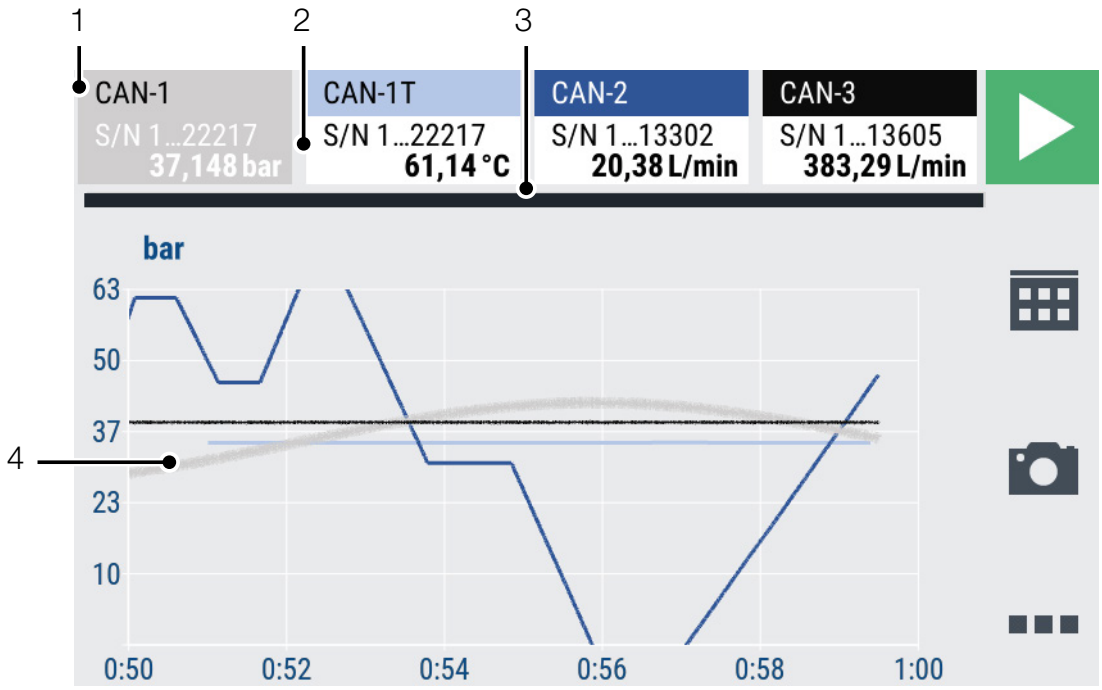


Fig. 21 Trend graph view

Pos.	Description
1	Name of the channel
2	Selected channel (increased line thickness)
3	Current measured value of the channel
4	Trend graph line of the selected channel

6.3.4 Options: Edit Channels in the Measurement View (Edit Channels)

You can use the options to edit the channels in the measurement view.

INFORMATION

It is not possible to display the options while a measurement is in progress.

1 Tap the **Stop** button to stop the current measurement.

↳ The ▪▪▪ button is shown.

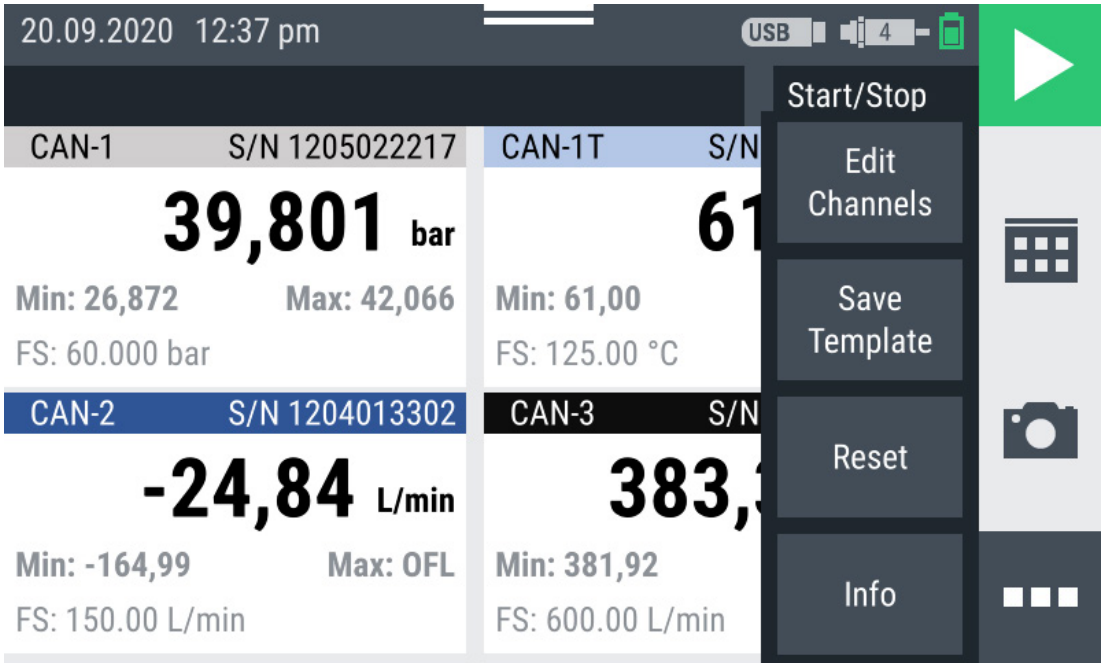


Fig. 22 Options menu

2 Tap on the ▪▪▪ button.

3 Tap on the **Edit channels** button.

↳ The window for editing the channels opens.

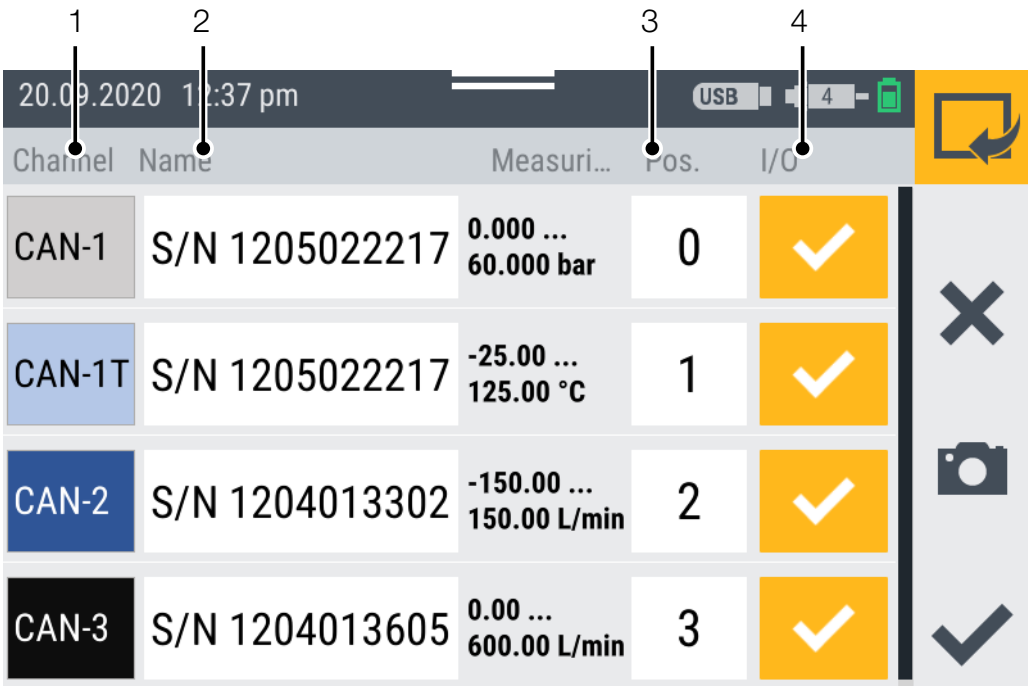


Fig. 23 Edit channels

Pos.	Description
1	Edit the colors of the channels
2	Enter/Edit the names of the channels
3	Edit the list positions of the channels (by entering the position or with manual movement)
4	Activate/Deactivate channels (measured values of deactivated channels are not saved)

6.3.5 Options: Save Template

You can use the options to save the current channels and settings as a template for further measurements. The following settings are saved in the template:

- Channels currently used
- Channel designations
- Channel names
- Channel colors
- Position
- Information on the connected sensors
- Measuring method with settings

INFORMATION

It is not possible to display the options while a measurement is in progress.

1 Tap the **Stop** button to stop the current measurement.

↳ The ▪▪▪ button is shown.

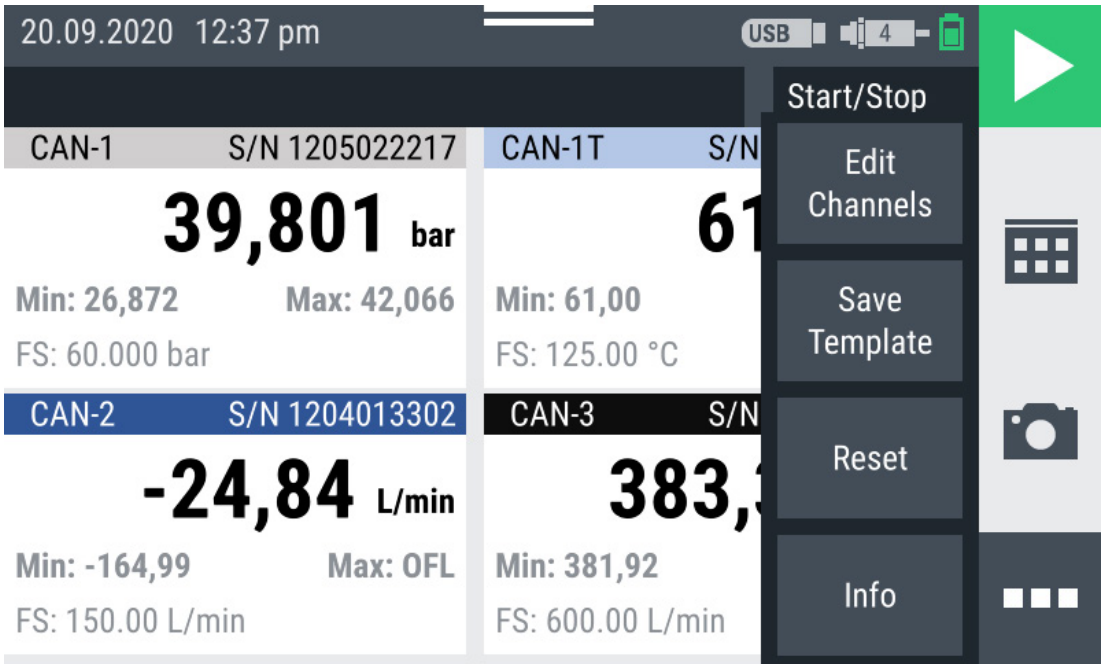


Fig. 24 Context-related options menu

2 Tap on the ▪▪▪ button.

3 Tap on the **Save template** button.

↳ The window for saving the measurement view as a template is displayed.

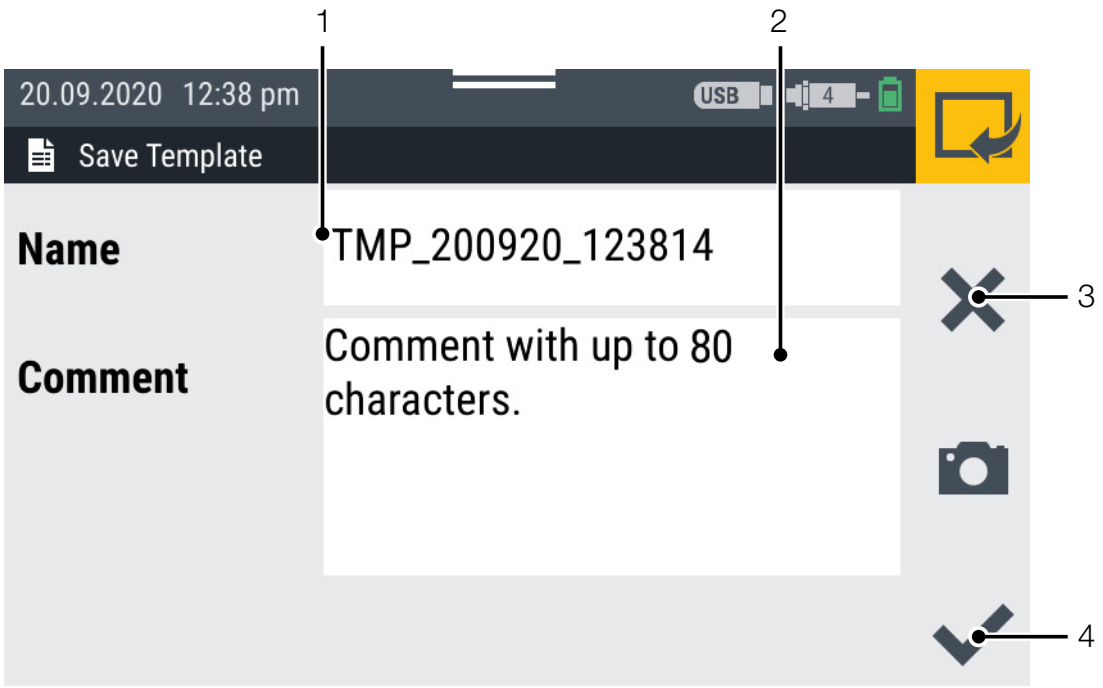


Fig. 25 Save measurement view as template (Save Template)

Pos.	Description
1	Enter name of template
2	Enter description of template
3	Cancel operation
4	Save template

► To load an existing measurement template, refer to Chapter 🕮 „Loading Measuring Templates“ on Page 64.

6.3.6 Options: Reset Values of the Measurement View (Reset)

You can use the options to reset individual values of the current measurement view.

INFORMATION

It is not possible to display the options while a measurement is in progress.

1 Tap the **Stop** button to stop the current measurement.

↳ The ▪▪▪ button is shown.

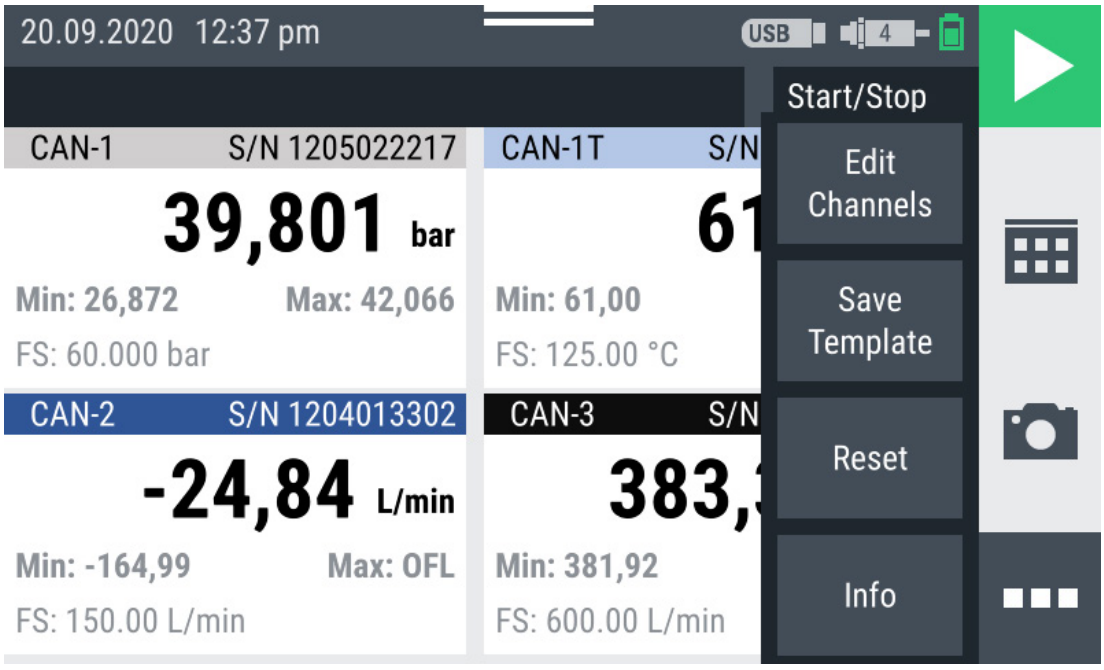


Fig. 26 Context-related options menu

2 Tap on the ▪▪▪ button.

3 Tap on the **Reset** button.

↳ Another menu with options is displayed.

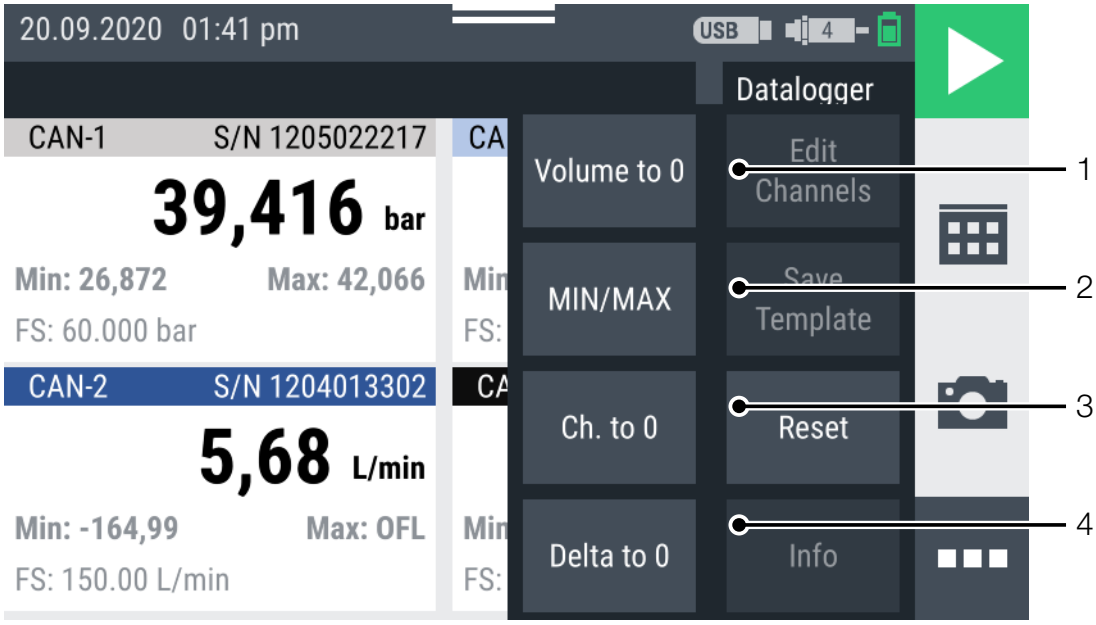


Fig. 27 Reset values of measurement view (Reset)

Pos.	Designation	Description
1	**Volume to 0**	Reset volume to zero (when the corresponding calculation channel is activated)
2	**MIN/MAX**	Reset minimum and maximum values of all channels
3	**CH. to 0**	Reset the channel offset to zero (to max. 2% FS)
4	**Delta to 0**	Reset delta to zero (when the corresponding calculation channel is activated)

6.3.7 Options: Display Information on Sensors (Info)

You can use the options to display information on the sensors for the current measurement.

INFORMATION

It is not possible to display the options while a measurement is in progress.

1 Tap the **Stop** button to stop the current measurement.

↳ The ▪▪▪ button is shown.

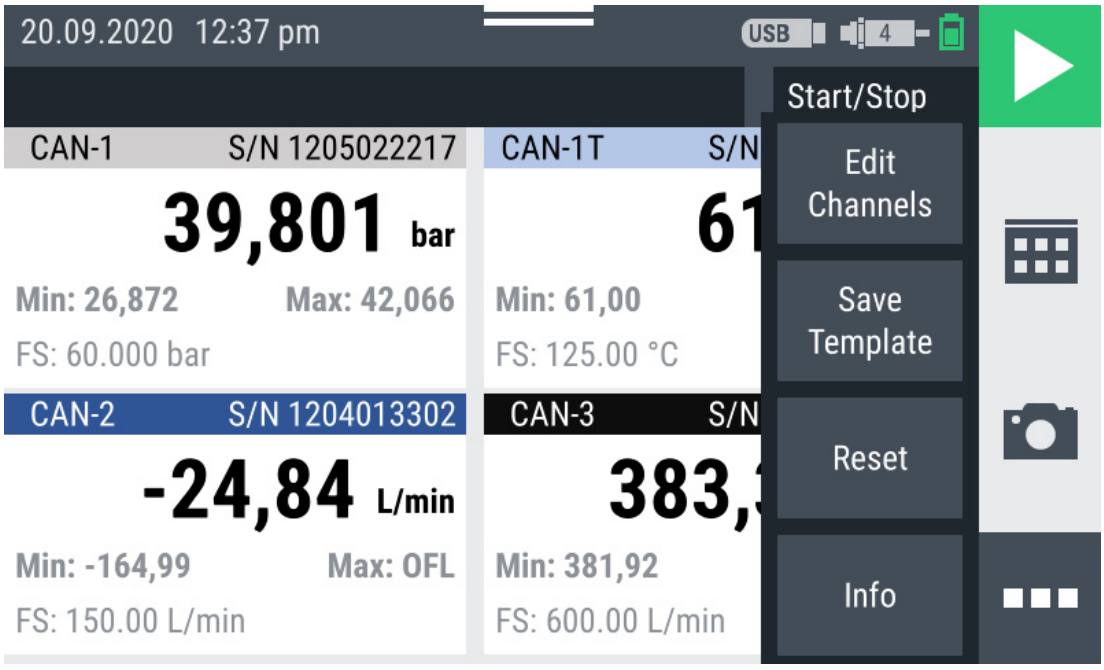


Fig. 28 Context-related options menu

2 Tap on the ▪▪▪ button.

3 Tap on the **Info** button.

↳ Information on the sensors of the current measurement is displayed.

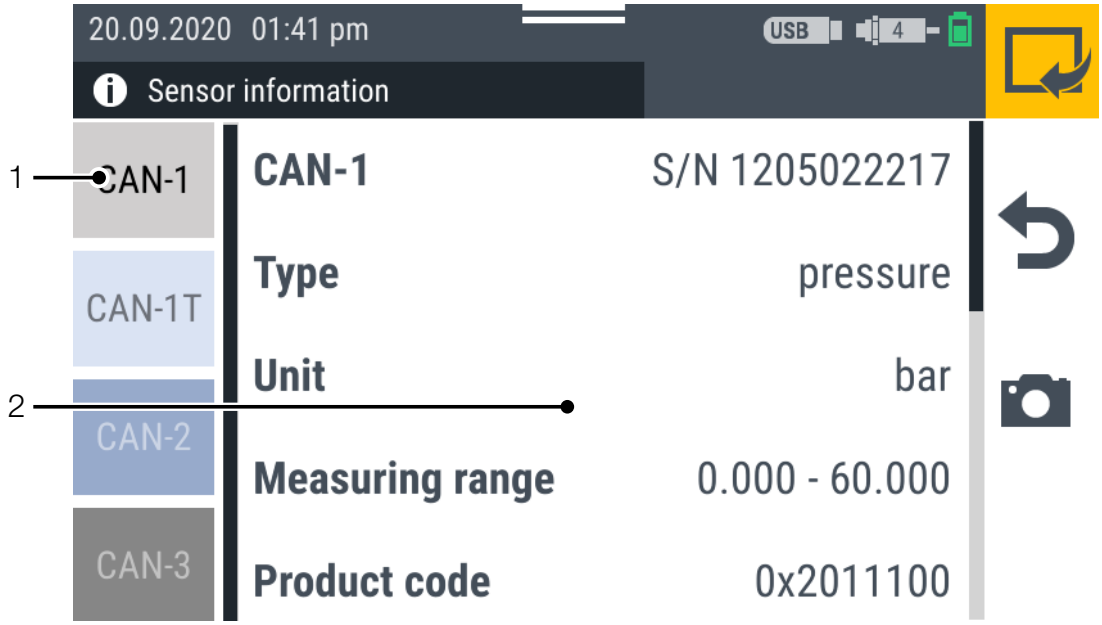


Fig. 29 Sensor information (Info)

Pos.	Description
1	Select sensor
2	The following information is displayed: ■ Interface and channel name ■ Sensor type ■ Unit of measure ■ Measured value range The following information is only displayed for CAN sensors: ■ Product ID ■ Revision number ■ Serial number ■ Baud rate ■ SW version ■ Hardware version ■ Vendor ID ■ Message ID ■ Note ID ■ PTS ID

6.4 Measurement Status

A measurement is started and stopped using the **Start/Stop** button or the yellow function key on the device.

The **Start/Stop** button indicates the current status of a measurement.

The following statuses are available:

Status	Description
	Measurement has not yet been started, adjustments can be made.
	Measurement is activated, the device is waiting for the defined trigger to be triggered in order to record the measured data.
	Measurement is started and measured data is recorded.

1 Tap on the **Start**  button.

↳ The measurement starts up.

INFORMATION

Alternatively, press the yellow function key on the device.

Recording of the measured data begins according to the measurement method selected, either immediately or after triggering one or several triggers.

The current running time of the measurement is displayed in the info line.

2 Tap on the **Stop**  button.

↳ The measurement is stopped.

6.5 Measuring Methods

The device is provided with the following measuring methods:

- **Start/Stop**
- **Datalogger**

Measured values are buffered in the working memory and stored in a USB stick/the device's memory. The ACT, MIN and MAX values are saved.

You can switch between the measuring methods.

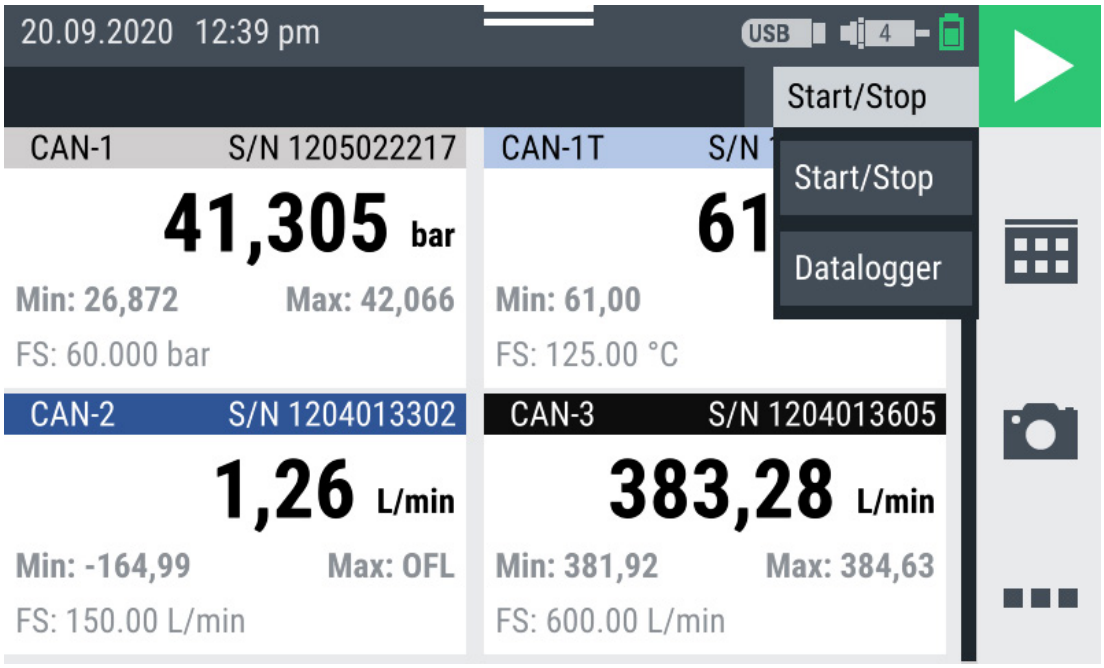


Fig. 30 Measuring Methods

1 Tap on the **Measuring method** button.

INFORMATION

The button shows the currently selected measurement method.

2 Tap on the desired measurement method (**Start/Stop**, **Datalogger**).

↳ The selected measurement method is used.

INFORMATION

If the **Datalogger** measurement method is selected, the settings are displayed.

6.5.1 Start/Stop

The **Start/Stop** measurement method implements an automatic data compression feature and requires no further settings.

In addition to the current measured value, the Min and Max values are also saved.

The measurement is completed independent of the current storage rate at a scanning rate of 1 ms.

If the predefined memory area is full, the data compression is activated. The storage rate is doubled and every second measured value is deleted. In this case, the Min and Max values are also compared and the highest and lowest measured value are transferred to the Min and Max value respectively.

INFORMATION

The Min and Max values are not lost but are saved, even in the case of long-term measurements.

1. Tap on the **Start** ▶ button to start a measurement.
2. Tap the **Stop** ■ button to stop the measurement.
3. Alternatively, the Start/Stop measurement ends automatically after 7 days.

6.5.2 Datalogger

After selecting the **Datalogger** measurement method, the settings for carrying out the measurement are displayed.

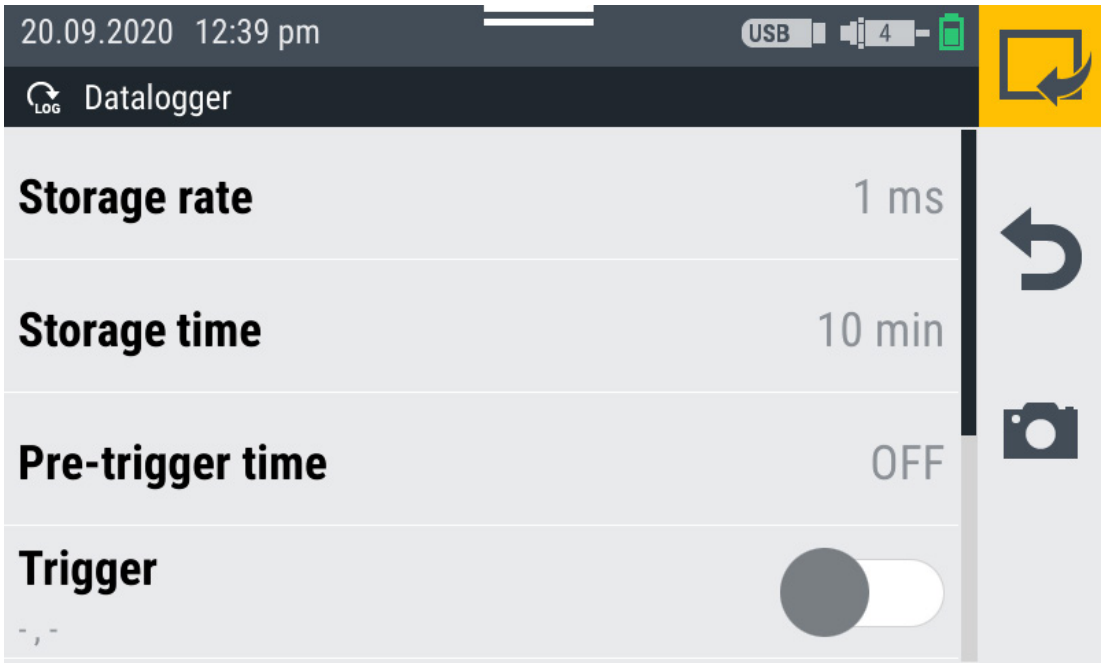


Fig. 31 Datalogger measurement method, settings

1 Specify the settings according to your application.

2 Tap on the **Start** ▶ button to start a measurement.

INFORMATION

When the **Trigger** is activated, the measurement only starts when a defined measurement signal threshold is triggered.

3 Tap the **Stop** ■ button to stop the measurement.

INFORMATION

Alternatively, the measurement stops after the defined storage time has elapsed (**Storage time**).

The following settings are available:

Designation	Description
Storage rate	Select storage interval of the measurement (**0.1 ms*, 1 ms, 5 ms, 10 ms, 100 ms, 500 ms**, **1 s**, **5 s**, **10 s**, **30 s**, **1 min**, **5 min**, **10 min**, **30 min**)
Storage time	Select storage time for the measurement (**10 s**, **30 s**, **1 min**, **5 min**, **10 min**, **30 min**, **1 h**, **12 h**, **24 h**, **3 d**, **7 d**). When the storage time has expired, the measurement stops automatically
Pre-Trigger time	Select the period in which the measured values are already recorded before the trigger is activated (**OFF**, **5 s**, **10 s**, **30 s**, **1 min**, **10 min**, **30 min**)
Trigger	Activate the Trigger function and define settings for the trigger signal. ► Further information is available in Chapter 🕮 „Set trigger“ on Page 54.
Ring buffer	If this option is activated, the defined memory area is continuously overwritten by current measured data
Auto repeat	When the option is activated, the measurement is started again the next time the trigger is triggered after automatic storage of the previous measurement
File name	Name of the measurement recording

*only applies to AUX 1; all other channels continue to be sampled at 1 ms.

Set trigger

With the **Trigger** function, the measurement waits for a defined measurement signal threshold to be triggered. The prerequisite is that the **Trigger** function in the Datalogger measurement method has been set according to your application:

1 Tap on the **Datalogger** measurement method.

↳ The settings for carrying out the measurement are displayed.

2 Tap on the **Trigger** button to activate the function.

↳ The **Trigger** settings are displayed.

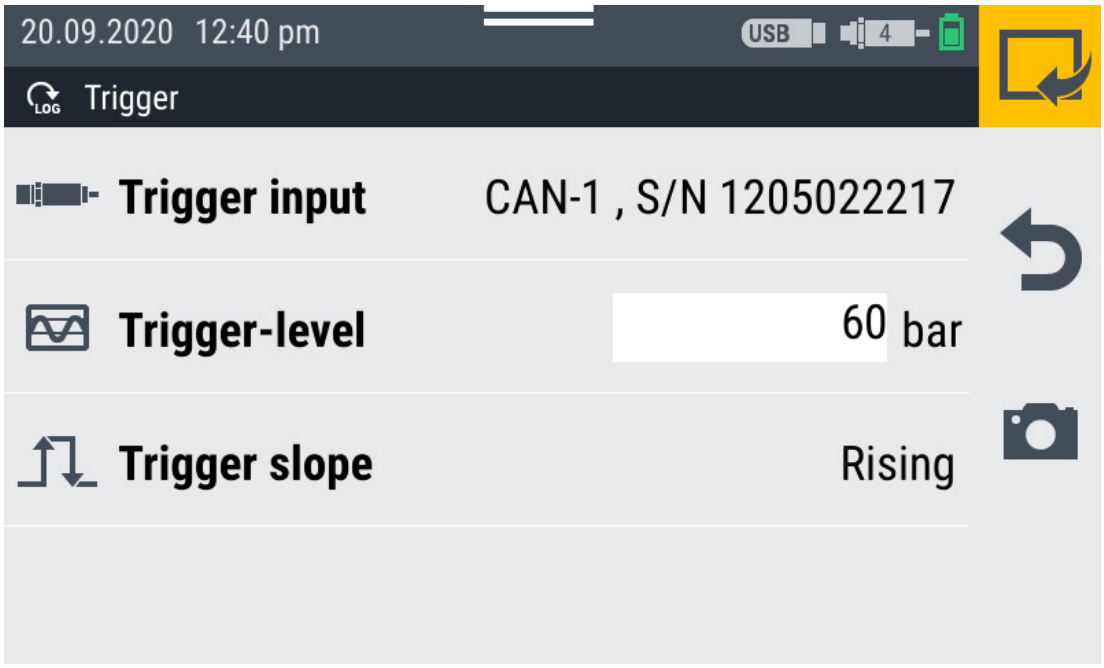


Fig. 32 Trigger, settings

The following settings are available:

Designation	Description
Trigger input	Select the channel that serves as the trigger (only the channels of connected sensors are displayed)
Trigger-level	Specify the measured value that serves as the trigger
Trigger-slope	Select whether the trigger is triggered on a rising edge (**Rising**) of the measured value or on a falling edge (**Falling**)

6.6 Completing a Measurement

The description below explains how to complete a measurement according to an example:

1. Switch the device on.
   ▶ Further information is available in Chapter 🕮 „Switching the Device On and Off“ on Page 22.
2. Connect the sensors to the device according to your application.
   ▶ Further information is available in Chapter 🕮 „Connecting Sensors“ on Page 23.
3. Setup the channels displayed according to your application.
   ▶ Further information is available in Chapter 🕮 „Options: Edit Channels in the Measurement View (Edit Channels)“ on Page 41.
4. Select a measurement method.
   ▶ Further information is available in Chapter 🕮 „Measuring Methods“ on Page 50.
5. Tap the **Start** ▶ button to start a measurement. Alternatively, wait until the defined trigger is triggered.
   ↳ The measurement starts up.
6. Tap the **Stop** ■ button to stop a measurement. Alternatively, wait for the defined storage time to expire.
   ↳ The measurement is stopped.

After the measurement is stopped, the data is saved in the device memory or on a connected USB data carrier.

You can access the data via the File Manager in order to carry out evaluations.

▶ Further information is available in Chapter 🕮 „File Manager“ on Page 58

7. Settings

This chapter contains information about the menus and setting options for the device and the connected sensors.

7.1 Menu

The **Menu** can be opened by tapping the button.

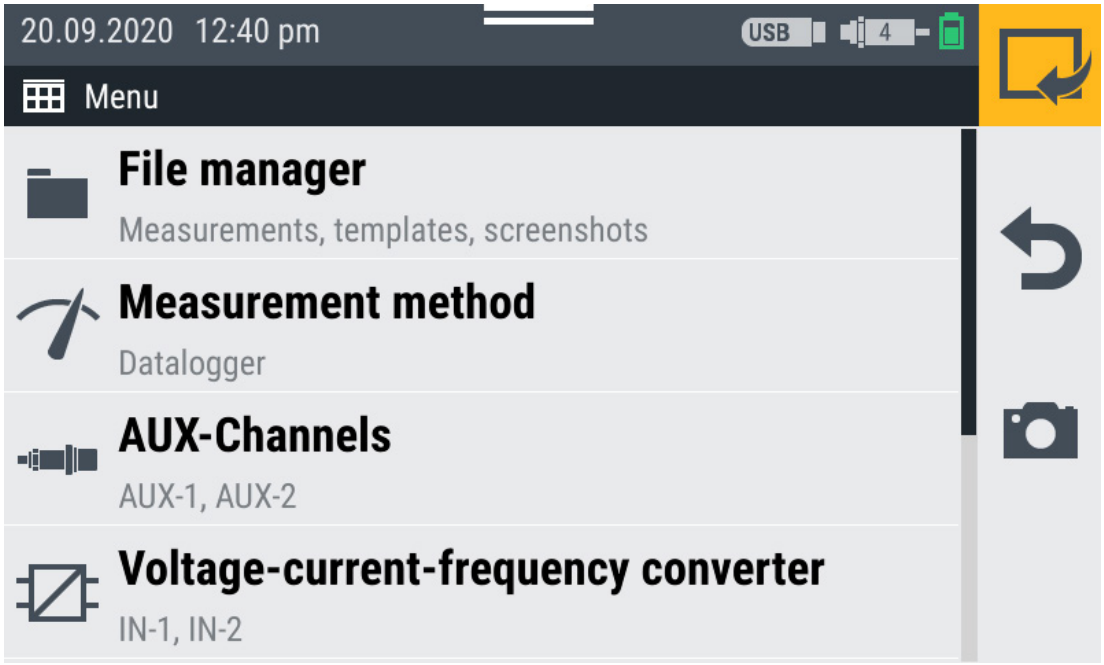


Fig. 33 Menu

The **Menu** enables access to the following submenus:

Designation	Description
File manager	Manage files saved on the device. ► Refer to Chapter 🕮 „File Manager“ on Page 58.
Measurement method	Set measuring methods. ► Refer to Chapter 🕮 „Measurement Method“ on Page 68.
AUX-Channels	Set AUX channels (not for SCM-370-2-05). ► Refer to Chapter 🕮 „AUX-Channels*“ on Page 69.
Voltage-current-frequency converter	Set channels for VADC converters. ► Refer to Chapter 🕮 „VADC (Voltage-Current-Frequency-Converter) Channels“ on Page 71.
CALC-Channels	Set calculation channels. ► Refer to Chapter 🕮 „CALC-Channels“ on Page 73.
Device Settings	Set device. ► Refer to Chapter 🕮 „Device Settings“ on Page 75.
Device Information	Information about the device (serial number, firmware version, etc.). ► Refer to Chapter 🕮 „Device Information“ on Page 83.

7.2 File Manager

In the **File manager** menu, you can manage the files saved on the device or a connected USB storage medium.

INFORMATION

If a USB storage medium is connected to your device, all data will be saved there. The internal device memory is not used.

Tapping on the respective category opens the corresponding submenu.
The values after the categories indicate the current and available entries.

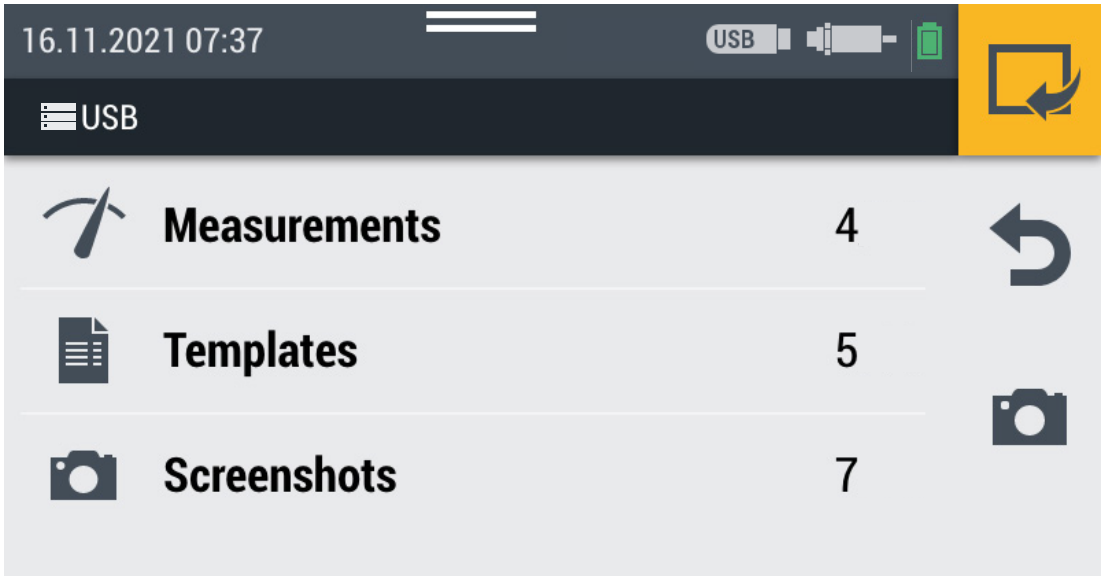


Fig. 34 File Manager

The following submenus are available:

Designation	Description
Measurements	Recorded measurements (File format *.scco)
Templates	Saved templates for measurements (File format *.scct)
Screenshots	Display recordings (File format *.jpg)

7.2.1 Delete/Rename Files/CSV Export

The management of files is independent of the category or file type.

1. Tap on a category (e.g. **Measurements**).
   ↳ All files in this category are displayed.
2. Tap and hold a file.
   ↳ The multiple selection is displayed.

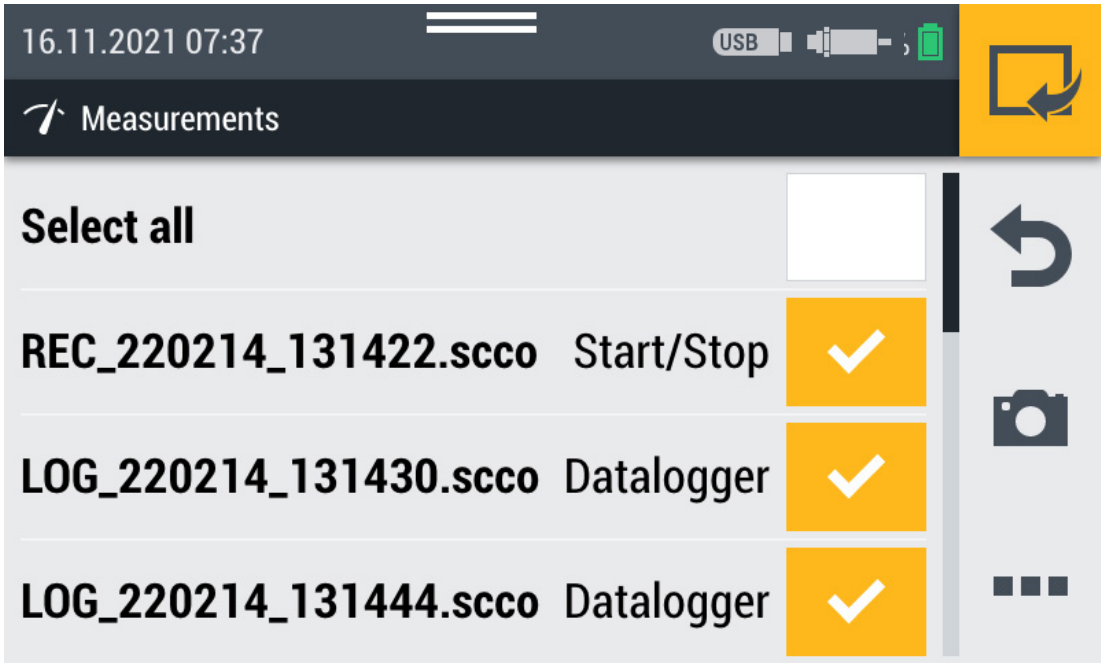


Fig. 35 File manager, multiple selection

3. Tap on additional files to select them.
   ↳ The symbol ✓ is displayed on the selected files.
4. Tap on the ▪▪▪ button.
   ↳ The options are displayed.

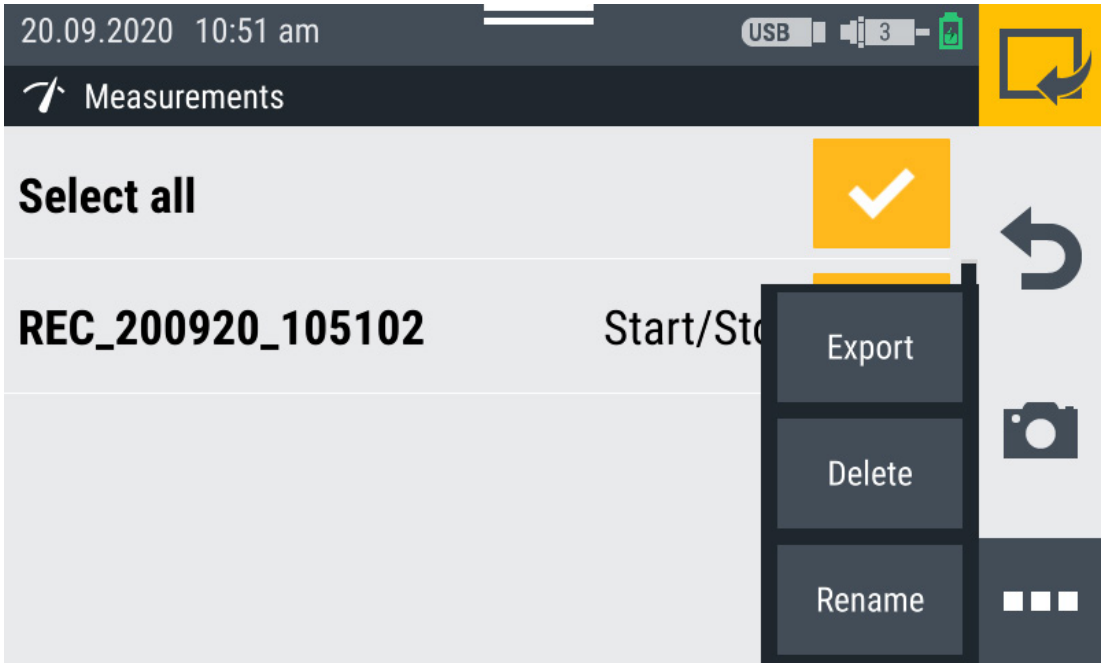


Fig. 36 File manager, delete/rename files

5 Tap on the desired option **Export**, **Delete** or **Rename**.

6 **Export**: Export the data in the CSV format (this option is only available in the Measurements folder (**Measurements**)).

7 **Delete**: Confirm the request.

8 **Rename**: Use the display keyboard to rename the files.

7.2.2 Analyzing the Measurements

Saved measurements (**Measurements**) can be loaded in the **File manager** and then analyzed.

1 Tap on the **Measurements** category.

↳ All recorded measurements are displayed.

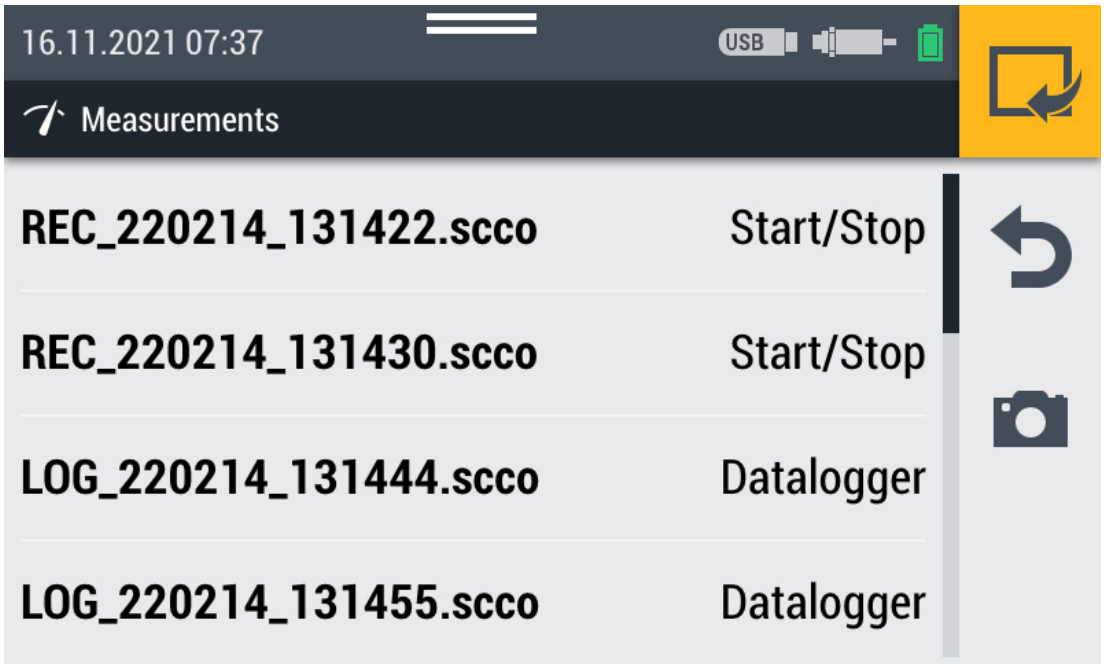


Fig. 37 File manager, Measurements

2 Tap on the desired measurement.

↳ Measurements are displayed

3 Tap on the checkmark.

↳ The measurement is displayed. Use the cursor to display the measured values of the channels at the corresponding time.

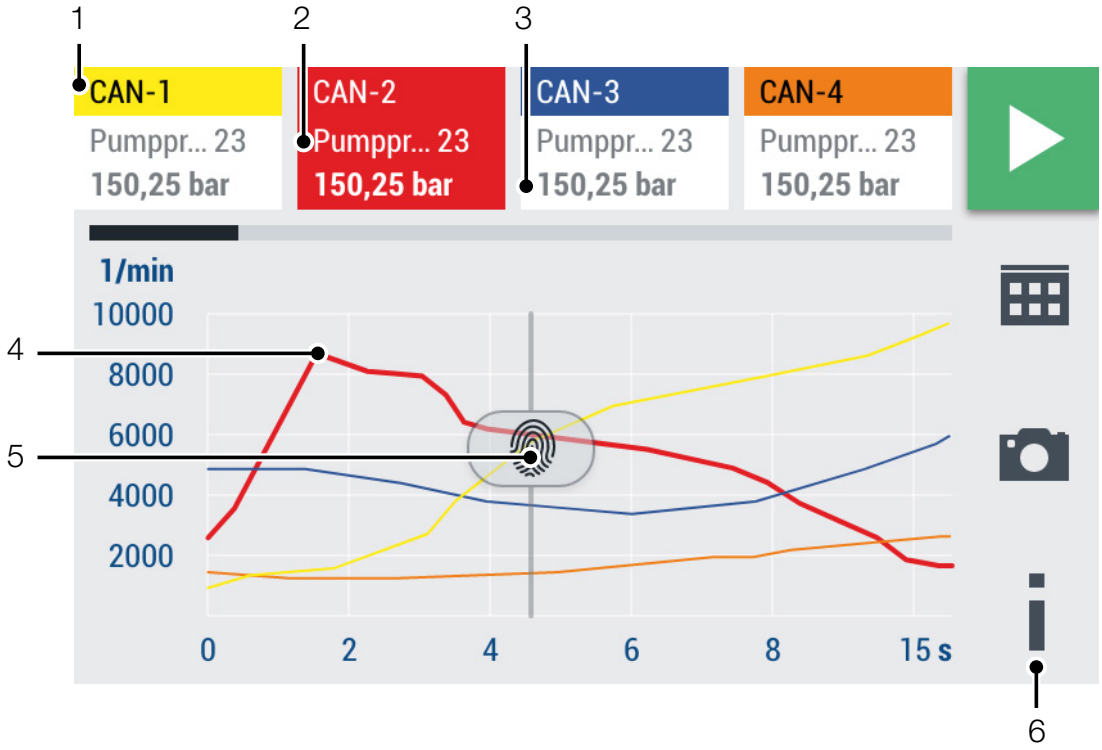


Fig. 38 File manager, analyze measurement

Pos.	Description
1	Name of the channel
2	Selected channel (increased line thickness)
3	Measured value of the channel at the cursor position
4	Trend graph line of the selected channel
5	Cursor
6	Measurement information

Further information on analyzing saved measurements is available via the button ⓘ :

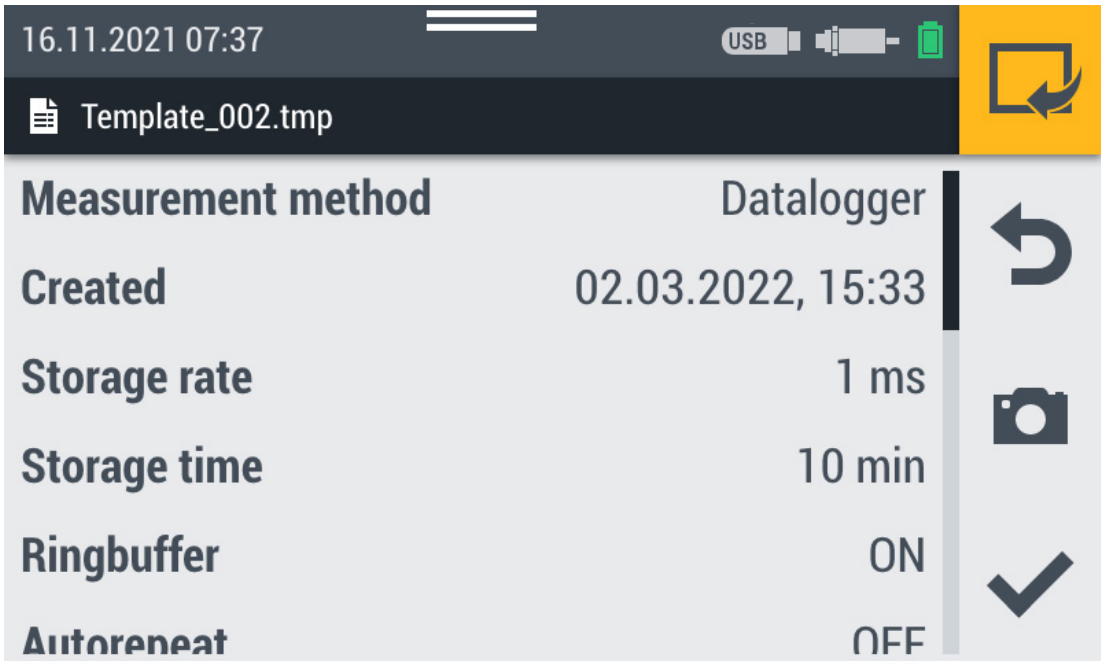


Fig. 39 Analyze measurement, information

INFORMATION

The amount of information displayed depends on the measurement method (**Start/Stop**, **Datalogger**) and the channels and sensors used in the template.

7.2.3 Loading Measuring Templates

Saved templates (**Templates**) can be selected and loaded in the **File manager**.

1 Tap on the **Templates** category.

↳ All saved measuring templates are displayed.

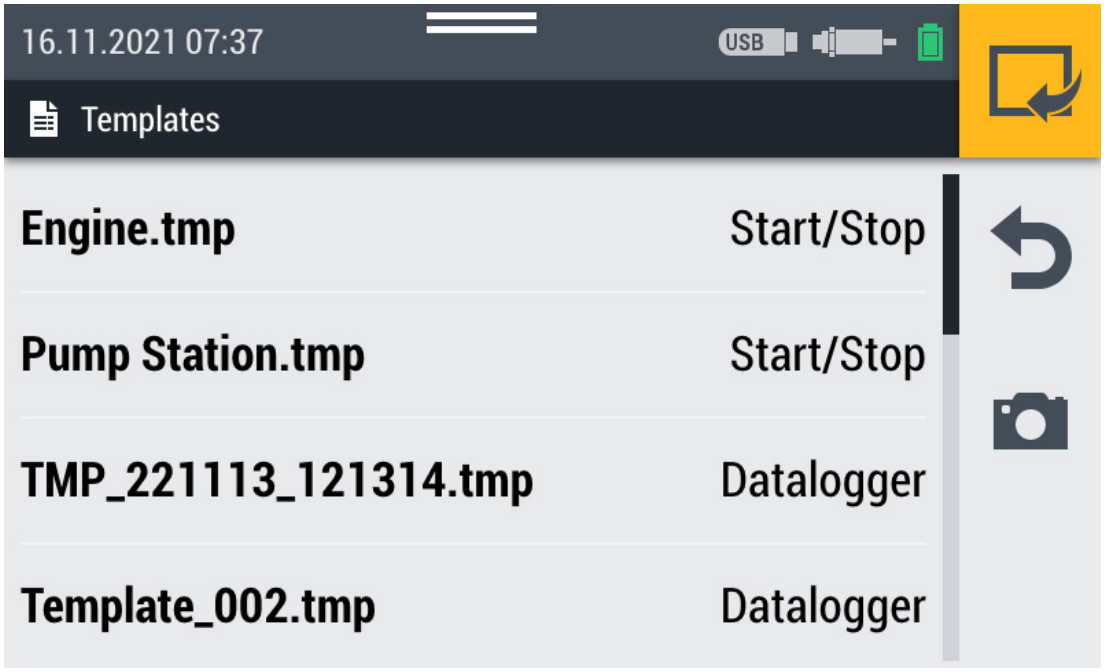


Fig. 40 File manager, Templates

2 Tap on the desired template.

↳ Further information on the template is displayed.

INFORMATION

The amount of information displayed depends on the measurement method (**Start/Stop**, **Datalogger**) and the channels and sensors used in the template.

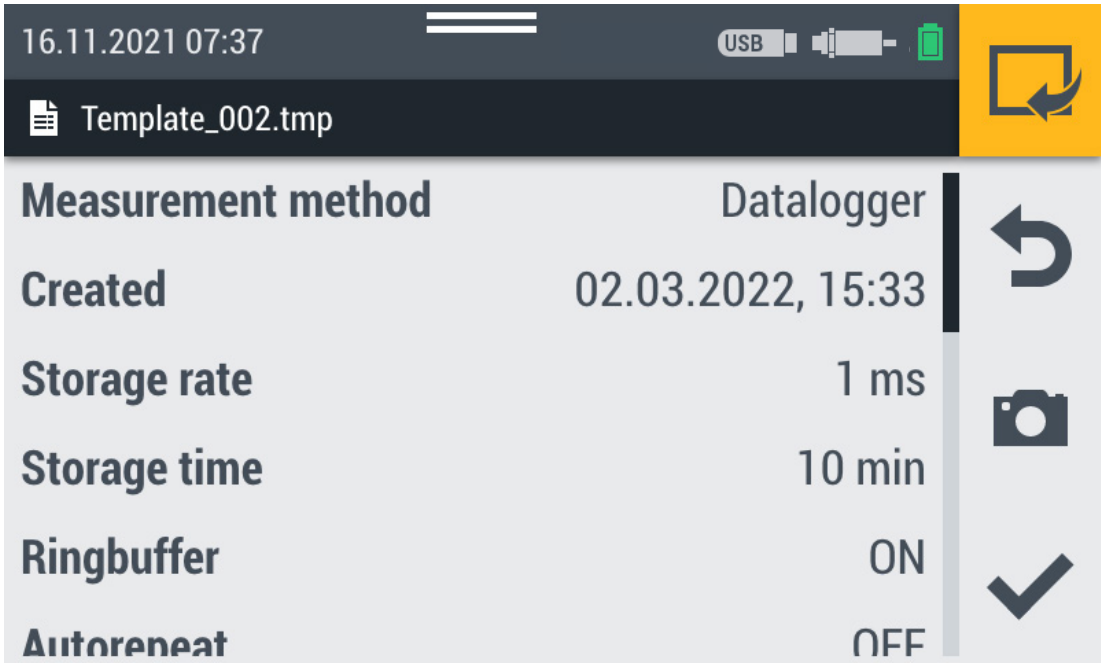


Fig. 41 Templates, information

3 Tap on the ✓ button to load the template.

↳ The sensors currently connected are compared with the measuring template and the status is displayed in color:
Red: The connected sensor does not match the loaded sensor (e.g. incorrect physical unit, measuring range exceeded, CAN identity field does not match)
Green: The connected sensor matches the loaded sensor (e.g. unit and range match)
Gray: A channel is connected that is not saved in the measuring template

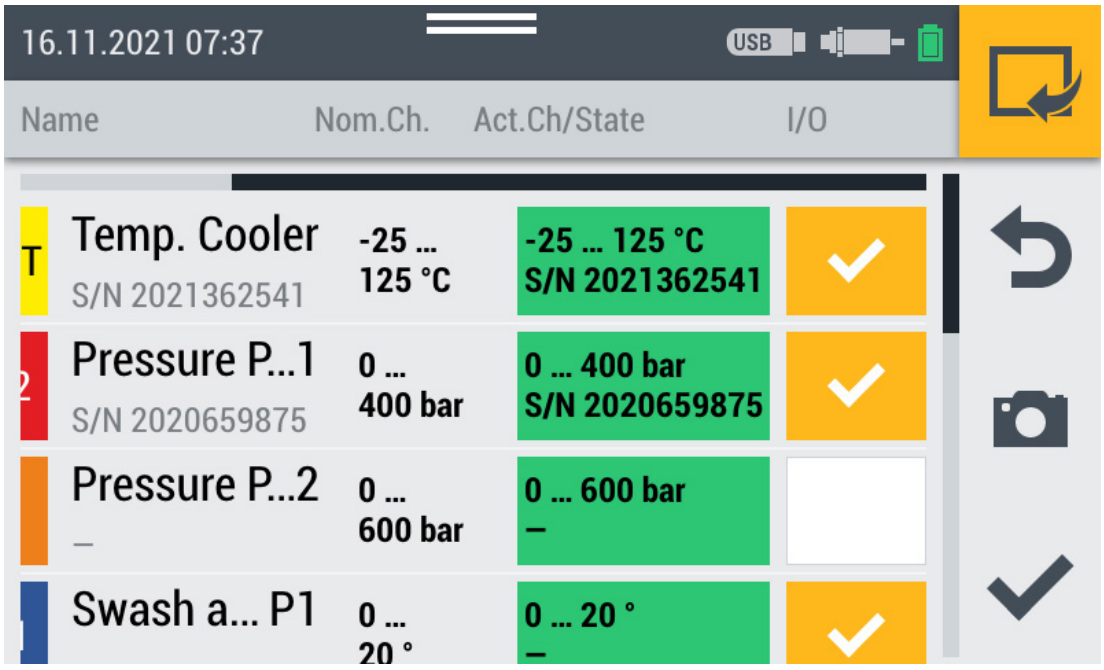


Fig. 42 File manager, edit template

4 Tap on the ✔ button to adopt the template for the next measurement.

↳ The measuring template is adopted regardless of the status of the individual sensors.
If the status of a sensor is red, this channel is not loaded.
If the status of a sensor is gray (new sensor), this sensor is placed at the end of the channel list and switched to inactive.
Activate the sensor in the **Edit Channels** menu if necessary, refer to Chapter 🕮 „Options: Edit Channels in the Measurement View (Edit Channels)“ on Page 41.

7.2.4 Showing Screenshots

Saved display images (**Screenshots**) can be shown in the **File manager** .

1 Tap on the **Screenshots** category.

↳ All saved display images are displayed.

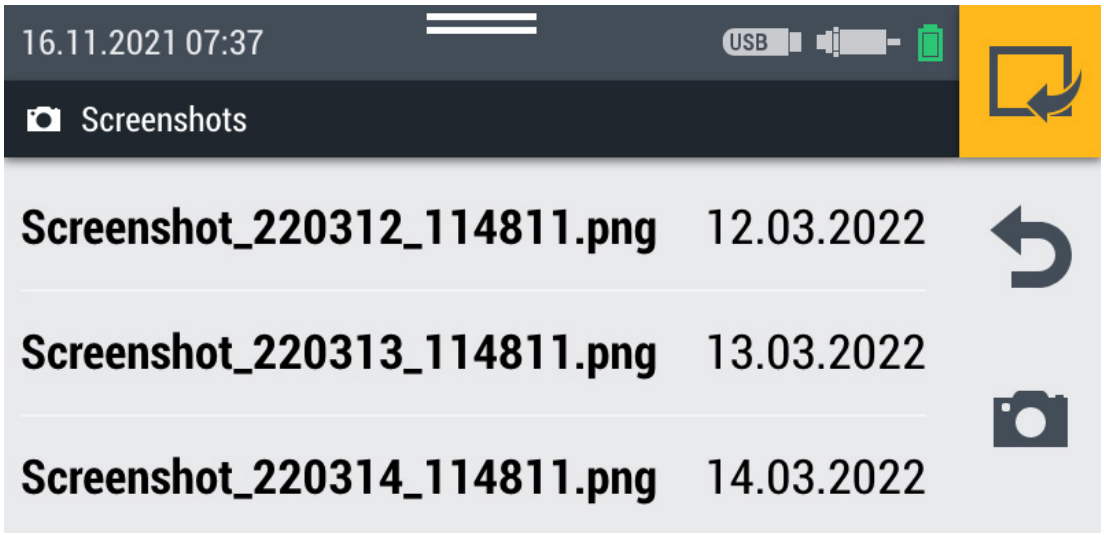


Fig. 43 File manager, Screenshots

2 Tap on the desired screenshot.

↳ The screenshot is displayed.

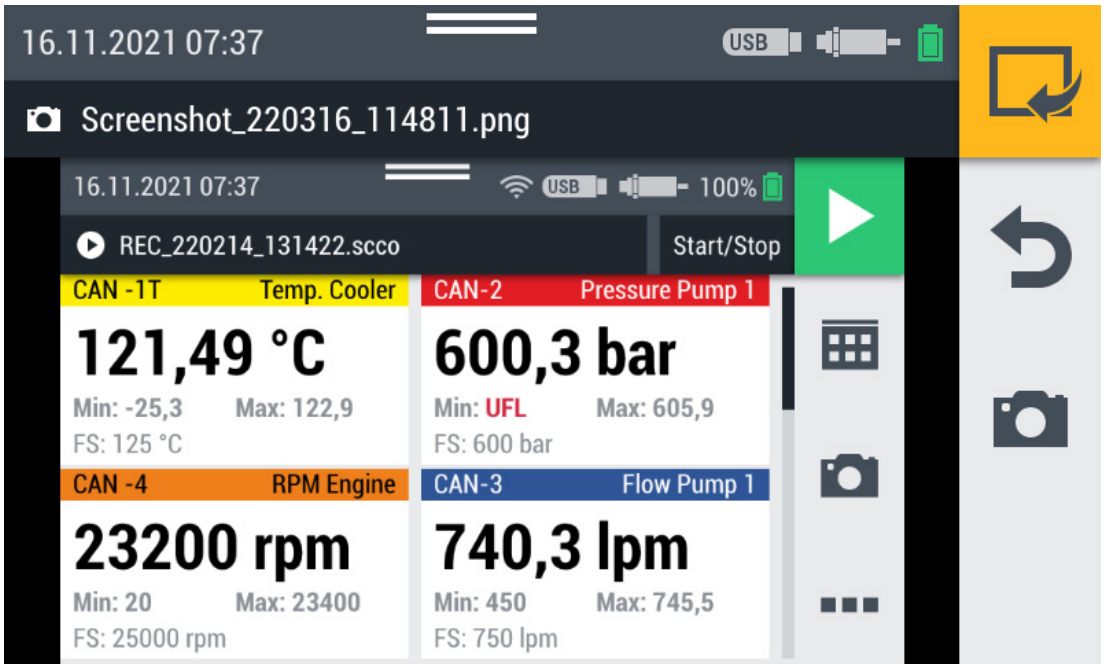


Fig. 44 Screenshot

7.3 Measurement Method

Set the corresponding measurement parameters in the **Measurement Method** menu.

INFORMATION

The **Start/Stop** measurement method requires no settings.

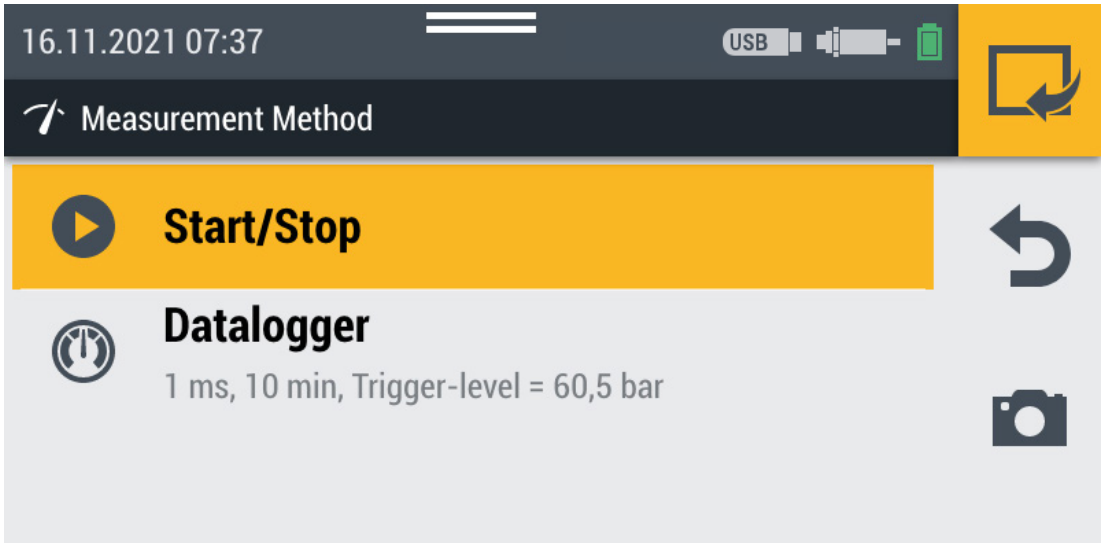


Fig. 45 Measurement Method

The following functions are available:

Designation	Description
Start/Stop	Simple measuring method, no settings. ► Refer to Chapter 🕮 „Start/Stop“ on Page 50.
Datalogger	Measuring method with optional trigger function and other settings. ► Refer to Chapter 🕮 „Datalogger“ on Page 52.

7.4 AUX-Channels*

In the **AUX-Channel** menu, you will find settings for parameterizing the AUX channels of the device.

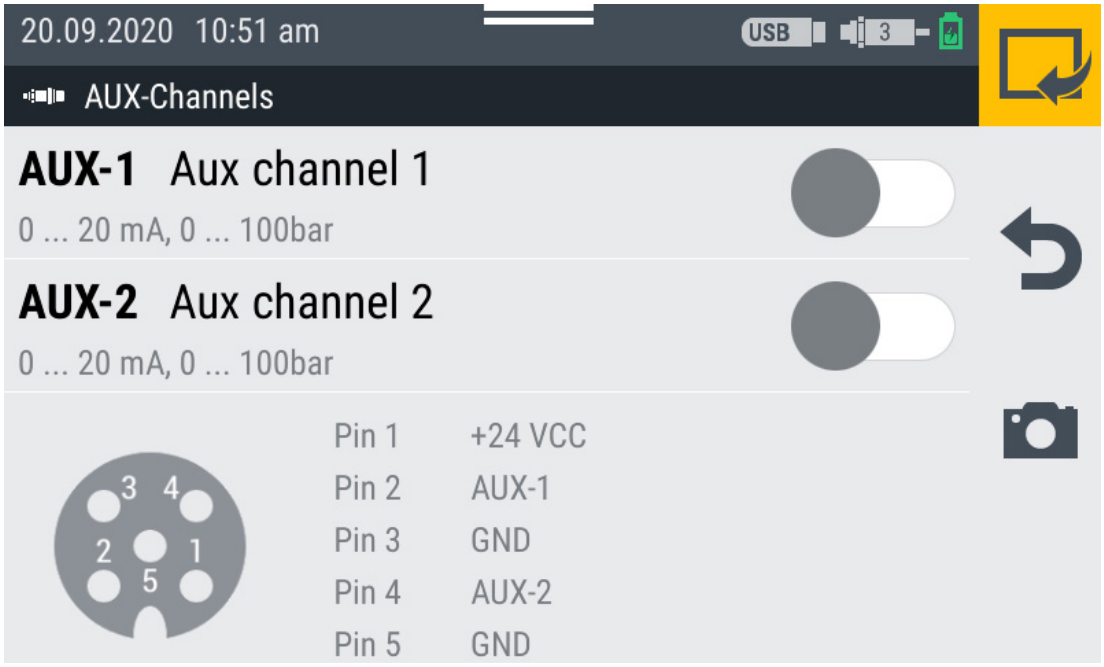


Fig. 46 AUX-Channels

The following functions are available:

Designation	Description
AUX-1	Activate channel, further settings can be carried out in the submenus.
AUX-2	Activate channel, further settings can be carried out in the submenus.

1 Tap on the button to activate the corresponding channel.

2 Tap on the channel name to set further parameters in the submenus.

INFORMATION

If the storage rate 0.1 ms is selected for the **Datalogger** measuring method, the sampling rate for both AUX channels is 0.1 ms.

*not available for model SCM-370-2-05.

7.4.1 Setting AUX Channel

In the **AUX** menu, you will find settings for parameterizing the respective AUX channel of the device.

INFORMATION

The following settings are possible for both AUX channels.

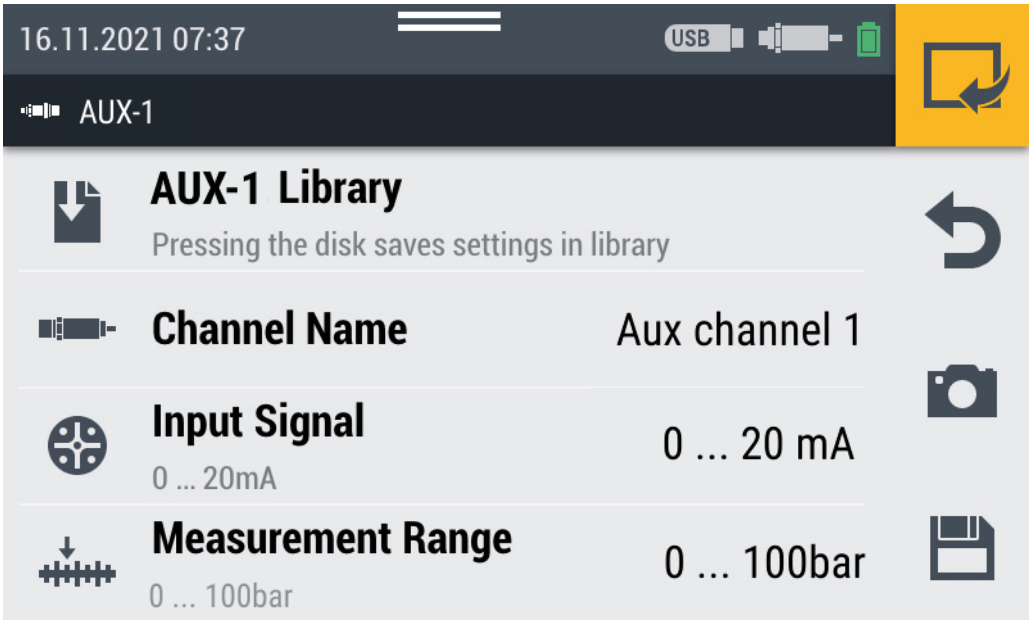


Fig. 47 Set AUX channels

The following functions are available:

Designation	Description
AUX Library	Load presets from the database
Channel Name	Enter the channel name
Input Signal	Set the input signal (**0 - 20 mA**, **4 - 20 mA**, **0 - 10 V**)
Measurement Range	Set the start/end and units of the measurement range: **User specific**, **Pressure (bar)**, **Temperature (°C)**, **Flow (L/min)**, **Rotational speed (1/min)**, **Volume (L)**, **Power (kW)**

1 Tap the button to save the settings as a template in a database (AUX Library).

7.5 VADC (Voltage-Current-Frequency-Converter) Channels

In the **Voltage-Current-Frequency-Converter** menu, you will find settings for parameterizing the channels when using the SCMA-VADC-710 Voltage-Current-Frequency-Converter.

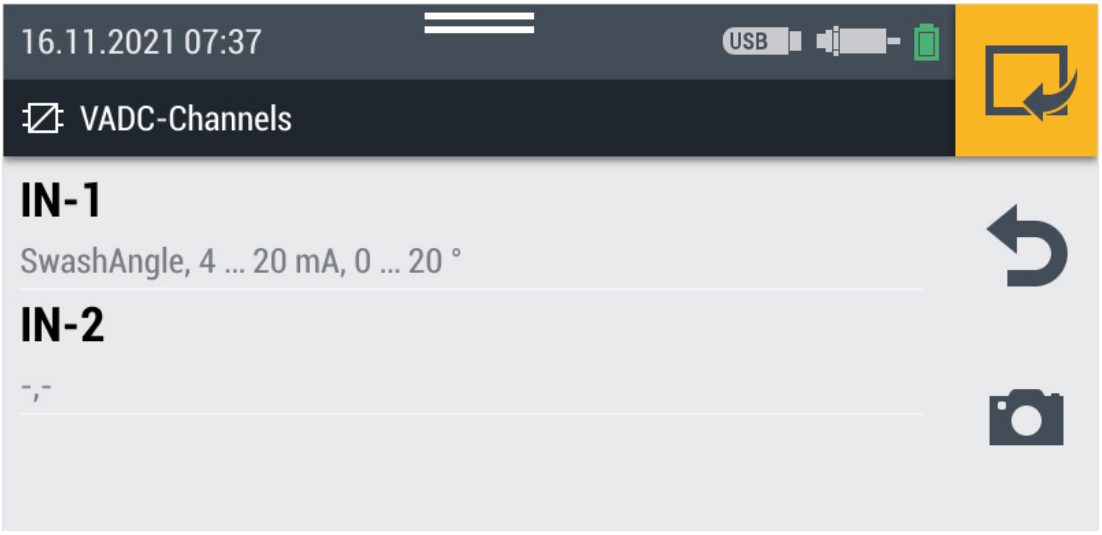


Fig. 48 VADC-Channels

The following functions are available:

Designation	Description
IN-1 ... IN-4 (for SCM-370-0-02)	Further settings are possible in the submenus
CAN-1 ... CAN-6 (for SCM-370-1-05 and SCM-370-2-05)	Further settings are possible in the submenus

7.5.1 Setting VADC Channels

In the menus **IN-1** ... **IN-2** or **CAN-1** ... **CAN-6** you will find settings for parameterizing the input channels of the device.

INFORMATION

Each input channel has its own submenu with setting options. You can set the channels independently of each other.

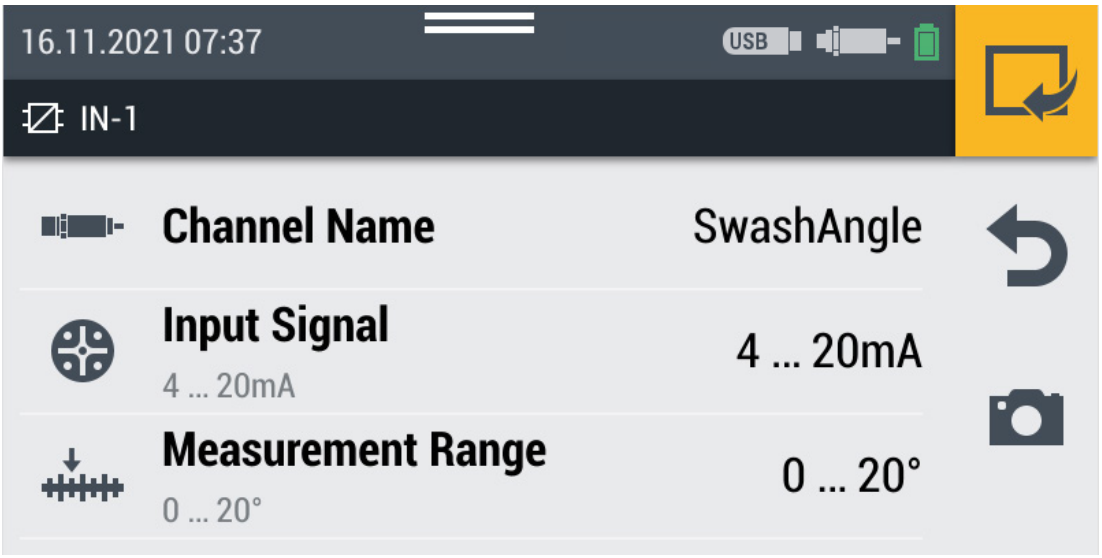


Fig. 49 Setting VADC Channels

The following functions are available:

Designation	Description
Channel Name	Enter the channel name
Input Signal	Set the input signal (**0 ... 20 mA**, **4 ... 20 mA**, **0 ... 48 V**, **-48 ... 48 V**, **0 ... 4 A**, **-4 ... 4 A**, **0 ... 5 kHz**)
Measurement Range	Set the start/end and units of the measurement range to be displayed: **User specific**, **Pressure (bar)**, **Temperature (°C)**, **Flow (L/min)**, **Rotational speed (1/min)**, **Volume (L)**, **Power (kW)**

7.6 CALC-Channels

In the **CALC-Channels** menu, you will find settings for parameterizing the device's calculation channels.

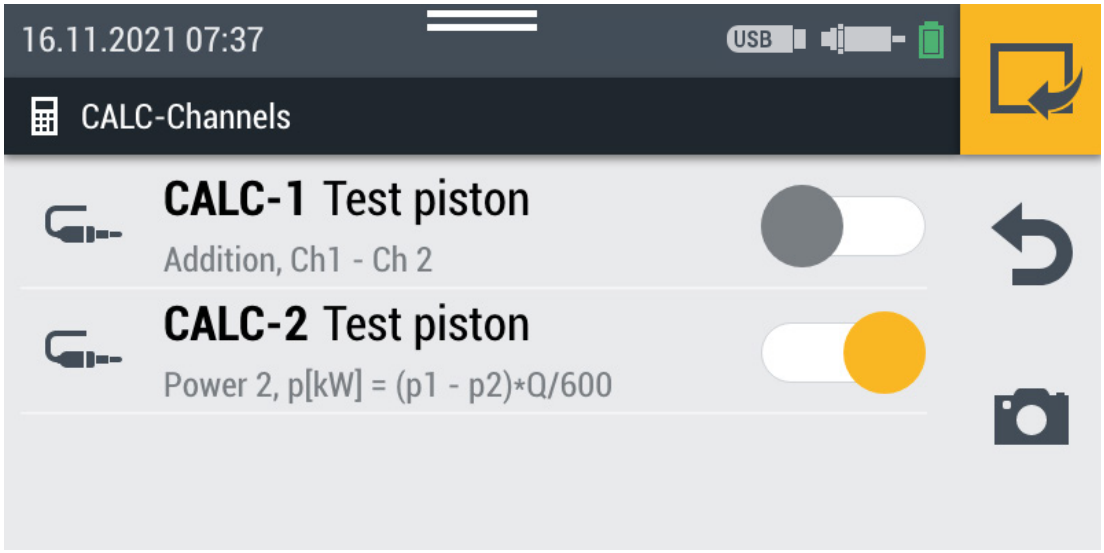


Fig. 50 CALC-Channels

The following functions are available:

Designation	Description
CALC-1	Activate channel, further settings can be carried out in the submenus
CALC-2	Activate channel, further settings can be carried out in the submenus

1 Tap on the button to activate the corresponding channel.

2 Tap on the channel designation to set further parameters.

7.6.1 Setting Calculation Channels

In the **CALC-1** and **CALC-2** menus you will find settings for parameterizing the IN-2 channel of the device.

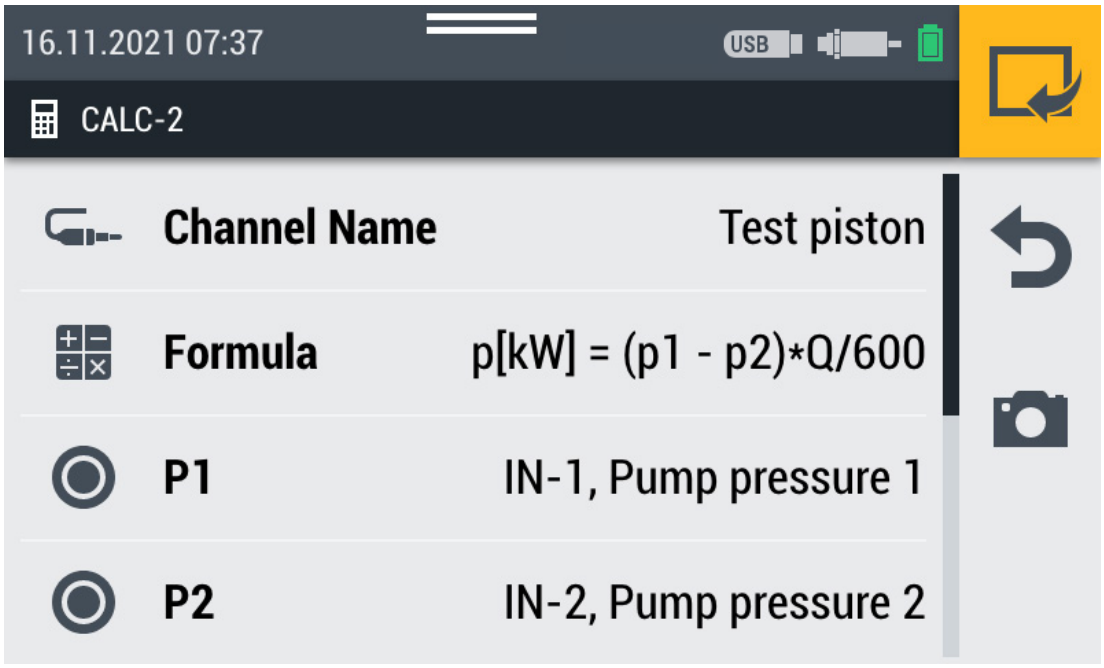


Fig. 51 Set calculation channels

The following functions are available:

Designation	Description
Channel Name	Enter the channel name
Formula	Set the calculation type or formula: **Subtraction**, **Addition**, **Power 1**, **Power 2**, **Volume**, **Multiply**
P1	Select the input signal (depending on the formula selected)
P2	Select the input signal (depending on the formula selected)
Q	Select the input signal (depending on the formula selected)

7.7 Device Settings

In the **Device Settings** menu, you can make basic settings.

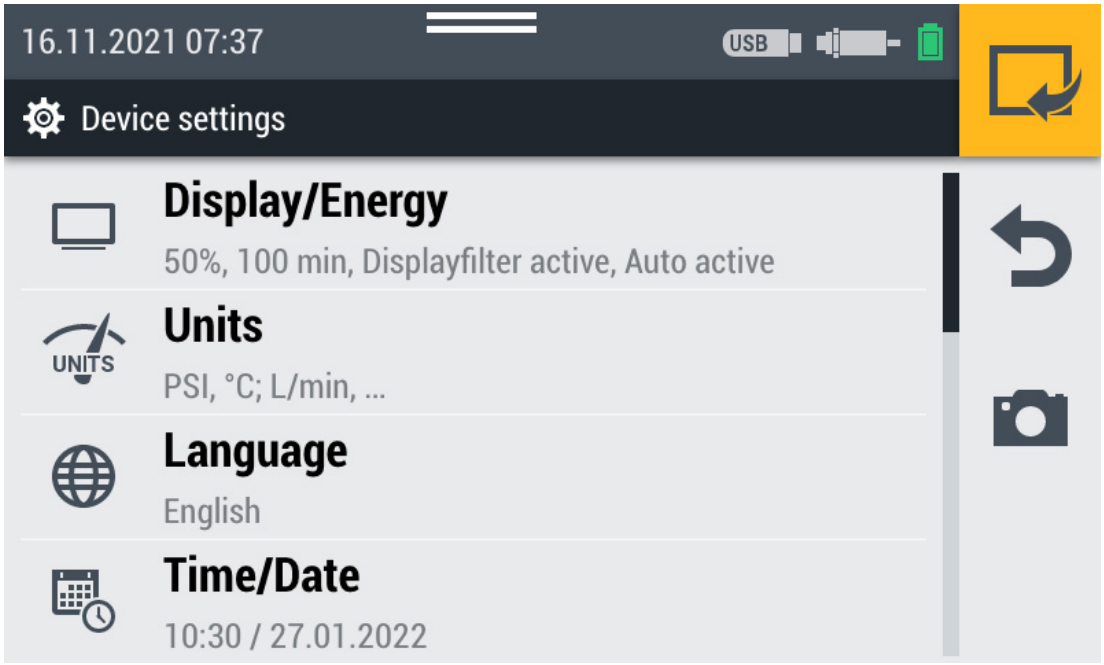


Fig. 52 Device Settings

The following settings are available:

Designation	Description
Display/Energy	Display brightness, display timeout, display filter
Units	Select measurement units for measured values
Language	Select user interface language and install additional languages via USB
Time/Date	Time and date
Keyboard	Representation of display keyboard (**QWERTZ**, **QWERTY**, **AZERTY**)
CSV-Format	Select CSV format

7.7.1 Setting Display (Display/Energy)

In the **Display/Energy** menu, you will find settings for the display and reducing the device's energy consumption.

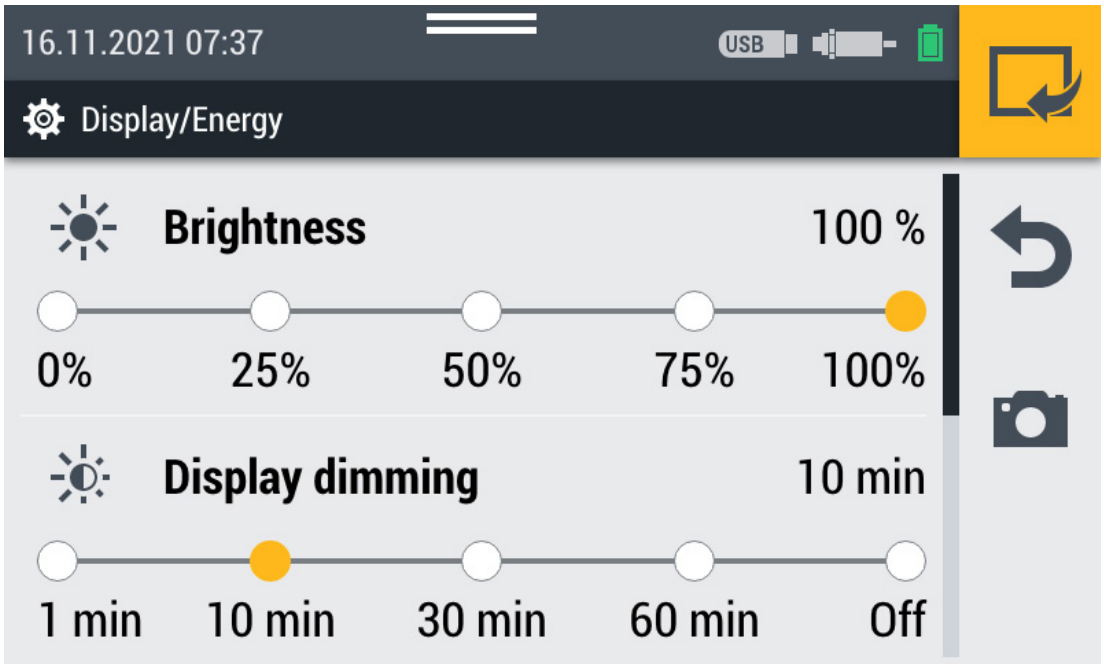


Fig. 53 Display (Device/Energy)

The following settings are available:

Designation	Description
Brightness	Adjust the display brightness in 5 steps (**0 %**, **25 %**, **50 %**, **75 %**, **100 %**)
Display dimming	Adjust the period for dimming the display in 5 steps (**1 min**, **10 min**, **30 min**, **60 min**, **Off**)
Display filter	Adjust display filter in 4 steps (**Low**, **Medium**, **High**, **Off**)
Auto power off	Switches the device on/off automatically. If this function is activated, the device switches off after 10 minutes without input. This function is automatically deactivated during an ongoing measurement.

INFORMATION

The display filter only affects the displayed measured values.
Recorded measurements are not affected.

7.7.2 Units

In the **Units** menu, you will find settings for the measurement units of the various measured values.

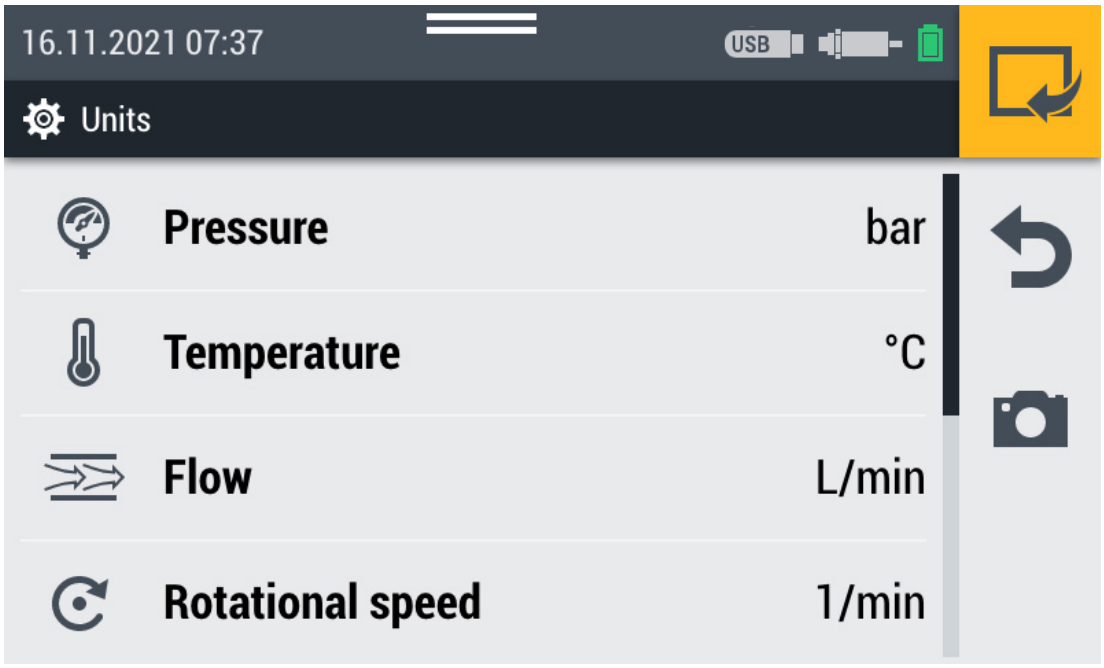


Fig. 54 Units

The following settings are available:

Designation	Description
Pressure	Select unit of measure (**bar**, **MPa**, **kPa**, **psi**, **mbar**)
Temperature	Select unit of measure (**°C**, **°F**)
Flow	Select unit of measure (**L/min**, **G/min**)
Rotational speed	Select unit of measure (**1/min**, **Rpm**)
Volume	Select unit of measure (**L**, **gal**)
Power	Select unit of measure (**kw**, **HP**)

7.7.3 Changing Language

In the **Language** menu, you can change the language of the display texts (menus, buttons) on the device.

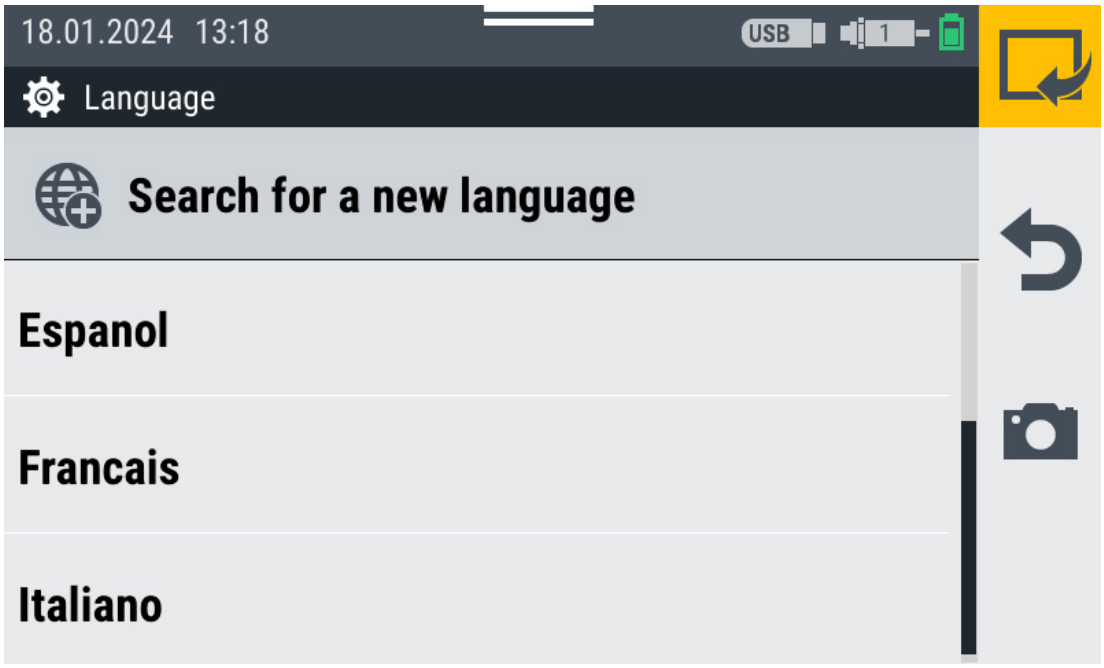


Fig. 55 Language

The following languages are available:

- English
- English
- French
- Italian
- Spanish

INFORMATION

Additional languages can be installed via a USB storage medium. The device recognizes the voice data automatically. The prerequisite is that the voice data is available in the root directory of the USB storage medium.

1. Tap on the desired language.
2. Tap on the ✔ button to confirm your selection.
   ↳ The language of the display texts has been changed.

7.7.4 Setting Time/Date

The **Time/Date** menu contains settings for the time and date.

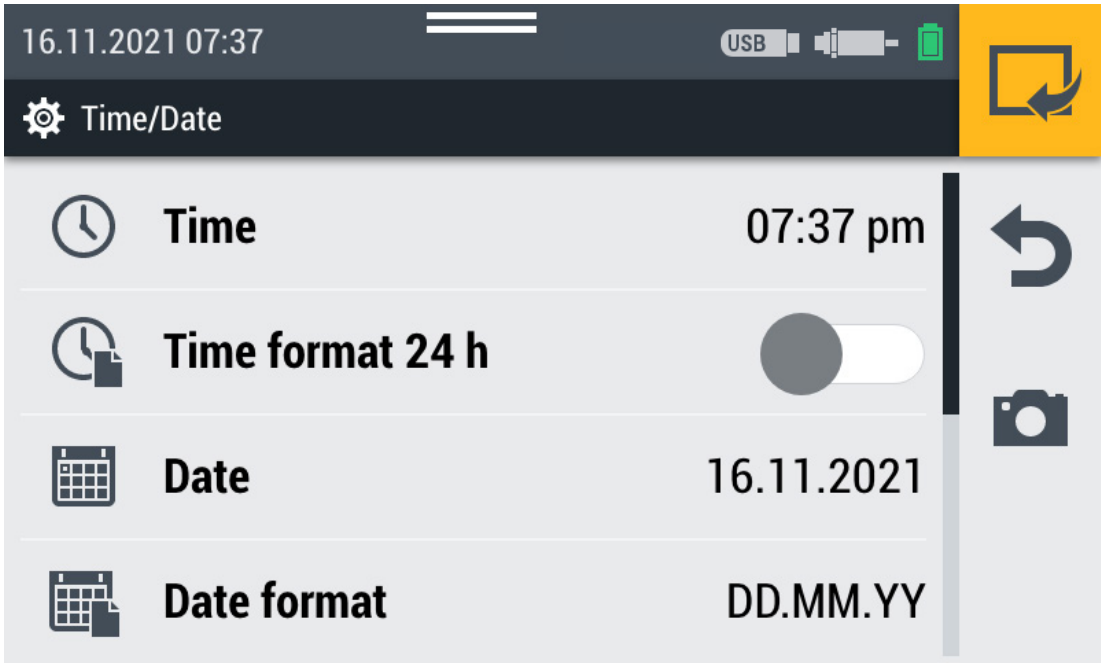


Fig. 56 Time/Date

The following settings are available:

Designation	Description
Time	Set time
Time format 24 h	Switch 24 h time format on/off
Date	Set date
Date format	Set date format (**DD.MM.YY**, **MM.DD.YY**)
Auto-sync PC	Synchronize time and date automatically when connected to a PC

7.7.5 Selecting Keyboard

In the **Keyboard** menu, you can select a keyboard layout.

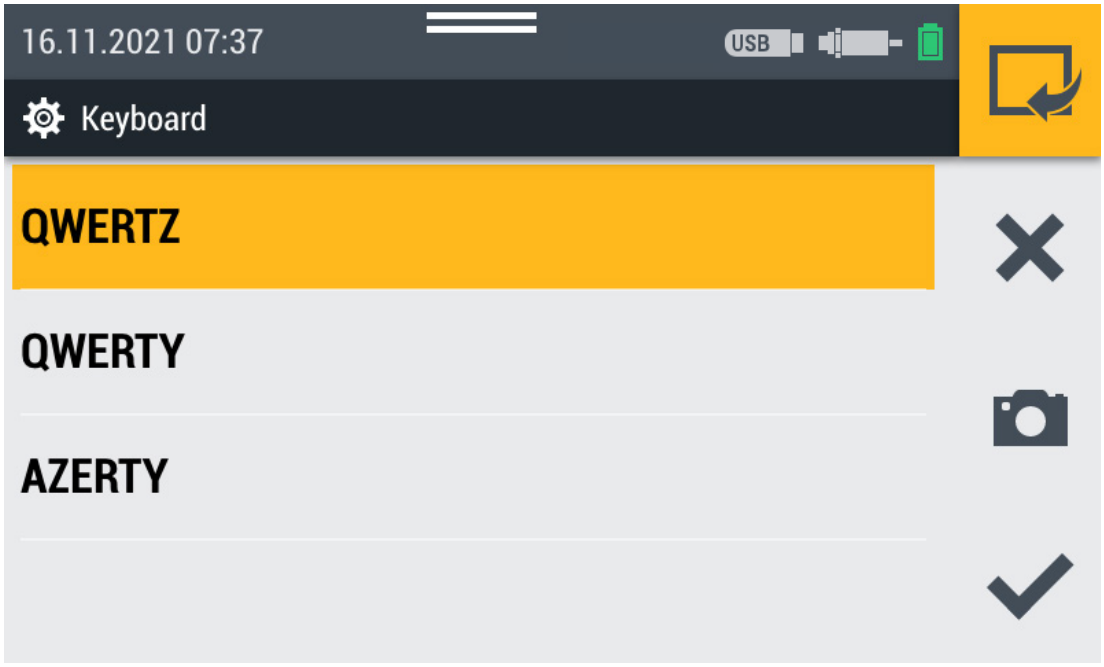


Fig. 57 Keyboard

The following keyboard layouts are available:

- QWERTZ
- QWERTY
- AZERTY

1. Tap on the desired keyboard layout.
2. Tap on the ✓ button to confirm your selection.
   ↳ The keyboard layout has been selected.

7.7.6 Selecting CSV Format

Select a CSV size in the **CSV-Format** menu.

Depending on the selection, the data within the CSV file is separated with a comma or a dot (point).

INFORMATION

A CSV file is a text file in which the measurement data can be saved and exchanged in a structured manner.

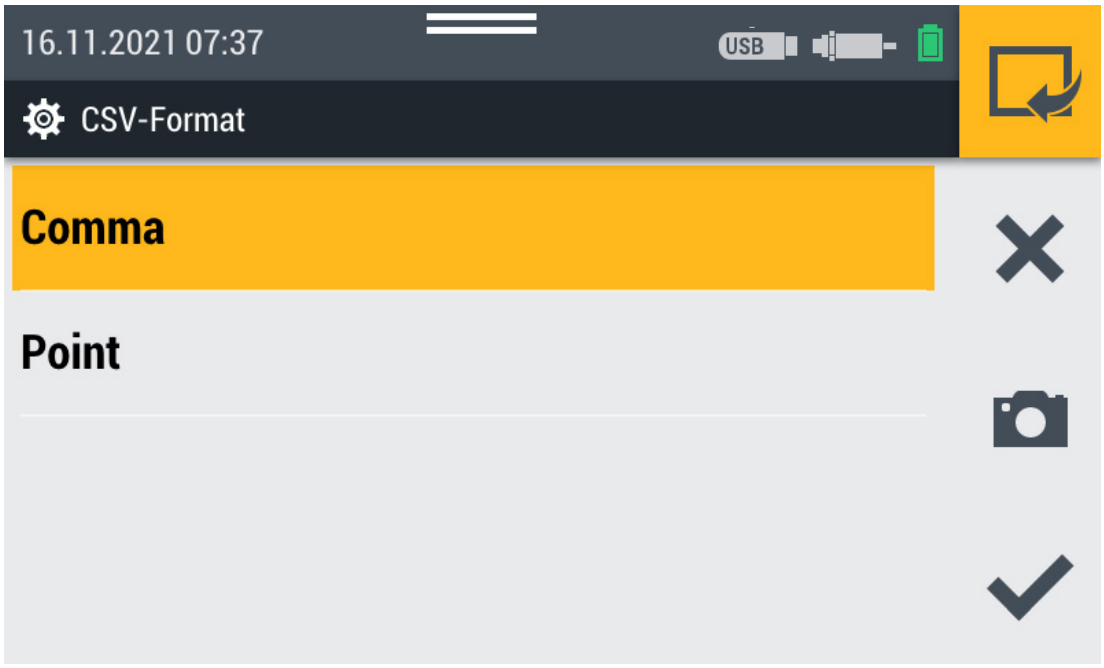


Fig. 58 CSV-Format

The following CSV formats are available:

- Separated by a comma (**Comma**)
- Separated by a dot (**Point**)

1. Tap on the desired CSV format.
2. Tap on the ✓ button to confirm your selection.
   ↳ The CSV format has been selected.

7.7.7 CAN Database

The channel information for CAN sensors already in use is stored in the **CAN Database**.

Based on the serial number of a CAN sensor, the last channel name, color and position used are saved and automatically reused when the CAN sensor is re-connected.

The use of the CAN database can be switched on or off via the **CAN Database** menu item.

INFORMATION

The CAN database can only be used as a memory when using a USB stick.

7.8 Device Information

The **Device Information** menu displays information about the device's software and hardware.

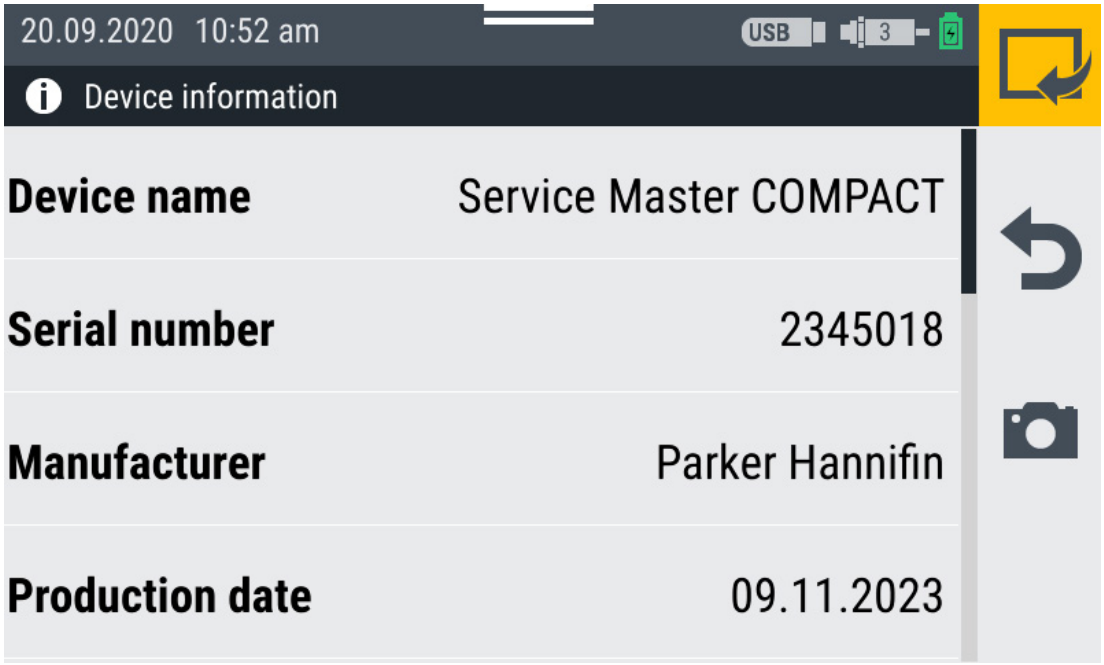


Fig. 59 Device Information

The following information is available:

Designation	Description
Device name	Name
Serial number	Serial number
Manufacturer	Manufacturer
Production date	Production date
Last calibration	Date of last calibration
FW version	Firmware version
Hardware version	Hardware version
FP App Version	FP App version
FP BTLD-Version	FP Build version
Battery	Battery type
USB-Charger	Power supply unit
LAN IP Address	Network address (if available)

8. Troubleshooting

This chapter contains information on dealing with faults and errors.

Problem	Possible solution
Device cannot be switched on	▶ Charge the battery in the device
Device does not respond	▶ Reset the device (Reset)
Sensors are not displayed	▶ Check whether the channels are deactivated, refer to 🕮 „Options: Edit Channels in the Measurement View (Edit Channels)“ on Page 41 ▶ Check the cabling is correct ▶ Check the connections for soiling

Always ensure that the latest version of the firmware is installed on the device.

▶ Further information on updating the firmware is available in Chapter 🕮 „Updating the Firmware“ on Page 86.

If you find no solution to your problem in this user manual, contact the relevant sales outlet.

IMPORTANT

Risk of material damage through improperly performed repair work.

▶ Never open the device!

▶ Never attempt to perform repair work yourself!

▶ In the event of defects, return the device to the manufacturer!

8.1 Resetting Device (Reset)

If the device no longer responds, it must be reset.

1. Press the **On/Off button** and the **yellow function button** simultaneously for approx. 5 seconds.

   ↳ The device is switched off.

2. Press the **On/Off button**.

   ↳ The device starts up again.

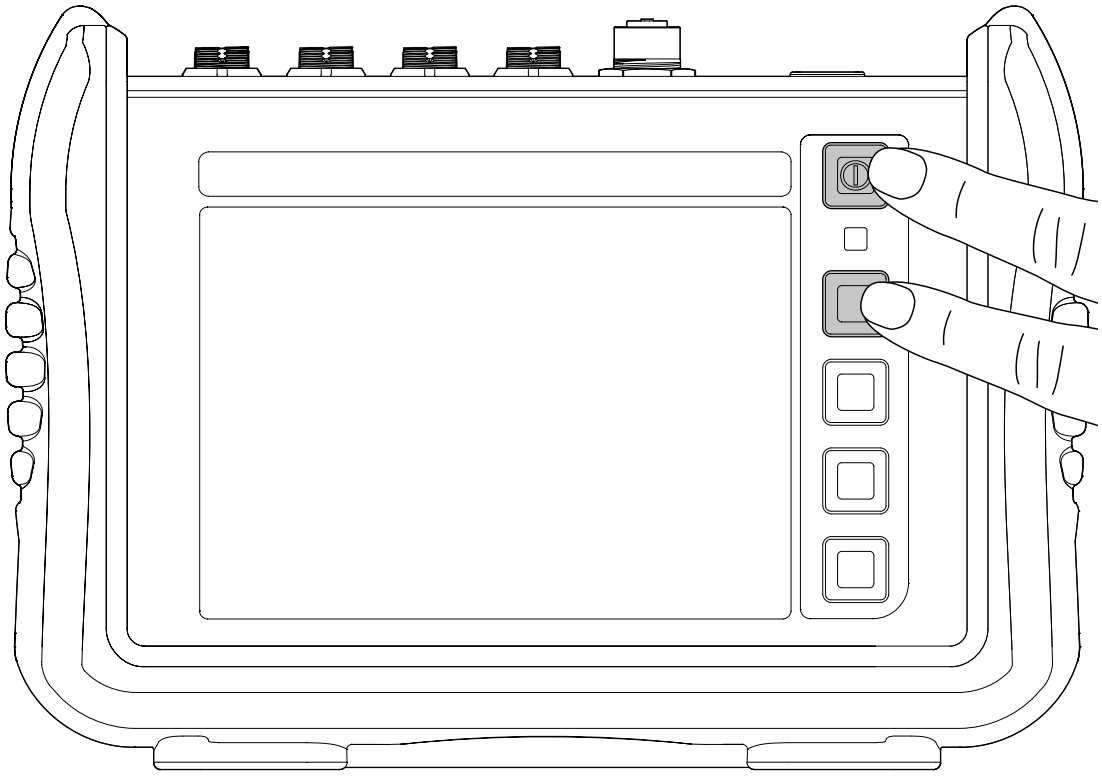


Fig. 60 Reset device (Reset)

8.2 Updating the Firmware

You can update the firmware on the device using an external USB storage medium.

INFORMATION

Please note that the file with the new firmware must be located on the USB storage medium in the root directory.

1. Press the **On/Off button** to switch off the device.
2. Connect the USB storage medium to the USB port.
3. Press the **On/Off button** to switch on the device.
   - ↳ During start-up, the device searches for a more current firmware version.
   - ↳ If there is no firmware update available, a system message appears.

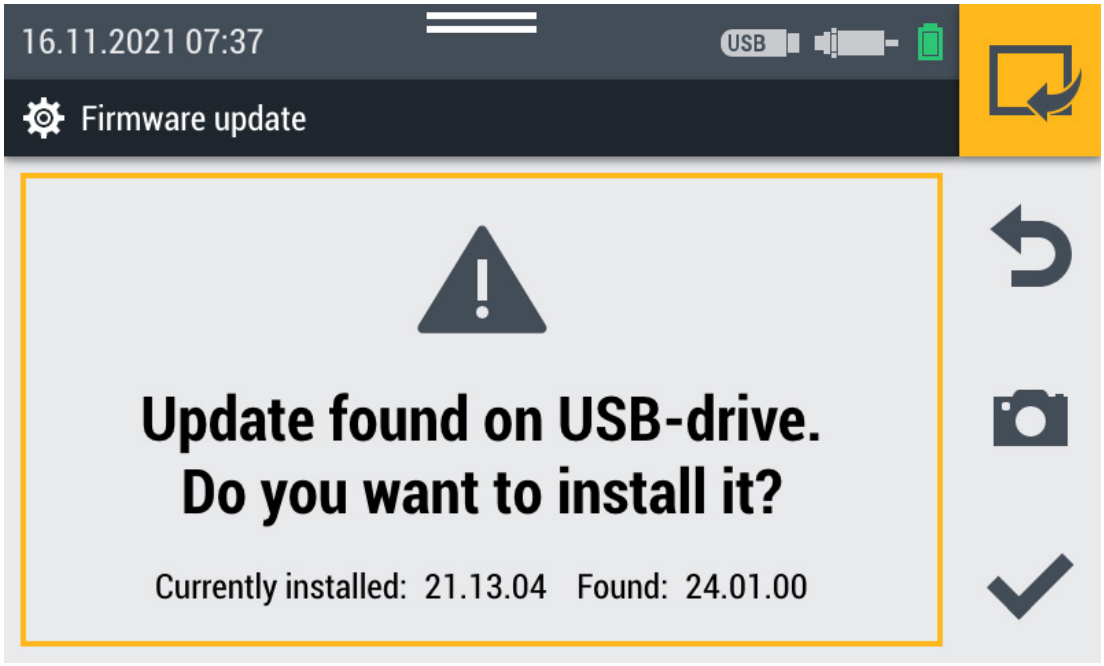


Fig. 61 Updating the Firmware

IMPORTANT

Risk of property damage if the update process is stopped.
If the update process is stopped, the file system of the device could be damaged.

► Before starting the update process, ensure that the battery is charged to at least 50% or the device is connected to the main power via the power adapter.

4 Tap on the ✔ button to start updating the firmware.
↳ The firmware on the device is updated.
↳ A progress bar indicates the status of the updating process.

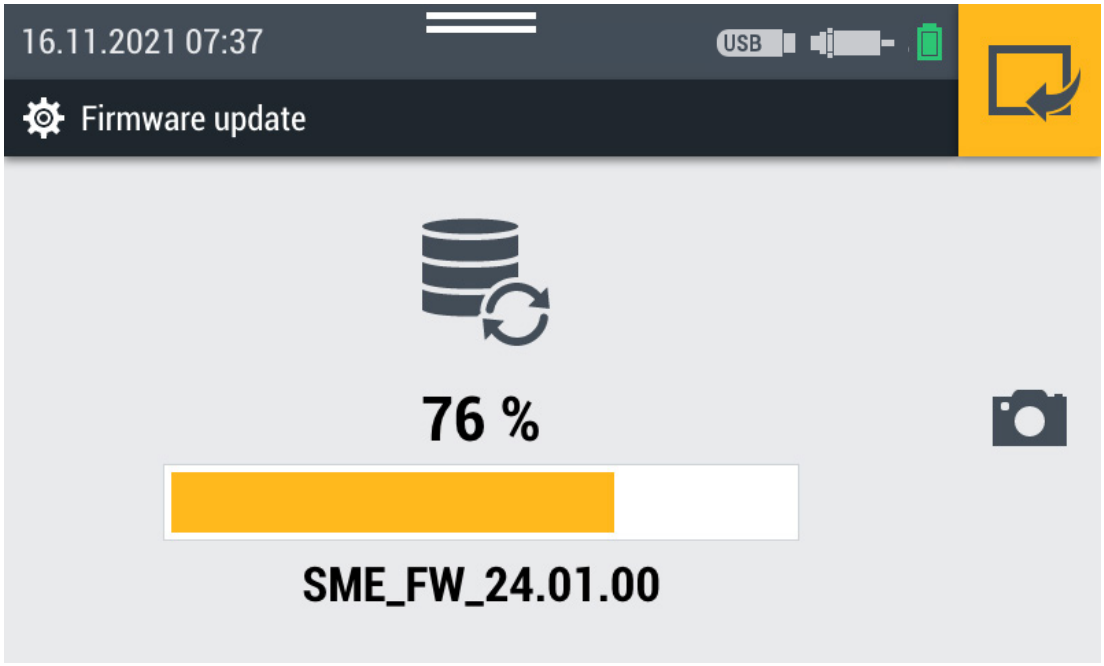


Fig. 62 Update firmware, progress bar

5 Wait until the process has finished.

↳ The device may restart several times during the process.

↳ When the process has been completed, the corresponding message appears in the display.

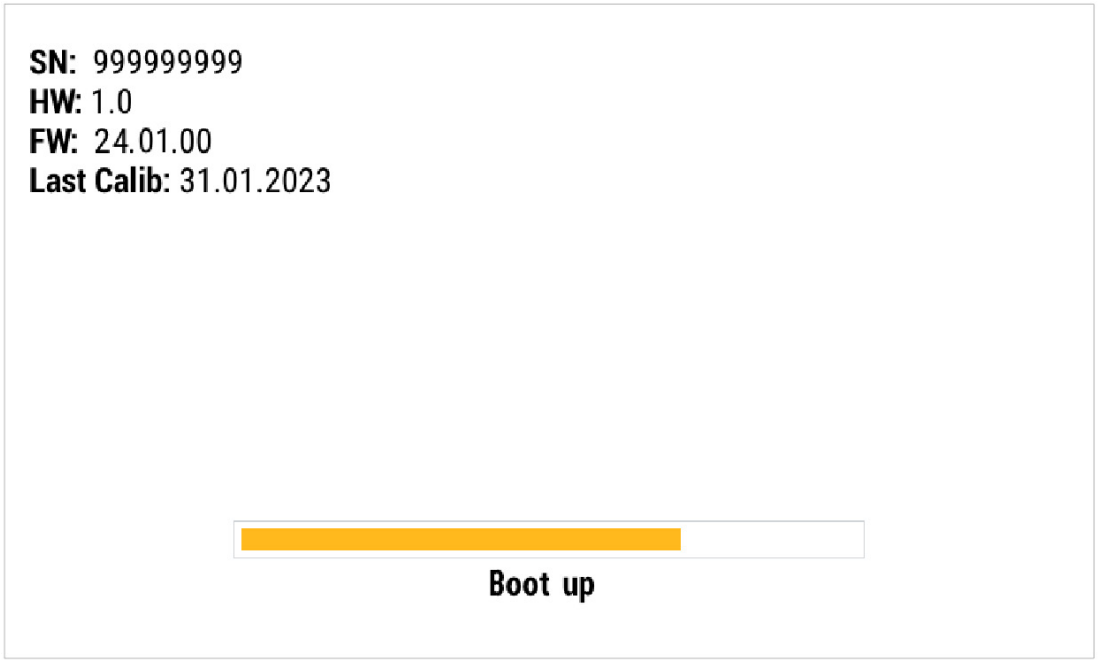


Fig. 63 Update firmware, system message

↳ The latest version of the firmware is now installed on the device.

9. Packaging and Transporting

This chapter contains information on packaging and transporting.

IMPORTANT

Risk of property damage through improper storage and transportation.

- ► Do not store the device with a low battery charge status in order to prevent a total discharge.
- ► Avoid fully charging or total discharge of the battery to increase the service life of the battery.
- ► Only use the device within the temperature range permitted. Refer to Chapter 🕮 „Mechanical Data“ on Page 93.

IMPORTANT

Risk of property damage.

- ► Fit all the screw-in connections on the device with sensors or protective caps provided in order to ensure type of protection IP65.
- ► Never expose the device to direct sunlight over an extended period of time.

IMPORTANT

Risk of environmental pollution through lithium-ion battery.
According to the currently applicable transport regulations regarding lithium-ion batteries, the respective devices or their packaging must be specially identified for transport.

- ► Contact your sales outlet prior to dispatch.
- ► Only dispatch the device in packaging which has been appropriately identified on the outside.

10. Cleaning and Maintenance

This chapter contains information on cleaning, servicing and repairing the device.

10.1 Cleaning

Clean the touchscreen and surfaces of the device with a dry or slightly dampened, lint-free cloth.

IMPORTANT

Risk of material damage through aggressive and corrosive substances.

► Never use abrasives or volatile cleaners!

► Never use any aggressive or corrosive cleaning agents!

10.2 Maintenance

The device is maintenance-free for the user and must not be serviced by the user.

Maintenance work is not necessary on the device within the scope of the intended use.

The device must be recalibrated after a longer time in use. Contact your sales outlet in this case.

► Refer to Chapter 🕮 „Customer Service“ on Page 98.

10.3 Repairing

If a defect becomes apparent on the device, please contact your sales outlet.

► Refer to Chapter 🕮 „Customer Service“ on Page 98.

Have the following information available:

- Company name
- Department
- Contact partner
- Telephone and fax numbers
- Email address
- Article number of the corresponding device part, firmware version and serial number if available
- Detailed description of the fault

IMPORTANT

Risk of material damage through improperly performed repair work.

► Never open the device!

► Never attempt to perform repair work yourself.

► In the event of defects, return the device to Parker Hannifin!

11. Disposal

The adjacent symbol indicates that old electrical and electronic devices must be disposed of separately from household waste, in accordance with legal regulations. The device contains a lithium-ion battery, which can contain toxic, environmentally harmful heavy metals. Dispose of your device at collection points provided by your local waste management authority.

The packaging is comprised of environmentally friendly materials which can be disposed of via a local recycling center. Contact your local authorities for information on the options available for correct disposal.

What can we do for you?

We can provide you with the option of returning your old device to us for disposal at no extra cost. We then initiate recycling and disposal according to the applicable legal framework.

What do you have to do?

After your device has reached the end of its service life, simply send it (packed in a box) via a parcel service to the sales outlet which provides your support.

We then carry out any recycling and disposal measures required. This is easy and free of charge for you.

IMPORTANT

Risk of environmental pollution through lithium-ion battery.
According to the currently applicable transport regulations regarding lithium-ion batteries, the respective devices or their packaging must be specially identified for transport.

- ► Contact your sales outlet prior to dispatch.
- ► Only dispatch the device in packaging which has been appropriately identified on the outside.

12. Technical Data

This chapter provides information on the technical data of the device.

12.1 Device Models

Device	
SCM-370-0-02	4 inputs for Parker analog sensors 2 inputs for standard industrial sensors
SCM-370-1-05	Interface for up to 6 Parker CAN sensors 2 inputs for standard industrial sensors
SCM-370-2-05	Interface for up to 6 Parker CAN sensors
K-SCM-370-0-02	Analog AUX device version, calibrated with calibration certificate according to ISO 9001
K-SCM-370-1-05	CAN AUX device version, calibrated with calibration certificate according to ISO 9001
K-SCM-370-2-05	CAN device version, calibrated with calibration certificate according to ISO 9001

All versions include USB memory stick and USB cable (USB-C to USB-A).

12.2 Mechanical Data

Designation	Property
Dimensions (W × H × D)	215 × 60 × 154 mm
Weight	Approx. 850 g
Type of protection	IP 65 (EN 60529:1989 +A1:1999 + A2:2013), all screw connections must be provided with sensors or protective caps
Ambient temperature	-20…+50° C
Storage temperature	-30…+80°C
Relative humidity	max. 95 %, non-condensing
Environmental impact test	Drop test 1 m (EN 60068-2-31:2008)
Housing	ABS/PC
Protective casing	TPE, thermoplastic elastomer
VESA holder	75 mm × 75 mm

12.3 Display Data

Designation	Property
Resolution	800 × 480 pixels
Size	4.3"
Brightness	700 cd

Electrical Data

12.3.1 Power Supply (Internal)

Designation	Property
Battery type	Lithium-ion battery
Voltage	7.2 V_{DC}
Capacity	3500 mAh / 25.44 Wh

12.4 Interfaces

12.4.1 USB-A (Host)

Designation	Property
Plug	USB, port, shielded, type A
Standard	2.0, full speed
Memory stick capacity	128 GB
Transmission rate	12 MBit/s

12.4.2 USB-C (communication and power supply)

Designation	Property
Plug	According to IEC 62680-1-3
Standard	PD 3.0, 5 V, 12 V, 20 V
Current consumption	max. 2.5 A at 5 V, 1.8 A at 12 V, 1.2 A at 20 V, a USB-C compatible charger with min. 45 W is required for fast charging, alternatively via USB-A/C cable (included) 5 V max. 2 A

12.5 Inputs

12.5.1 CAN (SCM-370-1-05 and SCM-370-2-05 only)

Designation	Properties
Plug	5-pin, M12×1, panel connector, terminating resistor permanently installed
sensors	Max. 6 Parker CAN sensors with sensor detection
Scanning rate	Up to 4 sensors: 1 ms, 5-6 sensors: 2 ms

12.5.2 Analog (SCM-370-0-02 only)

Designation	Properties
Plug	5-pin, push-pull, combination panel plug/socket
sensors	4 sensor inputs (up to 8 analog measuring channels) with sensor detection (p/T/Q/n) for SensoControl® diagnostic sensors
Scanning rate	1 ms = 1,000 measured values/sec.
Accuracy	0.1 % FS

12.5.3 AUX

Designation	Properties
Plug	M12×1, 5 pin socket
sensors	1 connection with 2 inputs (analog) for external sensors for measuring current and voltage
Voltage measuring range	-10…+10 V_{DC}
Current measuring range	0/4…20 mA
Supply of ext. sensors	+24…+24 V_{DC}/max. 100 mA (for both inputs)
Scanning rate	1 ms = 1,.000 measured values/s FAST-MODE 0.1 ms = 10,000 measured values/s

12.5.4 Calculation Channels

Designation	Properties
Number	2
Connection	Virtual
Functions	Subtraction, Addition, Multiplication, Power, Volume

13. Appendix

This chapter provides information on the device models available, the appropriate accessories, technical data and certificates.

13.1 Kits

The Parker Service Master COMPACT Kit	SCKIT-370-0-02	SCKIT-370-1-05	SCKIT-370-2-05	SCKIT-370-0-PTQ
The Parker Service Master COMPACT Kit	K-SCKIT-370-0-02	K-SCKIT-370-1-05		K-SCKIT-370-0-PTQ
Toolbox	SCC-200	SCC-200	SCC-200	SCC-370
The Parker Service Master COMPACT (incl. standard power supply unit, Nano USB stick, USB charging and connection cable 1 m)	SCM-370-0-02	SCM-370-1-05	SCM-370-2-05	SCM-370-0-02
Pressure/temperature sensor 0...600 bar SCPT-600-02-02				2
Netzgerät mit Schnelladefunktion SCSN-445	1	1	1	1
Temperature sensor SCT-190-00-02				1
Turbine flow meter SCFT-150-DRV				1
Connection cable, analogue SCK-102-3-02	2			2
Connection cable, analogue SCK-102-5-02	2			2
M12x1 plug for external sensor connection SCK-401-4M	1	1		1
Connection cable, CAN SCK-401-02-4F-4M		2	2	
Connection cable, CAN SCK-401-05-4F-4M		2	2	
CAN Y-junction SCK-401-0.3-Y		1	1	
CAN terminating resistor SCK-401-R		1	1	
EMA adapter SCA-EMA-3/3	2	2	2	2
Test hose SMA3-1500CF	2	2	2	2

13.2 Spare Parts and Accessories

Order code	Description
SCSN-445	Power supply unit with fast charging function (66 W) incl. USB cable (USB-C to USB-C) and country adapter (EUR/UK/US/AUS)
SCNA-USB-C-CAR	Car cable adapter with USB-C connection 12/24 VDC
SCK-USB-A-C	USB connection cable, 1 m (USB-A to USB-C)
SCK-USB-C-C	USB connection cable, 1 m (USB-C to USB-C)
SC-USB-MINISTICK	Nano USB stick 4 GB
SCK-401-4M	M12x1 plug for external sensor inputs
SCM-370-DISPRO	Display protection glass (1 pc.)
SC-TOUCHPEN	Touch pen
SCC-200	Toolbox
SCC-370	Device case for outdoor use
SCM-370-RUBBER	Rubber protection + stand-up bracket
SCM-370-CAPS	Protective cap set (set with caps for all versions)
SC-BAT-370	Replacement battery for SCM 370

13.3 Technical Standards

	Standard
EMC	EN IEC 61326-1:2021
RoHS	EN IEC 63000:2019-05
Environmental impact test	Drop test 1 m (EN 60068-2-31:2008)
Vibration resistance	DIN EN 60068-2-9:2008-10
Type of protection	EN 60529:1989 + A1:1999 + A2:2013

13.4 Rating Plate

The rating plate is located on the rear of the device.

INFORMATION

The information on the rating plate is required in the case of queries addressed to your sales outlet.

13.5 Certificates

The basic certificates and Declaration of Conformity are provided for the device in the area **Menu** > **Device information**.

INFORMATION

Information on the approval tests can be obtained from your sales outlet.

13.6 Customer Service

In the event of problems with the device, please contact your sales outlet.

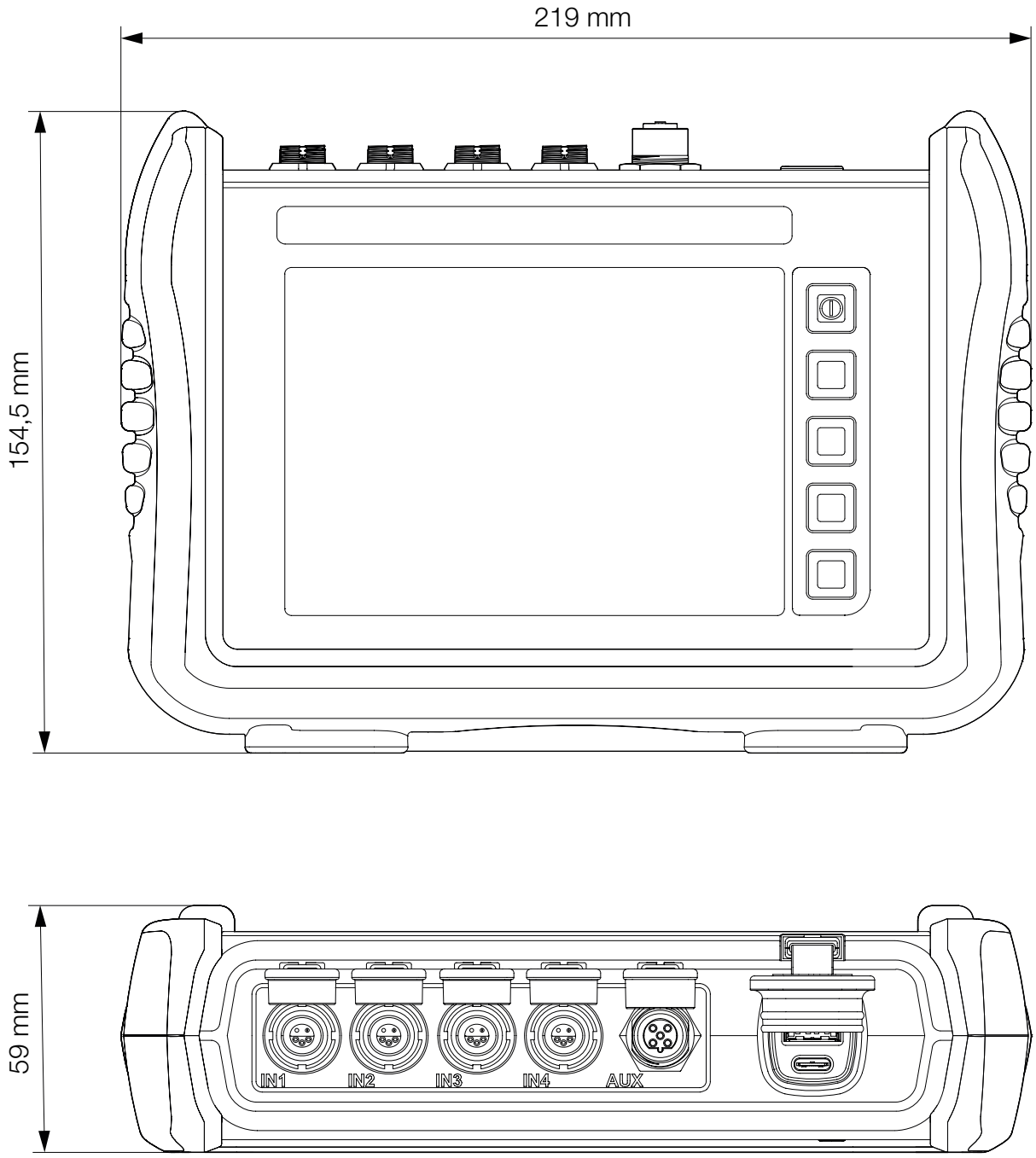
13.7 Manufacturer

Parker Hannifin Manufacturing Germany GmbH & Co. KG
High Pressure Connectors Europe

Postfach 14 07 03, 33627 Bielefeld
Am Metallwerk 9, 33659 Bielefeld

Telephone: +49 (0) 521 4048 0
Fax: +49 (0) 521 4048 4280
Email: Ermeto@parker.com
Internet: https://www.parker.com

13.8 Dimensional Drawings



13.9 Declaration of Conformity

EU-Konformitätserklärung
EC-Declaration of Conformity

Dokument-Nr.: 01/2024
Document-No.:

Hersteller:
Manufacturer

Parker SensoControl

Anschrift:
Adress

Parker Hannifin Manufacturing Germany GmbH & Co. KG
High Pressure Connectors Europe
Am Metallwerk 9
D-33659 Bielefeld, Germany
Tel.: +49 521 4048-0
www.parker.com/hpce

Produktbezeichnung:
Name of product

HANDMESSGERÄT SERVICE MASTER COMPACT
HANDHELD DEVICE SERVICE MASTER COMPACT
SCM-370-X-XX

Das bezeichnete Produkt stimmt mit den Vorschriften folgender europäischer Richtlinie überein:
The indicated product is in correspondence with the following regulations of European Council:

2014/30/EU
Richtlinie zur Angleichung der Rechtsvorschrift der Mitgliedsstaaten über die elektromagnetische Verträglichkeit.
Council Directive for the approximation of the laws of the Member States relating to electromagnetic compatibility.

2011/65/EU, (EU) 2015/863
Richtlinie zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS-Richtlinie)
Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS directives)

Folgende harmonisierte Normen kamen zur Anwendung:
The following standards were applied:

DIN EN IEC 61326-1:2022-11
Elektr. Mess-, Steuer-, Regel-, und Laborgeräte, EMV Anforderungen
electrical equipment for measurement, control and laboratory use, EMC requirements

DIN EN IEC 63000:2019-05
Angewandte harmonisierte Normen für RoHS-Richtlinie
Applied harmonized standards for RoHS directives

Ort, Datum: *Place, date*	Bielefeld, 08.01.2024
Aussteller: *Issuer*	**Jan Hustert** Div. Eng. Mgr.
Rechtsverbindliche Unterschrift: *Signature*	Jan Hustert Digital unterschrieben von Jan Hustert Datum: 2024.01.10 13:46:57 +01'00'

13.10 List of Figures

(en) **Operating Manual**
The Parker Service Master COMPACT

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High Pressure Connectors Europe
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