



Assembly and Operating Manual

iTENDO² pad

ID 1484493

Translation of Original Operating
Manual

Hand in hand for tomorrow

Imprint

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Technical changes:

We reserve the right to make alterations for the purpose of technical improvement.

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Dear Customer,

Thank you for trusting our products and our family-owned company, the leading technology supplier of robots and production machines.

Our team is always available to answer any questions on this product and other solutions. Ask us questions and challenge us. We will find a solution!

Best regards,

Your SCHUNK team

Customer Management

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Please read the operating manual in full and keep it close to the product.

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1 General

1.1 About this manual

This manual contains important information for a safe and appropriate use of the product.

This manual is an integral part of the product and must be kept accessible for the personnel at all times.

Before starting work, the personnel must have read and understood this operating manual. Prerequisite for safe working is the observance of all safety instructions in this manual.

In addition to these instructions, the documents listed under ▶ 1.1.3 [6] are applicable.

NOTE: The illustrations in this manual are intended to provide a basic understanding and may deviate from the actual version.

1.1.1 Presentation of Warning Labels

To make risks clear, the following signal words and symbols are used for safety notes.



⚠ DANGER

Dangers for persons!

Non-observance will inevitably cause irreversible injury or death.



⚠ WARNING

Dangers for persons!

Non-observance can lead to irreversible injury and even death.



⚠ CAUTION

Dangers for persons!

Non-observance can cause minor injuries.

NOTICE

Material damage!

Information about avoiding material damage.

1.1.2 Definition of Terms

In this manual, "product" replaces the product designation on the title page and refers to the complete system with all the individual components.

1.1.3 Applicable documents

- General terms of business *
- Contractual agreements
- Documents for the individual components (e.g. iTENDO² tablet or iTENDO² power plug)
- Assembly and Operating Manual iTENDO² easy connect (ID 1539948)
- Assembly and Operating Manual iTENDO² easy monitor (ID 1547510)
- Assembly and Operating Manual iTENDO² seismo (ID 1558612)

The documents labeled with an asterisk (*) can be downloaded from schunk.com/downloads.

1.2 Warranty

If the product is used as intended, the warranty is valid for 24 months from the ex-works delivery date under the following conditions:

- Observe the applicable documents, ▶ 1.1.3 [6]
- Observe the ambient conditions and operating conditions, ▶ 2.6 [8]
- Observe the specified maintenance instructions.

This does not include special agreements regarding the warranty and wearing parts. In principle, parts that come in contact with the tool or machine are not covered by the warranty.

1.3 Scope of delivery

The scope of delivery includes

- 1 iTENDO² tablet (ID 1484677)
- 1 iTENDO² charger (ID 1484683)
- 1 iTENDO² power plug (ID 1484675)
- 1 iTENDO² tablet charger (ID 1484679)
- 1 iTENDO² case (ID 1484670)
- 1 Assembly and Operating Manual (ID 1494155)

2 Basic safety notes

2.1 Product safety

The product represents the state of the art and the recognized safety rules. However, the product can pose hazards if, for example:

- The product is not used as intended.
- The product is not installed, maintained, stored or transported properly.
- The safety and installation instructions in this manual are not followed.

Avoid any manner of working that could interfere with the function and operational safety of the product.

2.2 Intended use

- The product is solely intended for use in machine tools to record process data from the iTENDO² used.
- The product may only be used and operated with the "iTENDO² app" application software pre-installed by the manufacturer.
- The product may only be installed and used within the scope of the information in the technical data.
- The product is intended for industrial use.
- Appropriate use of the product includes compliance with all instructions in this manual.

2.3 Inappropriate use

The product is not being used as intended if, for example:

- Devices are connected that are not explicitly approved by SCHUNK.
- The information in the technical data is not observed when using and operating the product.
- The product is operated in corrosive media.
- The maintenance and storage specifications are not complied with.

2.4 Constructional changes

Implementation of structural changes

Modifications, changes or reworking, e.g. additional threads, holes, or safety devices, can damage the product or impair its functionality or safety.

- Structural changes should only be made with the written approval of SCHUNK.

2.5 Spare parts

Use of unauthorized spare parts

Using unauthorized spare parts can endanger personnel and damage the product or cause it to malfunction.

- Use only original spare parts or spares authorized by SCHUNK.

2.6 Environmental and operating conditions

Required ambient conditions and operating conditions

Incorrect ambient and operating conditions can make the product unsafe, leading to the risk of serious injuries, considerable material damage and/or a significant reduction to the product's life span.

2.7 Personnel qualification

Inadequate qualifications of the personnel

If the personnel working with the product is not sufficiently qualified, the result may be serious injuries and significant property damage.

- All work may only be performed by qualified personnel.
- Before working with the product, the personnel must have read and understood the complete assembly and operating manual.
- Observe the national safety regulations and rules and general safety instructions.

The following personal qualifications are necessary for the various activities related to the product:

Qualified personnel

Due to its technical training, knowledge and experience, qualified personnel is able to perform the delegated tasks, recognize and avoid possible dangers and knows the relevant standards and regulations.

Instructed person

Instructed persons were instructed by the operator about the delegated tasks and possible dangers due to improper behaviour.

Service personnel of the manufacturer

Due to its technical training, knowledge and experience, service personnel of the manufacturer is able to perform the delegated tasks and to recognize and avoid possible dangers.

2.8 Obligations of the operator

The operator must ensure that:

- The product is only used as intended.
- The product is only operated in a perfect and fully functional status.
- The correct functioning of the product is checked regularly.
- The operating manual is always kept in a complete and legible condition close to the product.
- The product may only be operated and maintained by sufficiently qualified and authorized personnel.
- The personnel is familiar with the contents of the operating manual, in particular the safety notes contained therein.
- The personnel are regularly instructed in occupational safety and environmental protection.

2.9 Personal protective equipment

Use of personal protective equipment

Personal protective equipment serves to protect staff against danger which may interfere with their health or safety at work.

- When working on and with the product, observe the occupational health and safety regulations and wear the required personal protective equipment.
- Observe the valid safety and accident prevention regulations.
- Wear protective gloves to guard against sharp edges and corners or rough surfaces.
- Wear heat-resistant protective gloves when handling hot surfaces.
- Wear protective gloves and safety goggles when handling hazardous substances.
- Wear close-fitting protective clothing and also wear long hair in a hairnet when dealing with moving components.

2.10 Notes on safe operation

Incorrect handling of the personnel

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Avoid any manner of working that may interfere with the function and operational safety of the product.
- Use the product as intended.
- Observe the safety notes and assembly instructions.
- Do not expose the product to any corrosive media. This does not apply to products that are designed for special environments.
- Eliminate any malfunction immediately.
- Observe the care and maintenance instructions.
- Observe the current safety, accident prevention and environmental protection regulations regarding the product's application field.

2.11 Transport

Handling during transport

Incorrect handling during transport may impair the product's safety and cause serious injuries and considerable material damage.

- When handling heavy weights, use lifting equipment to lift the product and transport it by appropriate means.
- Secure the product against falling during transportation and handling.
- Stand clear of suspended loads.

To prevent damage to the product during transport, the following must be observed:

- Protect the product from penetrating humidity (e.g. with suitable packaging).
- The ambient conditions specified in the technical data must be observed.
- The product must be protected from vibrations and impacts.
- All cable connections must be disconnected before transport.
- Stow product components and accessories in the recesses provided.
- The latches of the case must be locked.

2.12 Disassembly, removal and storage

To prevent damage to the product during disassembly, removal and storage, the following must be observed:

- The tablet must be charged to at least 80% and then shut down before packing.

2.13 Malfunctions

Behavior in case of malfunctions

- Immediately remove the product from operation and report the malfunction to the responsible departments/persons.
- Order appropriately trained personnel to rectify the malfunction.
- Do not recommission the product until the malfunction has been rectified.
- Test the product after a malfunction to establish whether it still functions properly and no increased risks have arisen.

2.14 Maintenance

For trouble-free, long-lasting use, clean, maintain and check the functionality of the product regularly.

Repair work may only be carried out by SCHUNK!

If you have any questions regarding maintenance and servicing, our technical after-sales service is available during our business hours:

Service telephone: +49-7133-103-2956

service.toolholder@de.schunk.com

The specified maintenance intervals are based on empirical data gathered by SCHUNK and are a recommendation. Depending on the ambient and operating conditions, as well as the clamping frequency of the product, the maintenance intervals need to be adapted and noted accordingly. For maintenance intervals with two or more specifications, the specification that applies first is valid.

After completing essential maintenance work, any required settings and functional tests must be carried out again.

2.15 Disposal

Handling of disposal

The incorrect handling of disposal may impair the product's safety and cause serious injuries as well as considerable material and environmental harm.

- Follow local regulations on dispatching product components for recycling or proper disposal.



In accordance with the Waste Electrical and Electronic Equipment (WEEE) Directive, the following must be observed during disposal:

- This product may not be disposed of in household waste. It must be taken to a collection point for material recovery and recycling.

2.16 Fundamental dangers

General

- Observe safety distances.
- Never deactivate safety installations.

Disconnect the power source before installation, conversion, maintenance, or calibration. Ensure that no residual energy remains in the system.

2.16.1 Protection during handling and assembly

Incorrect handling and assembly

Incorrect handling and assembly can make the product unsafe and can risk the danger of serious injuries and considerable material damage.

- Order all work to be performed only by appropriately qualified personnel.
- Observe the relevant accident prevention regulations.
- Use suitable assembly and transport equipment.
- Take precautions against pinching and crushing.

2.16.2 Protection during commissioning and operation

Falling and ejected components can lead to serious injury or death.

- Observe the specifications in the iTENDO² operating manual.
- Only use iTENDO² in machines with closed protective equipment.
- Do not exceed the permissible speed range of the iTENDO² (see iTENDO² operating manual).

3 iTENDO² pad complete system

3.1 Technical data

3.1.1 Product data

ID	1484493
Length	350 mm
Width	420 mm
Height	190 mm
Weight	5.75 kg
Range of the wireless connection	2 m

3.1.2 Ambient conditions and operating conditions

Operating temperature range	+20°C to +50°C
Transport temperature range	+20°C to +50°C
Storage temperature range	+20°C ±10°C

3.1.3 Compatible devices

- iTENDO² toolholder
- iTENDO² wireless receiver
- iTENDO² seismo

NOTICE! The product may only be connected to compatible devices!

3.2 Design and description

3.2.1 Design



1 iTENDO² tablet charger

2 iTENDO² charger

3 iTENDO² power plug

4 iTENDO² case

5 iTENDO² tablet

3.2.2 Functional description

This product is the iTENDO² tablet with the iTENDO² app and accessories. In conjunction with an iTENDO² toolholder, process data from machine tools can be recorded and displayed.

During the machining process, process vibrations are detected by the iTENDO² sensor and sent to the iTENDO² tablet via a wireless connection. With the iTENDO² app on the iTENDO² tablet, the recorded data can be displayed, monitored and exported.

3.3 Transport



⚠ CAUTION

Risk of injury due to suspended loads!

Falling loads can cause injuries.

- Always use the carrying handle to transport the iTENDO² case.
- Make sure that the iTENDO² case is closed correctly.
- Wear suitable protective equipment, especially safety gloves.

NOTICE

Risk of possible damage to the product!

Incorrect transport can damage the product and limit its functionality.

- Avoid impacts during transport.

1. Store individual product components safely in the iTENDO² case.
2. Close the iTENDO² case.
3. Use the carrying handle to transport the iTENDO² case.

3.4 Storage

When storing the iTENDO² pad complete system for a longer period of time, the following points must be observed:

- Store the iTENDO² pad complete system in dry rooms only.
- Protect the iTENDO² pad complete system from major temperature fluctuations.
- Comply with the storage temperature specified in the technical data.

4 iTENDO² power plug

4.1 Technical data

4.1.1 Product data

ID	1484675
Weight	0.12 kg
Input	100 V to 250 V
Output	5 V – 2400 mA 2 x USB-A

4.1.2 Ambient conditions and operating conditions

Operating temperature range	+20°C to +50°C
Transport temperature range	-10°C to +50°C
Storage temperature range	+20°C ±10°C

4.2 Design, description and operation

All information regarding the design, description, operation as well as warnings for the iTENDO² power plug can be found in the operating manual from the power supply manufacturer.

NOTE: The operating manual is included in the iTENDO² case.

5 iTENDO² charger

5.1 Technical data

5.1.1 Product data

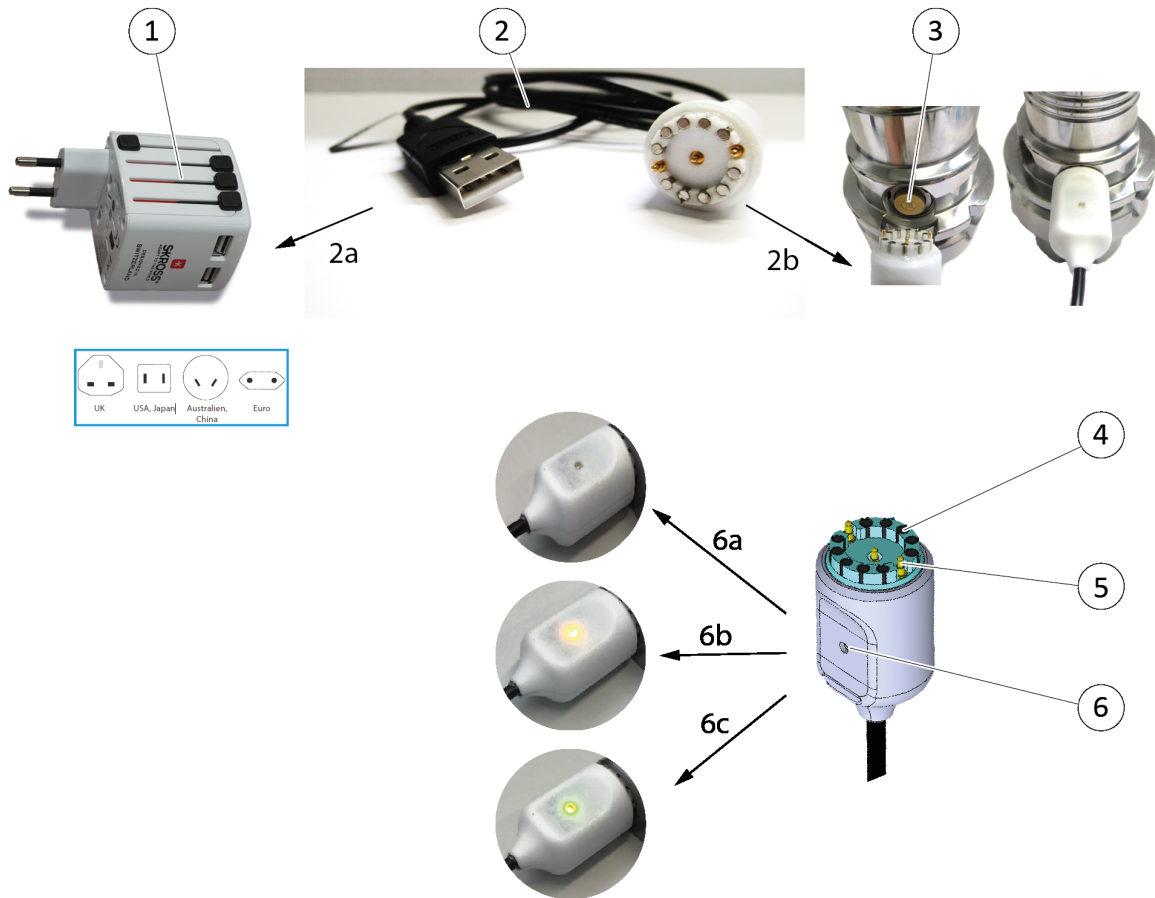
ID	1484683
Weight	0.05 kg
Power consumption	5 V max 0.45 A USB-A
Cable length	1.5 m

5.1.2 Ambient conditions and operating conditions

Operating temperature range	+18°C to +25°C
Maximum product temperature	+35°C
Expansion rate monitoring test temperature	+23°C ±2°C
Storage temperature	+20°C ±10°C

5.2 Design and description

5.2.1 Design



- | | |
|---|--|
| 1 | iTENDO ² power plug |
| 2 | iTENDO ² charger
a) USB-A connector
b) Electrical connection iTENDO ² charger |
| 3 | iTENDO ² charging contact |
| 4 | Magnets |
| 5 | Charging pins |
| 6 | LED display charging status iTENDO ²
a) LED does not light up: no charging process
b) LED lights up orange: charging process
c) LED lights up green: iTENDO ² fully charged |

5.2.2 Functional description

The iTENDO² charger serves as a connecting element between the iTENDO² power plug and the iTENDO². This can be used to charge the battery of the iTENDO². An LED display integrated in the iTENDO² charger provides information about the current charging status of the iTENDO².

5.3 Using the iTENDO² charger



⚠ WARNING

Risk of injury from electric shock due to contact with live parts!

Touching live parts can lead to an electric shock and cause serious injuries.

- Do not touch the charging pins.
- Ensure that there are no conductive materials on the charging pins.
- Check the iTENDO² charger regularly for damage.
- Only use the iTENDO² charger in a dry environment.
- Wear suitable protective equipment.



⚠ CAUTION

Risk of injury due to tripping or falling!

If the iTENDO² charger is placed in walkways, this can lead to injuries due to tripping or falling.

- Do not place the iTENDO² charger within the operator's range of movement.
- Do not place the iTENDO² charger in walkways.

NOTICE

Possible material damage due to humidity.

Penetrating humidity can damage the iTENDO² charger and impair its functionality.

- Protect the iTENDO² charger from humidity.

NOTICE

Material damage due to improper laying of the cable.

Improper laying can damage the cable and limit functionality.

- Do not bend the iTENDO² charger.
- Do not pinch the iTENDO² charger.

1. Clean the contact surfaces of the iTENDO² charger and iTENDO².
2. Ensure that there are no conductive materials on the charging pins. **NOTICE! There is a risk of a short circuit if there are metal chips or other conductive materials on the charging pins!**
3. Connect the iTENDO² charger to the iTENDO² power plug via the USB-A connection.
4. Attach the electrical connection of the iTENDO² charger to the charging contact of the iTENDO² via the magnets.
 - ⇒ The iTENDO² charger snaps into place and the LED display charging status lights up orange. **NOTE:** If the LED does not light up, there is no sufficient contact between the iTENDO² charging cable and iTENDO².

LED display charging status iTENDO²

LED does not light up	no charging process
LED lights up orange	charging process
LED lights up green	iTENDO ² completely charged

NOTE: The exact charging status of the iTENDO² can be displayed in the iTENDO² app ▶ 6.5.1 [📄 29].

5.4 Maintenance

5.4.1 Intervals and tasks

Operation	Interval period
Clean and check charging pins	Before each use or as needed

5.4.1.1 Clean and check charging pins



⚠ WARNING

Risk of injury from electric shock due to contact with live parts!

Touching live parts can lead to an electric shock and cause serious injuries.

- Disconnect the iTENDO² charger from the voltage supply.
- Do not touch the charging pins.
- Check the iTENDO² charger regularly for damage.
- Wear suitable protective equipment.



⚠ CAUTION

Injury of the eyes due to dirt particles!

When cleaning with compressed air, the eyes may be injured by flying dirt particles.

- Wear suitable protective equipment, particularly protective goggles.

1. Disconnect the iTENDO² charger from the voltage supply.
2. Remove chips and contamination with compressed air.
3. Use a suitable tool to carefully remove any stubborn dirt.
4. Clean the charging pins with a cleaning agent that contains alcohol.
5. Dry the charging pins with a clean cloth.
6. Check the charging pins and iTENDO² charger for damage or wear.

NOTE: Damage or wear can compromise the functioning of the product. If non-replaceable parts of the product are worn or damaged, return the product to SCHUNK for inspection.

5.5 Disassembly



⚠ WARNING

Risk of injury from electric shock due to contact with live parts!

Touching live parts can lead to an electric shock and cause serious injuries.

- Disconnect the iTENDO² charger from the voltage supply.
- Do not touch the charging pins.
- Check the iTENDO² charger regularly for damage.
- Wear suitable protective equipment.

1. Disconnect the iTENDO² charger from the voltage supply.
2. Remove iTENDO² charger from iTENDO² power plug.
3. Remove iTENDO² charger from iTENDO².

5.6 Storage

When storing the iTENDO² charger for a longer period of time, the following points must be observed:

- Store the iTENDO² charger in a suitable transport container.
- Store the iTENDO² charger in dry rooms only.
- Protect the iTENDO² charger from major temperature fluctuations.
- Do not bend the iTENDO² charger.
- Comply with the storage temperature specified in the technical data.

6 iTENDO² tablet and iTENDO² app

6.1 Technical data

6.1.1 Product data

ID	1484677
Dimensions	255 x 165 x 28 mm
Weight	0.7 kg
Power consumption	5 V
	max. 450 mA
	USB-C
Cable length connection cable	2 m
Wireless transmission range	2.4 GHz

For further information on the iTENDO² tablet, please refer to the manufacturer's operating manual. **NOTE:** The operating manual is included in the iTENDO² case.

6.1.2 Ambient conditions and operating conditions

Operating temperature range	+20°C to +50°C
Transport temperature range	-10°C to +50°C
Storage temperature range	+10°C to +30°C

6.2 Design and description of the iTENDO² tablet

All information regarding the design and warnings for the iTENDO² tablet can be found in the tablet manufacturer's operating manual. **NOTE:** The operating manual is included in the iTENDO² case.

6.3 Basic information

NOTICE

Possible transmission errors of the sensor data.

Obstacles or electromagnetic interference from the environment can cause transmission errors during the transmission of sensor data.

- Correct interpretation of the sensor data is the responsibility of the user.

NOTICE

Possible material damage due to humidity.

Penetrating humidity can damage the iTENDO² tablet and impair its functionality.

- Protect the iTENDO² tablet from humidity.

Information regarding the warnings and risks of using the iTENDO² tablet can be found in the tablet manufacturer's "Quick start" manual. The "Quick start" manual is included in the iTENDO² case.

6.4 Configuring the iTENDO² tablet and iTENDO² app

1. Press the On/Off button on the iTENDO² tablet.
 - ⇒ The iTENDO² tablet starts. **NOTE:** If the iTENDO² tablet does not start, connect the iTENDO² tablet to the iTENDO² tablet charger.
2. Open the settings of the iTENDO² tablet. To do this, either swipe down from the top of the screen (1) or swipe up from the bottom of the screen (2). Then tap the gear icon (3).



3. To set it up, make the following settings:

The Bluetooth and Wi-Fi connection can be activated in this area.

- Activation of the Bluetooth connection is mandatory. **NOTE:** Without a Bluetooth connection, no connection with the iTENDO² can be established.



Connections

- Activation of the Wi-Fi connection is not mandatory. It can be used to transfer data, for example.

NOTICE

Security risk due to Bluetooth connection.

Activating Bluetooth creates a security risk. It is possible for unauthorized third parties to access the iTENDO² tablet.

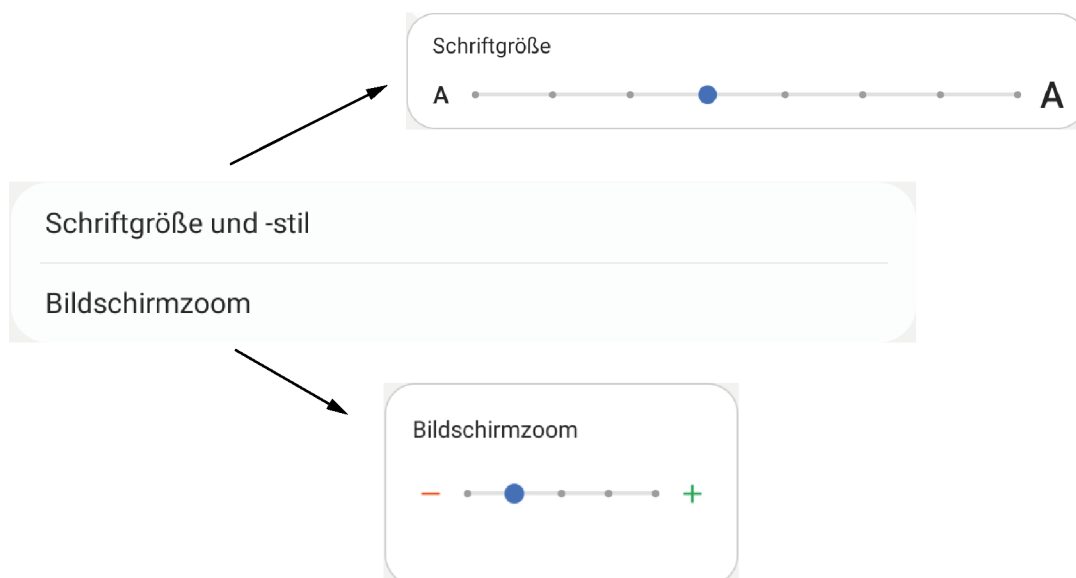
- Activate Bluetooth only when actively using the iTENDO² tablet.



Display

The display settings can be managed in this area. We recommend the following settings:

- Font size: Level 4
- Screen zoom: Level 2
- Screen timeout: approx. 30 minutes



Location


The location settings can be managed in this area.

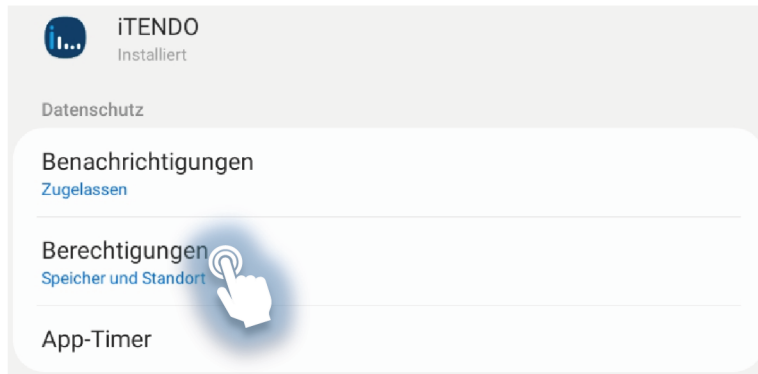
- Activation of the location access is mandatory. **NOTE:** Without location access, the iTENDO² app will not work correctly.



Apps

All installed apps are displayed in this area. The permissions of an app can be managed by tapping on an app.

1. Tap the iTENDO² app .
2. Allow all permissions for the iTENDO² app. **NOTE:** The iTENDO² app will not work correctly without these permissions.



General

General settings such as language, date and time or keyboard settings can be managed in this area.



User manual

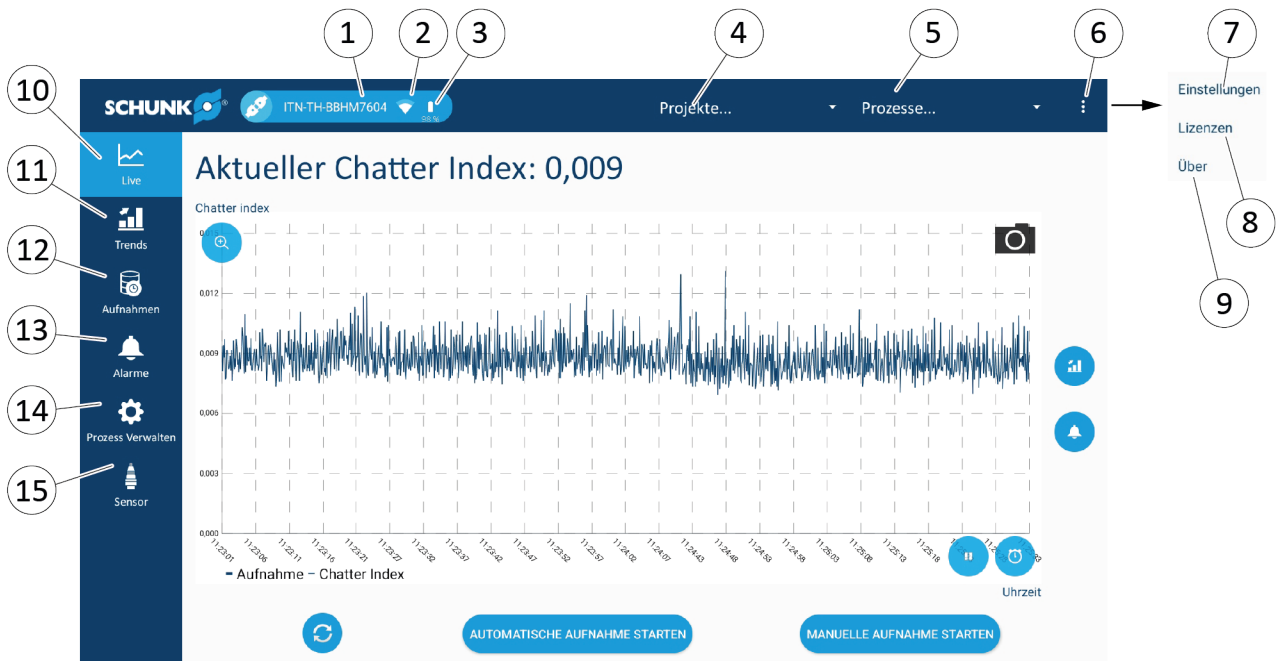
The digital user manual for the iTENDO² tablet can be accessed in this area. **NOTE:** An Internet connection is required for this.

6.5 Operating the iTENDO² tablet and iTENDO² app

NOTE

If the tablet no longer responds to inputs, a restart can be forced. To do this, press the "ON/OFF" button and the "Volume down" button simultaneously for 7 seconds.

6.5.1 Design and description of the iTENDO² app



1 iTENDO² selection

2 Signal strength display

3 Battery charge level

4 Project selection

5 Process selection

6 Configuration area

7 Settings

8 Licenses

9 Over

10 Live display

11 Trend display

12 Recordings

13 Alarm display

14 Manage process

15 Sensor

iTENDO² selection

When using multiple toolholders, the iTENDO² can be selected depending on the process.

Signal strength display

Display of the signal strength per level of the symbol.

Battery charge level

Display of the battery charge level in percent.

Project selection

Allows different projects to be created and selected.

Process selection

Allows different processes to be created and selected. Processes can be created individually by the customer and stored with specific iTENDO² settings.

Configuration area

Submenu with settings and general data.

Settings

Allows you to select different languages, change the separators for data export and the settings for raw data recording, and also create and restore a backup.

Licenses

Provides information about different software licenses.

About

Contains general information about contacts and the iTENDO² app.

Live display

Graphical display of the current chatter index and the possibility to record it.

Trend display

Area for monitoring the temporal development of vibration values from the automatic recording. An upper and lower exact limit can be set.

Recordings

Enables the selection and graphical illustration of previous automatic and manual recordings.

Alarm display

Area for monitoring the current vibration index by adjustable alarm limits of the recordings.

Manage process

Enables the specification and modification of process data.

Sensor

Enables the specification and modification of sensor data.

6.5.2 Opening and closing the iTENDO² app

Opening the iTENDO² app

1. Press the On/Off button on the iTENDO² tablet.

⇒ The iTENDO² tablet starts. **NOTE:** If the iTENDO² tablet does not start, connect the iTENDO² tablet to the iTENDO² tablet charger.

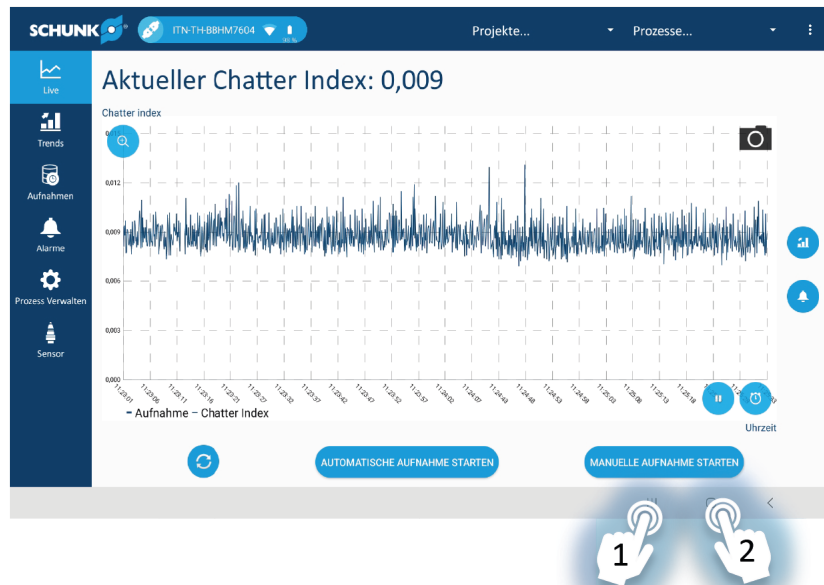
2. Tap the iTENDO² app icon .



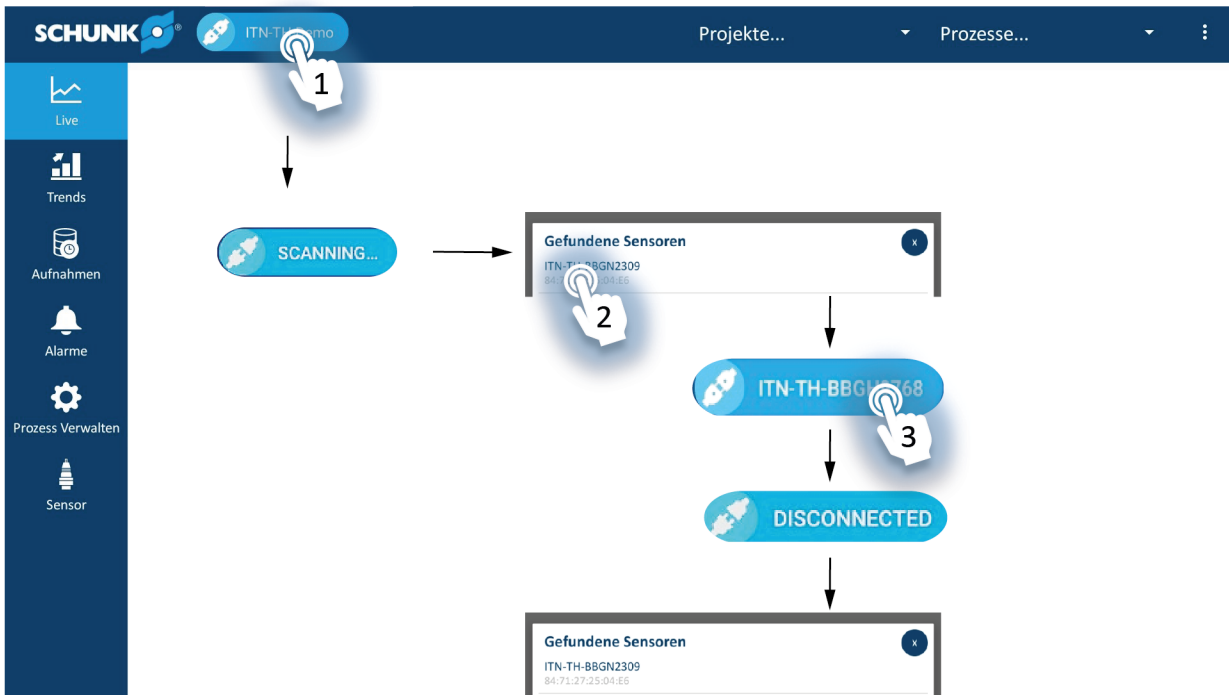
⇒ The iTENDO² app opens.

Closing/minimizing the iTENDO² app

1. Tap on the symbol with the 3 lines (1) and either:
 - ⇒ Close all apps by tapping "Close all" (a), or
 - ⇒ close only the iTENDO² app by swiping up on the iTENDO² app (b).
2. To minimize the iTENDO² app, tap the square icon at the bottom (2)
 - ⇒ The iTENDO² app is still active in the background.



6.5.3 Connecting/disconnecting iTENDO²



Connecting iTENDO²

1. Make sure that the Bluetooth connection is enabled on the iTENDO² tablet ▶ 6.4 [26].
2. Start the iTENDO² app ▶ 6.5.2 [32].
3. Start the scan process by tapping the "ITN-TH-DEMO" button (1).
 - ⇒ A list of sensors where a connection is possible appears.

NOTE: If the desired sensor does not appear, connect the iTENDO² to the iTENDO² charger and try again later.
4. Tap the desired sensor (2).
 - ⇒ Connection to the sensor is established, the data appears in the iTENDO² app.

NOTE: In the "Sensor" display mode, the description of the respective iTENDO² can be changed ▶ 6.5.6.7 [50].

Disconnecting the iTENDO²

- Tap the selection field with the description of the sensor (3).
 - ⇒ The connection is terminated and a list of sensors where a connection is possible appears.

6.5.4 Creating projects and processes



Creating a project

1. Start the iTENDO² app ▶ 6.5.2 [📄 32].
2. Tap the "Projects..." button (1).
⇒ The "Projects..." submenu opens.
3. Tap the "Add project..." button.
4. Enter the project name.
5. Tap the "OK" button to save the project.
⇒ The project is displayed in the "Projects..." submenu.

Creating a process

1. Ensure that the associated project has been created.
2. Tap the "Processes..." button (2).
⇒ The "Processes..." submenu opens.
3. Tap the "Add process..." button.
4. Enter the process name.
5. Tap the "OK" button to save the process.
⇒ The process is displayed in the "Processes..." submenu.

NOTE: In the "Manage process" display mode, projects and processes can be renamed, changed, moved or copied ▶ 6.5.6.6 [📄 48].

6.5.5 Creating screenshots



There are two ways of creating screenshots in the iTENDO² app:

- Briefly press the On/Off button and the Volume down button simultaneously (1). **NOTE:** This allows screenshots to also be created outside of the iTENDO² app.
⇒ Screenshot is saved in the gallery.

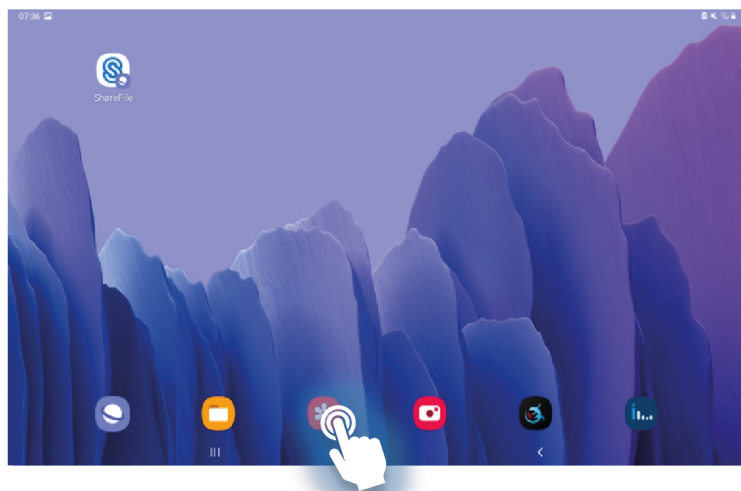
or

- Tap the camera button in the iTENDO² app (2). **NOTE:** This function is only available in the Live, Trend and Recordings display modes.
⇒ Screenshot is saved in the gallery.

Accessing the screenshots

Screenshots are saved in the gallery.

1. Press the square icon in the center at the bottom of the screen to open the iTENDO² tablet start screen.
2. Tap the gallery button.
⇒ The gallery opens, and the screenshots can be accessed.

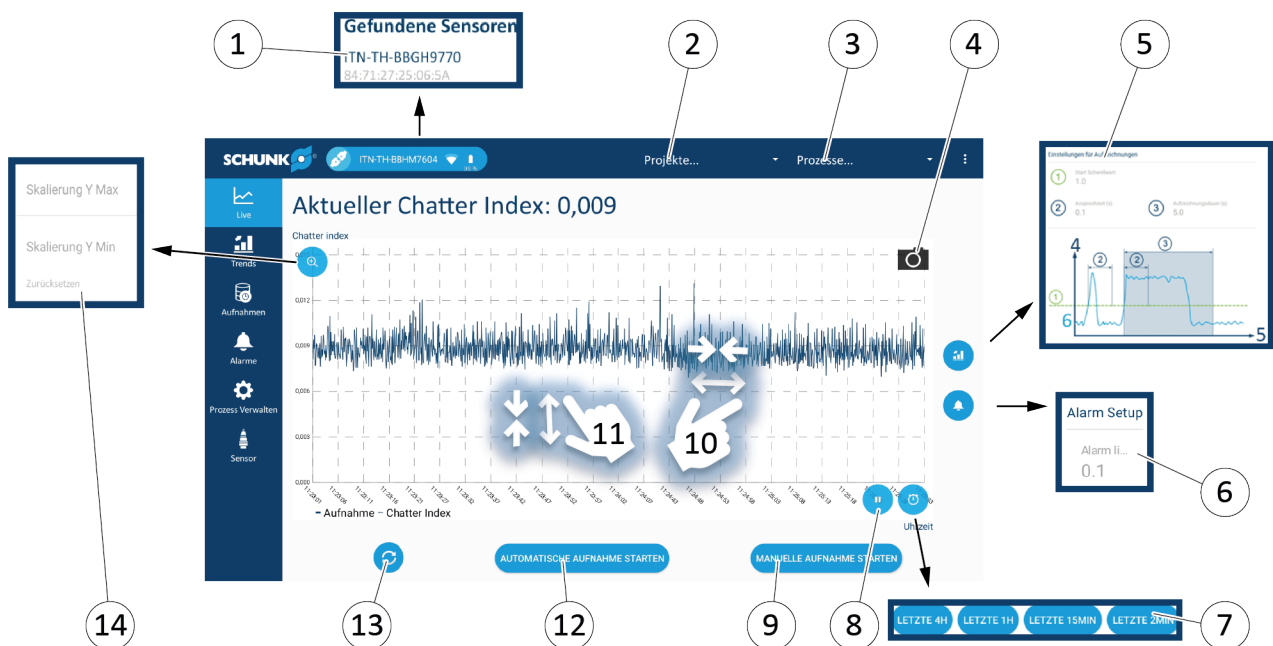


6.5.6 Display modes of the iTENDO² app

There are different display modes that can be selected by tapping the corresponding button.

6.5.6.1 Live display mode

In the Live display mode, the iTENDO² can be selected. The detected vibration data from the sensor is displayed in the central diagram. Data from other sensors that have been connected to the iTENDO² app in the past 4 hours can also be displayed in the central diagram with a frequency of 10 Hz.



- 1 Sensors selection
- 2 Project selection
- 3 Process selection
- 4 Camera button
- 5 Settings menu automatic recordings
- 6 Settings menu alarm limit
- 7 Time range selection button
- 8 Stop the display
- 9 Activate/stop manual recording button
- 10 Manual zoom (X-axis)
- 11 Manual zoom (Y-axis)
- 12 Activate/stop automatic recording button
- 13 Reset view
- 14 Settings menu scale parameters of the Y-axis

Sensors selection

Allows data to be selected and accessed from sensors connected to the iTENDO² app ▶ 6.5.3 [434].

Project selection

Allows previously created projects to be selected ▶ 6.5.4 [435].

Process selection

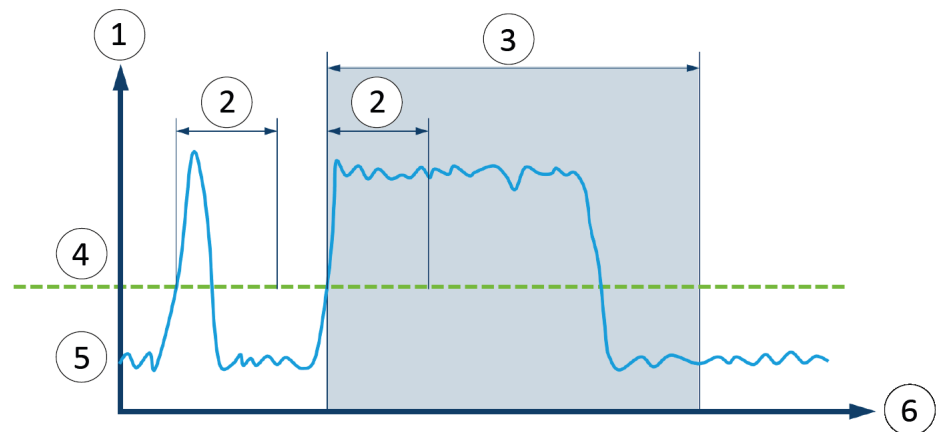
Allows previously created processes to be selected ▶ 6.5.4 [435].

Camera button

Allows screenshots of the central diagram to be taken ▶ 6.5.5 [436]. The screenshots are saved in the gallery.

Settings menu automatic recordings

Allows the setting of process parameters for automatic recordings. **NOTE:** The settings cannot be adjusted during active recordings.



- | | |
|---|---------------------------------|
| 1 | Chatter index |
| 2 | Response time 0.1 to 2 [s] |
| 3 | Recording duration max. 600 [s] |
| 4 | Start threshold [chatter index] |
| 5 | Current chatter index |
| 6 | Time |

Settings menu alarm limit

Allows the live alarm limit for the automatic and manual recording to be set. The alarm limit is displayed as a red line in the central diagram. When an alarm is triggered, a red dot appears on the alarm button and it is listed in the Alarm display mode ▶ 6.5.6.5 [447]. **NOTE:** The settings cannot be adjusted during active recordings.

Time range selection button

Allows the time range to be selected for the data to be displayed in the central diagram.

Stop the display

Allows the display of the central diagram to be stopped. This prevents automatic scaling and ensures a detailed view with manual zoom.

Activate/stop manual recording button

Button for starting (blue) or stopping (red) manual recording. Recording starts immediately after starting. **NOTE:** The background is not colored blue in the manual recording. Manual recordings are only available in Recording mode and not in the Trend mode.

Manual zoom (X-axis)

Allows arbitrary zooming in or out of the diagram view from the X-axis (time) by expanding or contracting the fingers.

Manual zoom (Y-axis)

Allows arbitrary zooming in or out of the diagram view from the Y-axis (chatter index) by expanding or contracting the fingers.

Activate/stop automatic recording button

Button for activating (blue) or stopping (red) the automatic recording. If the automatic recording is activated, it will be started depending on the parameters set in the automatic recording settings menu. When a recording is taking place, the background is colored blue. **NOTE:** The background is only colored blue in automatic recordings.

Reset view

Allows the settings of the scale parameters to be reset for the axes and the manual zoom in the live diagram.

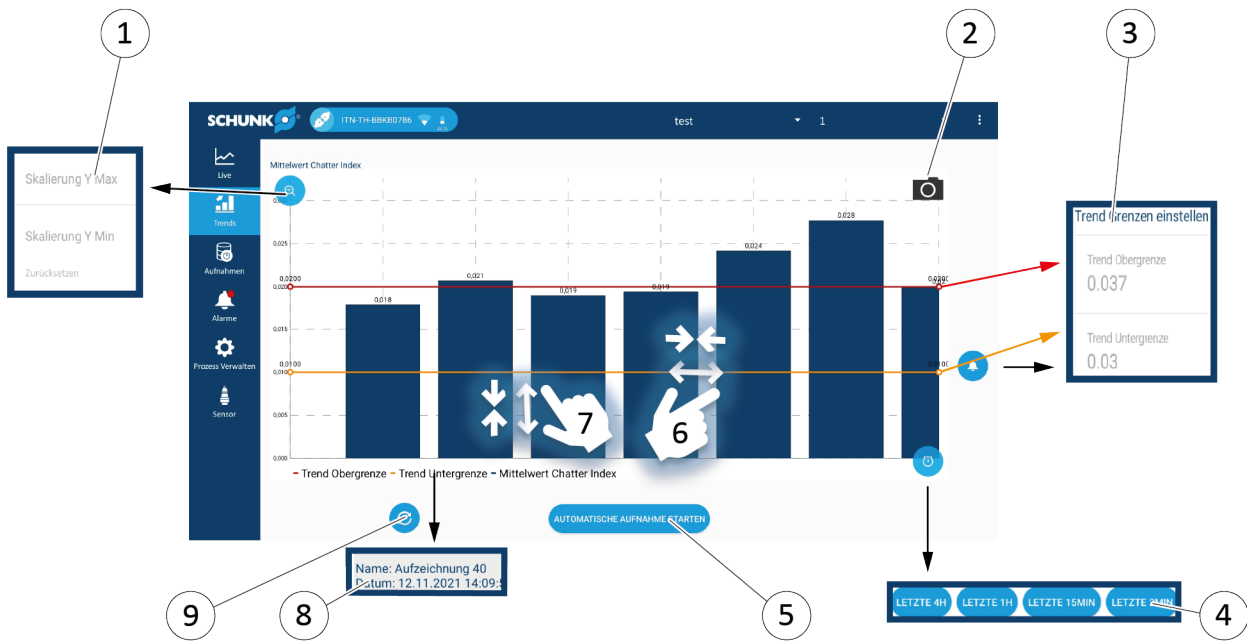
Settings menu scale parameters of the Y-axis

Allows the settings of the scale parameters to be set and reset for the Y-axis of the central diagram.

6.5.6.2 Trend display mode

In the Trend display mode, the average values of individual recordings from the automatic recording can be determined. In the central diagram, the average values can be compared and additional exact limits can be defined.

NOTE: Trends can only be displayed if recordings exist for the selected process.



- 1 Settings menu scale parameters of the Y-axis

- 2 Camera button

- 3 Settings menu trend limits

- 4 Number of bars shown button

- 5 Activate/stop automatic recording button

- 6 Manual zoom (X-axis)

- 7 Manual zoom (Y-axis)

- 8 Bar-specific information

- 9 Reset view

Settings menu scale parameters of the Y-axis

Allows the settings of the scale parameters to be set and reset for the Y-axis of the central diagram.

Camera button

Allows screenshots of the central diagram to be taken ▶ 6.5.5 [436]. The screenshots are saved in the gallery.

Settings menu trend limits

Allows trend limits to be set. Trend upper limit and trend lower limit values are displayed as colored lines in the central diagram. When a trend alarm is triggered, it is listed in the Alarm display mode ▶ 6.5.6.5 [447].

Number of bars shown button

Allows the number of bars to be selected for the data to be displayed in the central diagram.

Activate/stop automatic recording button

Button for activating (blue) or stopping (red) the automatic recording. If the automatic recording is activated, it will be started depending on the parameters set in the automatic recording settings menu.

Manual zoom (X-axis)

Allows arbitrary zooming in or out of the diagram view from the X-axis (number of bars) by expanding or contracting the fingers.

Manual zoom (Y-axis)

Allows arbitrary zooming in or out of the diagram view from the Y-axis (chatter index) by expanding or contracting the fingers.

Bar-specific information

Tapping the bars displays information about the individual recordings.

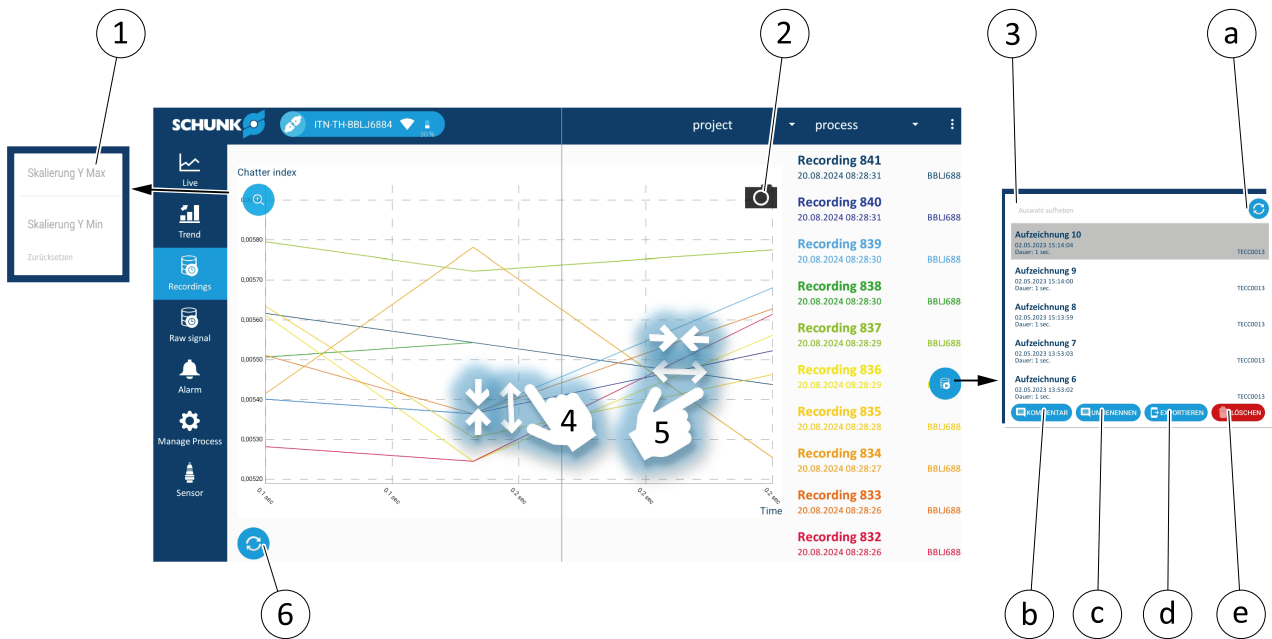
Reset view

Allows the settings of the scale parameters to be reset for the axes and for manual zoom in the trend diagram.

6.5.6.3 Display mode recordings

In the Recordings display mode, all manual and automatic recordings of processes are listed. If required, the different recordings can be displayed as different colored lines in the central diagram.

NOTE: The legend to the right of the central diagram assigns a recording to each colored line.



- 1 Settings menu scale parameters of the Y-axis

- 2 Camera button

- 3 Overview of recorded processes

- 4 Manual zoom (Y-axis)

- 5 Manual zoom (X-axis)

- 6 Reset view

Settings menu scale parameters of the Y-axis

Allows the settings of the scale parameters to be set and reset for the Y-axis of the central diagram.

Camera button

Allows screenshots of the central diagram to be taken ▶ 6.5.5 [436]. The screenshots are available in the tablet's gallery.

Overview of recorded processes

A list of all recorded processes. The processes can be selected and displayed as colored lines in the central diagram. The following functions can be used:

- Reloading the recording list (a)
- Annotating the selected recording (b)
- Renaming the selected recording (c)
- Export of all recordings for the selected process or the recordings selected in the list in CSV file format ▶ 6.5.6.4 [444] (d)

NOTE: The decimal separator in the CSV file can be changed in the settings (point or comma) ▶ 6.5.1 [29].

- Deleting the selected recordings (e)

Manual zoom (Y-axis)

Allows arbitrary zooming in or out of the diagram view from the Y-axis (chatter index) by expanding or contracting the fingers.

Manual zoom (X-axis)

Allows arbitrary zooming in or out of the diagram view from the X-axis (time) by expanding or contracting the fingers.

Reset view

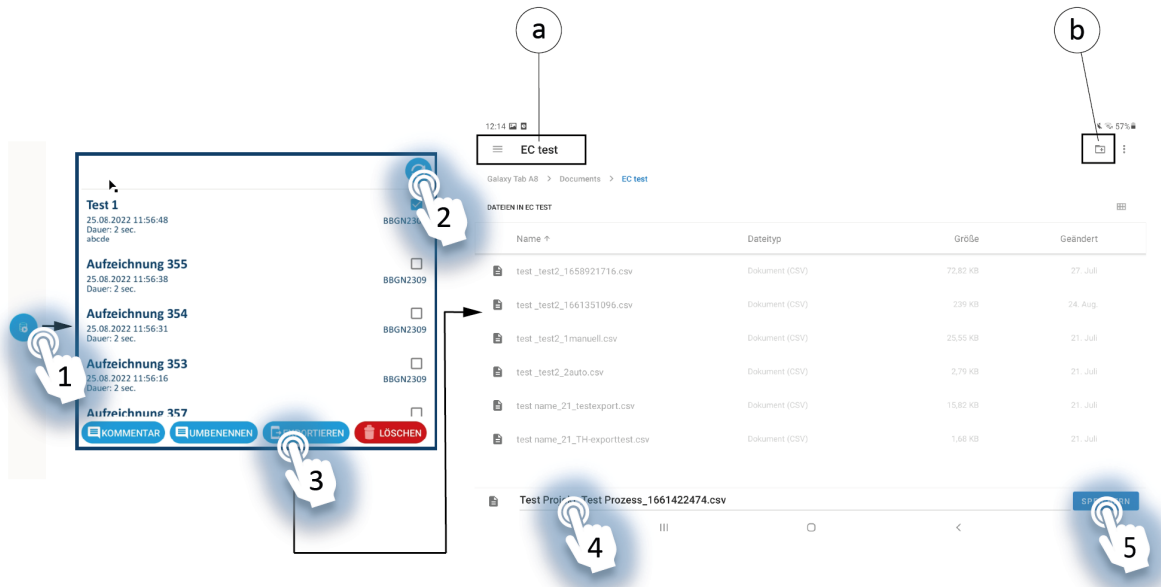
Allows the settings of the scale parameters to be reset for the axes and the manual zoom in the diagram.

6.5.6.4 Exporting recordings / managing exported recordings

Exporting recordings

In the Recordings display mode, data can be exported in CSV file format. To do this proceed as follows.

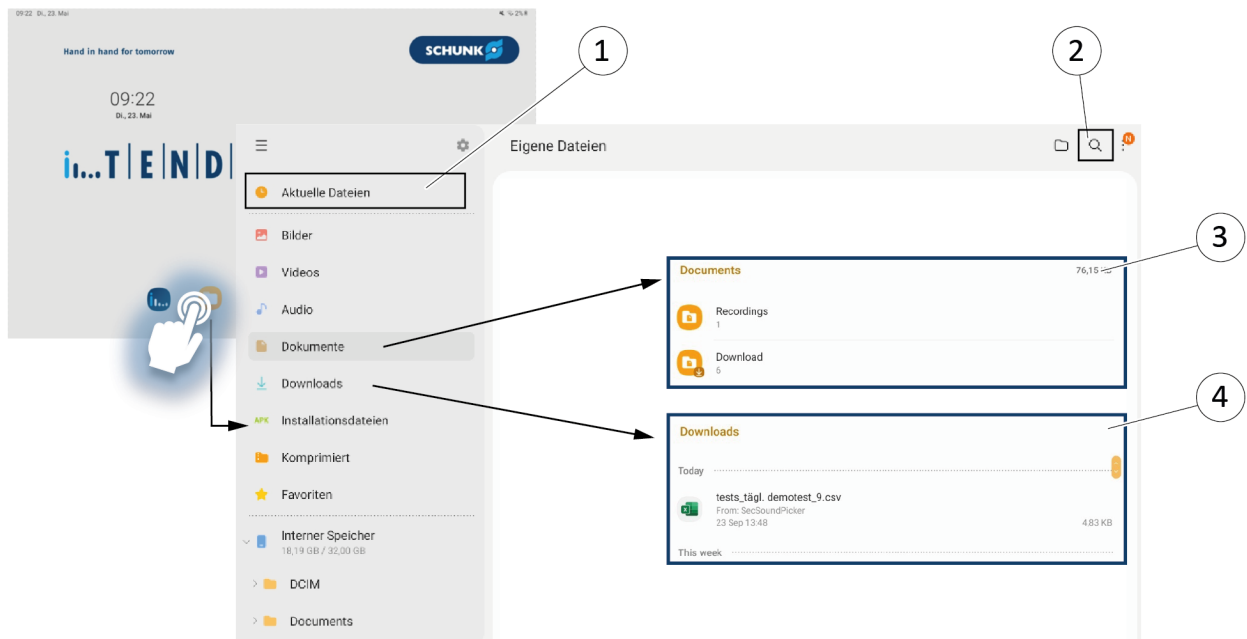
NOTE: The decimal separator in the CSV file can be changed in the settings (point or comma) ▶ 6.5.1 [📄 29].



1. Open the overview of recorded processes by tapping the button.
2. Select the recording whose data is to be exported. **NOTE:** One or more recordings can be selected before exporting. If no recording is selected, all recordings are exported.
3. Tap the "EXPORT" button to specify the storage location of the data.
 - ⇒ A destination folder for saving can be set (a) or newly created (b).
4. Adjust the name of the exported data as needed. **NOTE:** The extension .csv is determined by the file format and must not be changed.
5. Tap the "Save" button to export the data.

Finding exported recordings

To access the exported data open the "My Files" button.



1 Current files

2 Search

3 Documents

4 Downloads

Current files

Under "Current files" you can see the last saved files.

Search

Under "Search" files can be searched for by their file name.

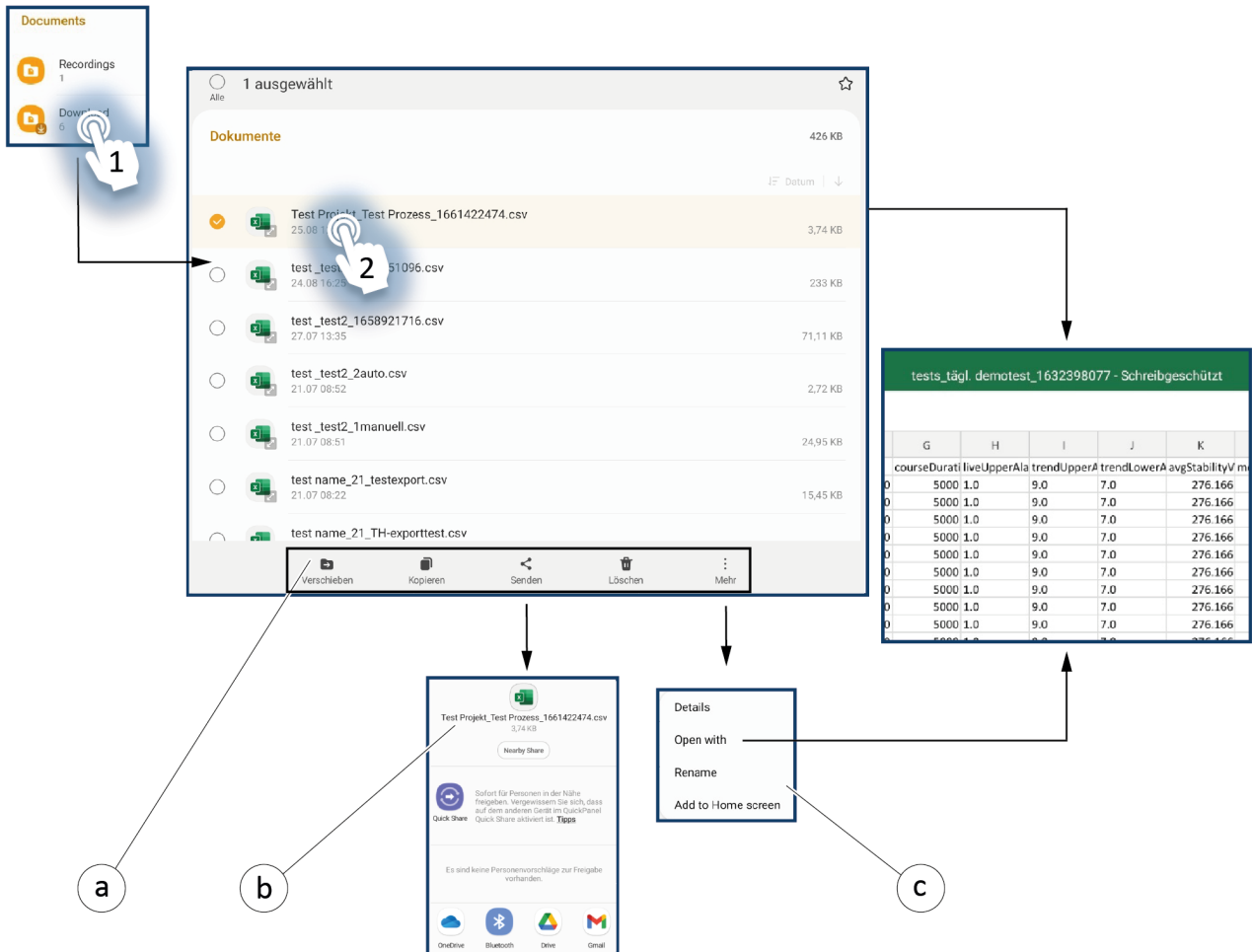
Documents

An overview of all folders appears under "Documents". Here you can open the desired file.

Downloads

Under "Downloads" you can see all recently downloaded files.

Managing exported recordings



1. Open the appropriate folder with the desired file.
2. Tap and hold the file with your finger for a few seconds.
 - ⇒ A selection bar (a) opens in which the file can be released (b) or, for example, renamed (c).
3. Tap the file to open it. To open the file with a special program, tap and hold the file with your finger for a few seconds, then tap "More" and "Open with" in the selection bar (a).

6.5.6.5 Alarm display mode

In the Alarm display mode, all alarms that have occurred recently are displayed.



To delete an individual alarm, the "X" button must be tapped (1). To delete all alarms, the "Delete all alarms" button must be tapped (2).

There are 3 different types of alarms:

- Alarm from the Trend display for the lower exact limit
- Alarm from the Live display when the exact limit is exceeded
- Alarm from the trend display for the upper exact limit

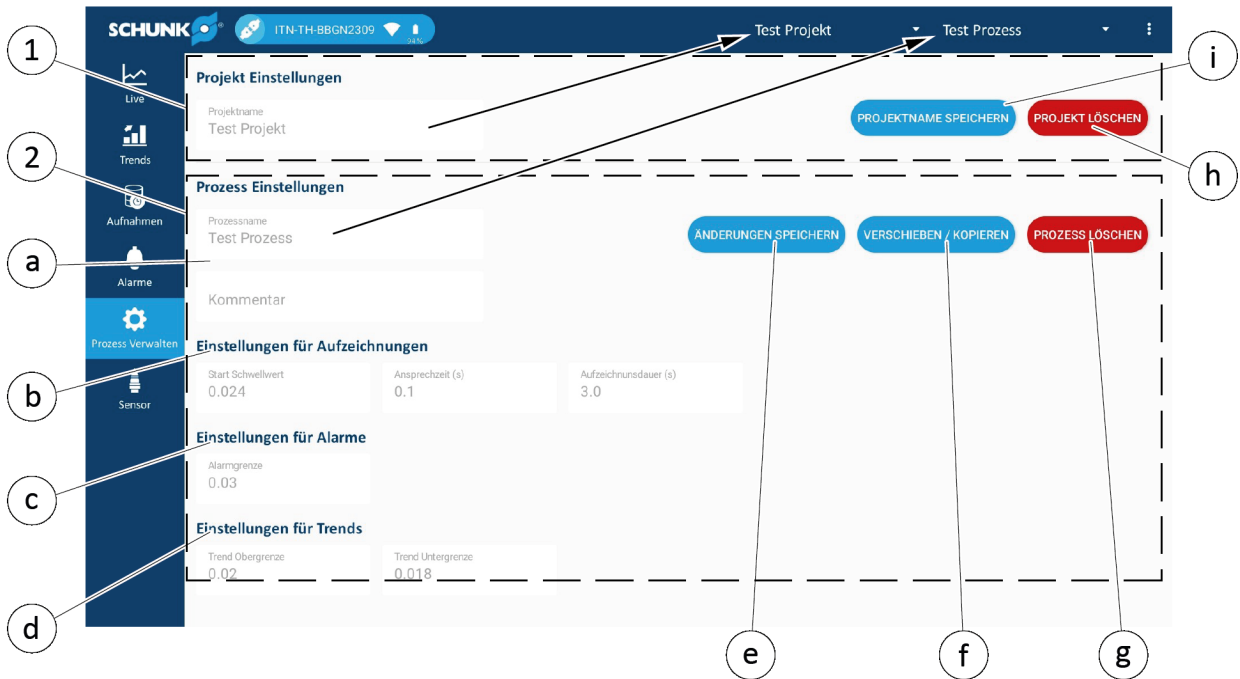
For more detailed information on an alarm, tap the corresponding alarm. Tapping an alarm opens the Trend display or the Recording display and selects the corresponding recording of the alarm.

NOTE: The respective trend exact limits can be set in the Trend display mode ▶ 6.5.6.2 [40].

6.5.6.6 Manage process display mode

In the Manage process display mode, the settings of the process and the project can be managed.

NOTE: Processes and projects must be created before they can be managed ▶ 6.5.4 [📄 35].



1 Project settings area

2 Process settings area

NOTE: If not all areas are visible, you can scroll down or adjust the font size of the tablet.

Project settings area

In this area you can change the project name or delete the project.

- Button to save the new project name (i)
- Button to delete the project (h). **NOTICE!** If a project is deleted, all processes contained in it are also deleted!

Process settings area

In this area the selected process can be renamed, commented on or deleted.

- Change the process name or write a comment (a). **NOTE:** A process name is always required.
- Area for setting the automatic recordings (b).
- Area for setting the alarm from the Live display mode (c).
- Area for setting the alarm from the Trend display mode (d).
- Button to save the changes (e).
- Button to move (with recordings) or copy (without recordings) the process to another project (f).
- Button to delete the process (g).

Area for editing information

The screenshot displays the 'Area for editing information' in the SCHUNK iTENDO² app. The interface is divided into three main sections, each with a dashed border and a callout label:

- 3a: Prozess-Informationen** (Process Information):

Bearbeitungsverfahren Manteln			Maschinenname	
Spindeldrehzahl (U/min)	Vorschubgeschwindigkeit (mm/...)	Axiale Schnitttiefe (ap) [mm]		
60000	80	8.0		
Schnittgeschwindigkeit (m/min)	Vorschub pro Zahn [mm]	Radiale Schnitttiefe (ar) [mm]		
600	0.05	8.0		
- 3b: Werkzeug-Informationen** (Tool Information):

Werkzeug-Typ Fräser	Vollmaterial / Wendschneidplatten Massiv Vollhartmetall	ID-Nummer des Werkzeugs 000000	Eingetragene ID-Nummer 000000	Gesamtlänge 12.0
Durchmesser Ø [mm]	Schneiden Anzahl	Werkzeugüberstand [mm]	Steigungswinkel [°]	
8.0	3	9.0	45.0	
- 3c: Werkstück-Informationen** (Workpiece Information):

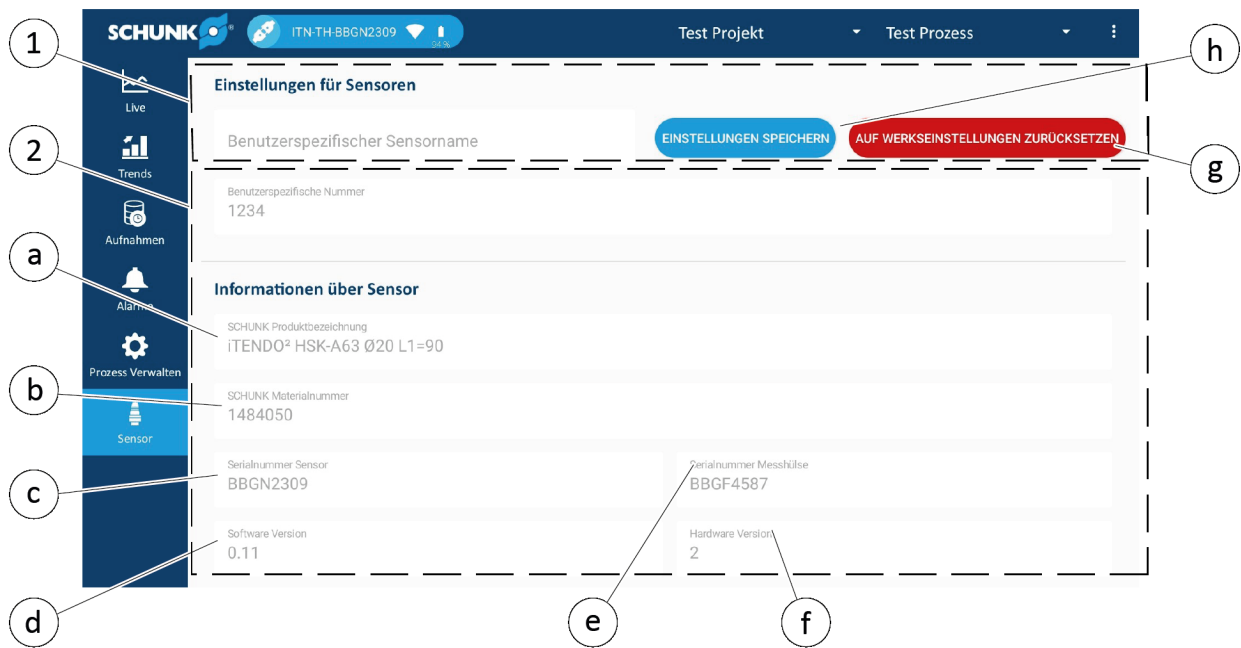
Material des Werkstücks 1.17458	Festigkeit des Materials [N/mm²] 670	Zustand des Materials +QT
------------------------------------	---	------------------------------

The left sidebar contains navigation icons for Live, Trends, Aufnahmen, Rohsignal, Alarme, Prozess Verwalten, and Sensor. The top bar shows the SCHUNK logo, a connection ID (ITN TH-BBKF9990), and dropdown menus for 'project' and 'process'.

Information on the process (3a), the tool (3b) and the workpiece (3c) can be stored in this area.

6.5.6.7 Sensor display mode

In the Sensor display mode, the information about the respective sensor can be set and retrieved.



1 Settings for sensor area

2 Information about sensor area

NOTE: If not all areas are visible, you can scroll down or adjust the font size of the tablet.

Settings for sensor area

In this area, the name and number of the sensor can be set and changed. The new settings will only be displayed after disconnecting and reconnecting ▶ 6.5.3 [34] with the iTENDO².

- Button to save the changed settings (h).
- Button to reset the settings (g). **NOTE:** The name of the sensor is reset to the serial number (c) of the corresponding iTENDO².

Information about sensor area

Information about the sensor is displayed in this area. **NOTE:** The information in this area cannot be changed by the customer.

- Product designation (b).
- Material number (b).
- Serial number of the iTENDO² (c).
- Software version (d).
- Electronic serial number (e).
- Hardware version (f).

6.5.7 Raw data recording

Raw data recording allows the unprocessed acceleration data from +/- 100g with a frequency of 15kHz of the iTENDO² sensor to be recorded.

Raw data recording is an additional function. It is suitable for applications where the acceleration data is viewed more closely and not evaluated via the chatter index.

The recorded raw data can be exported in CSV file format and then evaluated, analyzed and displayed by measurement, analysis and evaluation systems.

NOTE: Raw signal recordings drain the battery more quickly.

6.5.7.1 Prerequisites

To be able to use the additional Raw data recording function, the following prerequisites must be met:

- iTENDO² pad with OS version Android 12 or higher.
- iTENDO² app with app version 2.1 (17) or higher (from 3.0 raw data can be recorded automatically).
- iTENDO² sensor with software version 2.1.0 or higher.
- Raw data recording must be activated.

Checking the requirements on iTENDO² pad and app

1. Open the configuration area of the iTENDO² app ▶ 6.5.1 [📄 29].
2. Select the "About" area.
 - ⇒ The OS version for the iTENDO² pad is displayed.
 - ⇒ The app version of the iTENDO² app is displayed.

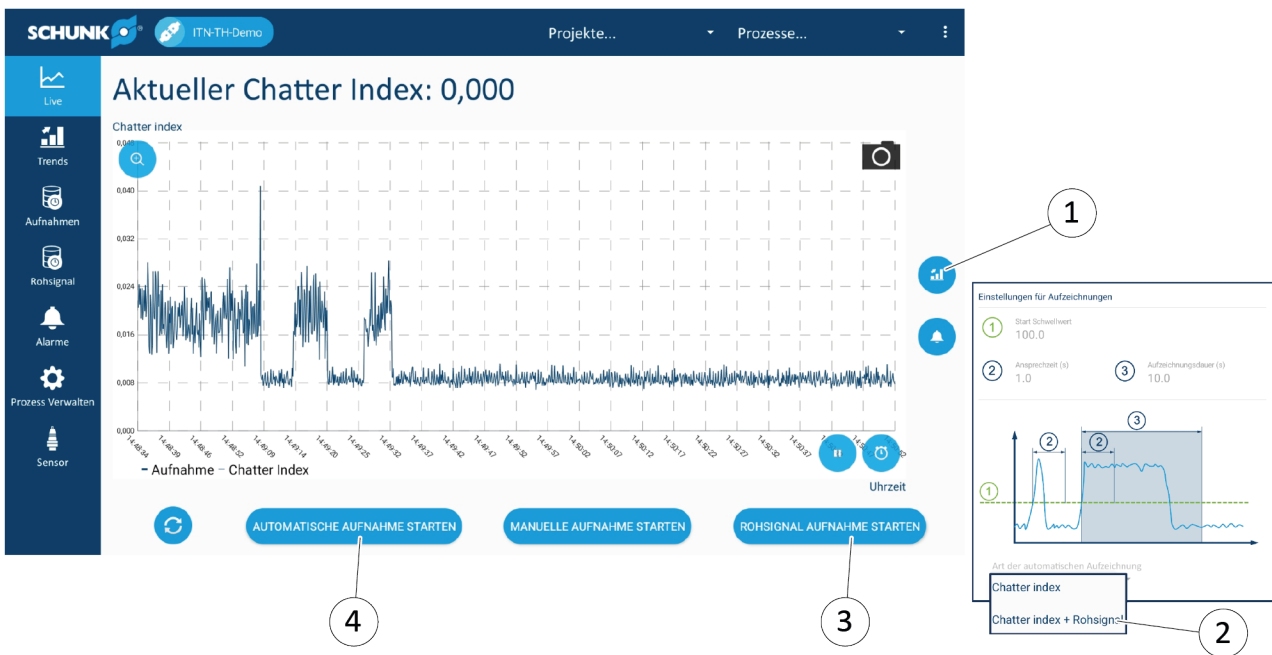
Checking the prerequisites on the iTENDO² sensor

1. Connect the iTENDO² sensor ▶ 6.5.3 [📄 34].
2. Select the "Sensor" area ▶ 6.5.6.7 [📄 50].
 - ⇒ The software version of the iTENDO² sensor is displayed in the "Information about sensor" area.

Activating raw data recording

1. Open the configuration area of the iTENDO² app ▶ 6.5.1 [📄 29].
2. Select the "Settings" area.
3. Tap slider "iTENDO² Pad Raw Data".
 - ⇒ The slider moves to the right and turns blue.
 - ⇒ In the Live display mode, the "Start raw signal recording" button appears.
 - ⇒ The Raw Data display mode appears in the sidebar.
 - ⇒ The type of automatic recording can be adjusted in the settings for recordings.

6.5.7.2 Recording raw data



1 Recording settings button

2 Drop-down menu for type of automatic recording

3 Start manual raw signal recording button

4 Start automatic recording button

Starts manual recording of raw data

1. Select Live display mode ▶ 6.5.1 [29].
2. Select the blue button "Stop raw signal recording".
 - ⇒ Starts recording of raw data.
 - ⇒ "Start raw signal recording" button turns red

NOTE: All recording modes can be active at the same time. However, recordings can only be started provided a project and a process are selected.

Stops manual recording of raw data

1. Select Live display mode ▶ 6.5.1 [29].
2. Select the red button "Stop raw signal recording".
 - ⇒ Recording of raw data is stopped.
 - ⇒ "Start raw signal recording" button turns blue

Starts automatic recording of raw data

1. Select Live display mode ▶ 6.5.1 [📄 29].
2. Open Recording settings parameter.
3. Select "Chatter Index + raw signal" from the drop-down menu.
4. Select the blue "Start automatic recording" button.
 - ⇒ Automatic recording is active and starts as soon as the set parameters are exceeded.
 - ⇒ "Start automatic recording" button turns red.

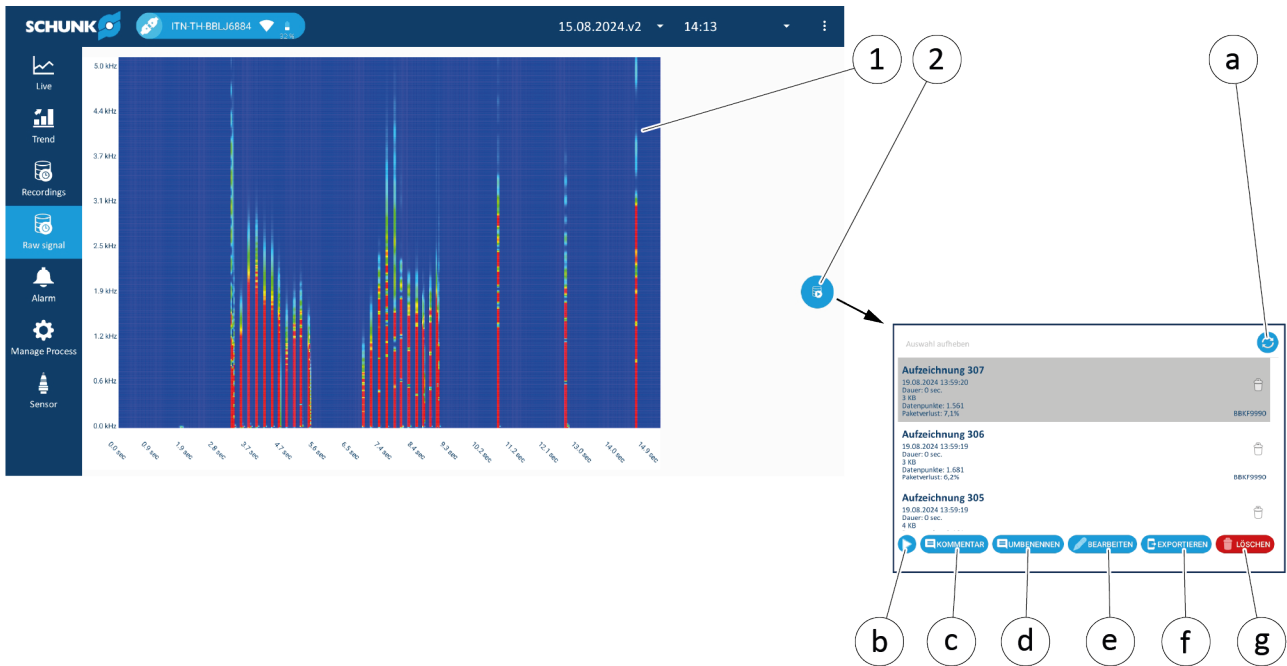
NOTE: Raw data transmission may result in higher base oscillations, which is why it may be necessary to adjust the threshold value.

Stops the automatic recording of raw data

1. Select Live display mode ▶ 6.5.1 [📄 29].
2. Select the red "Stop automatic recording" button.
 - ⇒ The recordings are stopped.
 - ⇒ "Start automatic recording" button turns blue.

6.5.7.3 Raw signal display mode

In the Raw signal display mode, all manual and automatic raw signals of processes are listed. If required, a recording can be displayed as an STFT (Short-Time Fourier Transform) (1) in the central diagram. The STFT shows at which time (X-axis) and which frequencies (Y-axis) were excited. The strength of the activity is shown on a color scale, blue meaning low activity and red meaning high activity. **NOTE:** Only recordings with a length of up to 120 seconds can be displayed as STFT.



1 STFT illustration

2 Overview of recorded processes button

Overview of recorded processes

A list of all raw signal recordings. The recording can be selected and displayed as an STFT (Short-Time Fourier Transform) in the central diagram. **NOTE:** The recording length must not exceed 120 seconds, otherwise it cannot be displayed as an STFT.

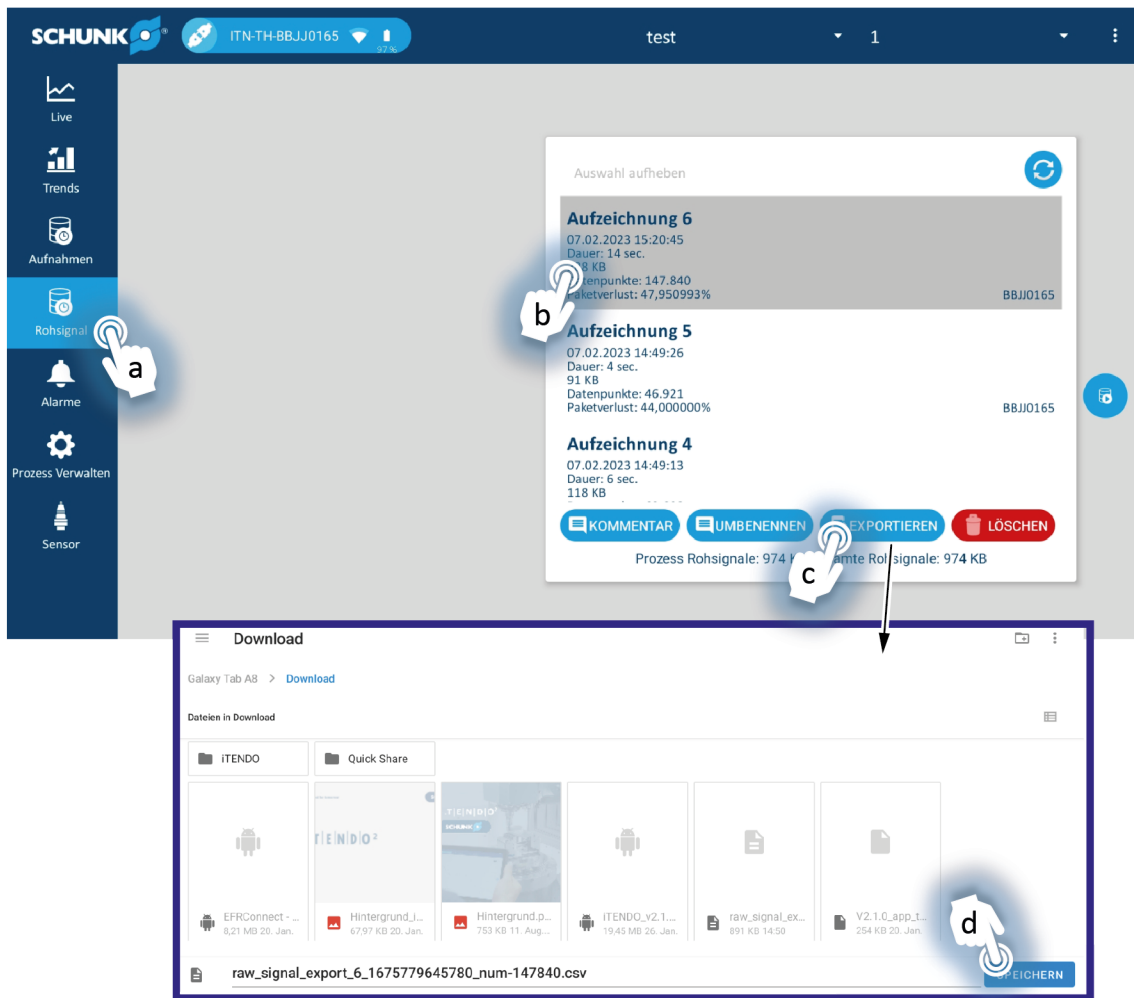
The following functions can be used:

- Reloading the recording list (a)
- Playing audio for the selected recording (b)
- Adding a comment for the selected recording (b)
- Renaming the selected recording (d)
- Editing the process information for the selected recording (e)
- Exporting all recordings for the selected process or the recordings selected in the list in CSV file format ▶ 6.5.6.4 [44] (f)

NOTE: The decimal separator in the CSV file can be changed in the settings (point or comma) ▶ 6.5.1 [29].

- Deleting the selected recordings (g)

6.5.7.4 Exporting raw data



1. Make sure that the decimal separator of the CSV file is set correctly ▶ 6.5.1 [📄 29].
2. Select Raw Data display mode in the sidebar (a).
3. Selecting the recording from which data is to be exported (b)
NOTE: One or more recordings can be selected before exporting. If no recording is selected, all recordings are exported.
4. Tap the "EXPORT" button to specify the storage location for the data (c).
5. Adjust the name of the data exported as needed. **NOTE:** The extension .csv is required for the file format and must not be changed.
6. Tap the "SAVE" button to export the data.

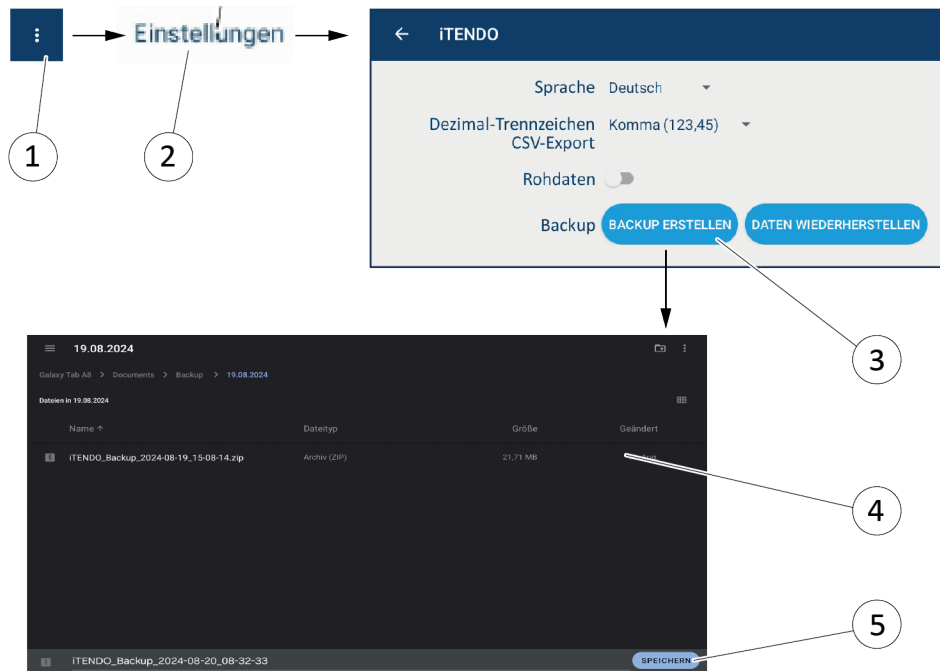
6.5.7.5 Cloud upload

Once the raw data has been activated, the Cloud upload function is also displayed in the settings. This function can be used in consultation with SCHUNK under certain IT security conditions. Further information is available at **itendo@de.schunk.com**.

6.5.8 Backup

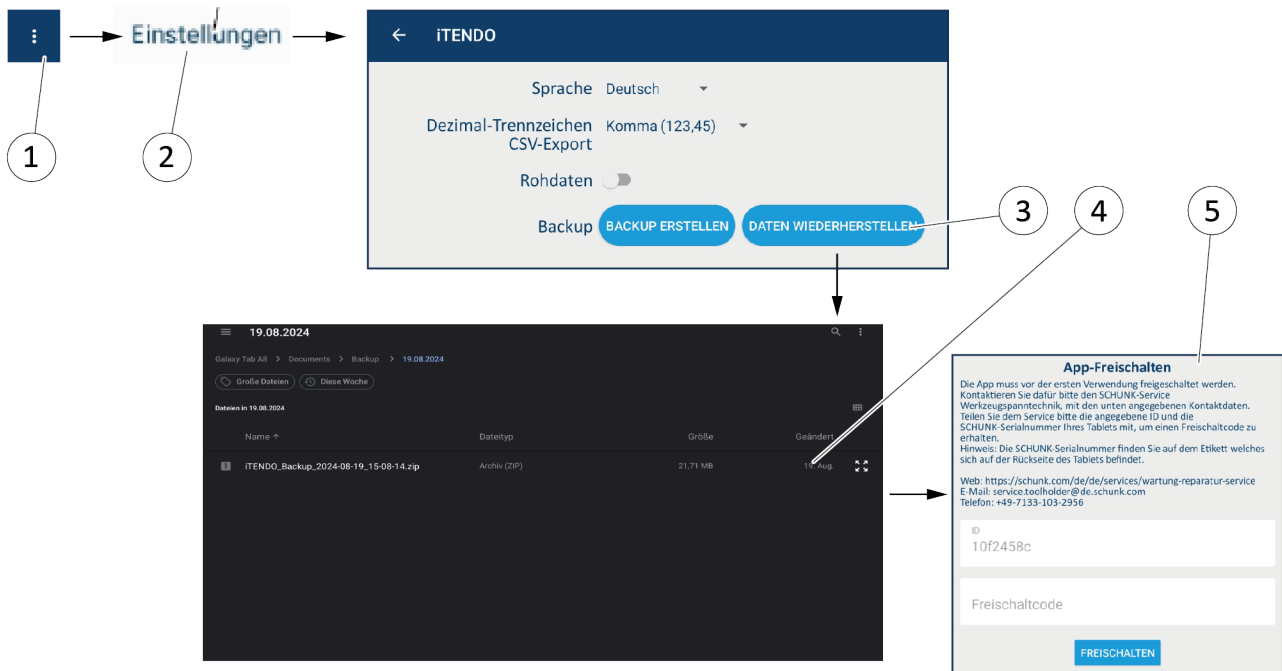
The backup is a copy of all data available in the app at the time the backup is created. Data that is recorded or saved after the backup has been created is not included in this copy.

Save data as a backup



1. Select the three-point menu (1).
2. Select Settings (2).
3. Select the Create backup button (3).
4. Select memory location (4).
5. Select the Save button (5).

Restore data from backup



CAUTION! Restoring the backup overwrites all existing data in the app and the app also needs to be activated again!

1. Select the three-point menu (1).
2. Select Settings (2).
3. Select Restore data button (3).
4. Select backup file (4).
5. Close and restart the app.
6. Enter the activation code (5). **NOTE:** The process for obtaining the activation code is described in the app.

6.6 Charging the iTENDO² tablet

Charge the iTENDO² tablet only with the included iTENDO² tablet charger and iTENDO² power plug. **NOTICE! Do not charge the iTENDO² tablet for more than one week, otherwise there is a risk of overcharging the battery.** For further information on charging the iTENDO² tablet, please refer to the tablet manufacturer's operating manual. **NOTE:** The operating manual is included in the iTENDO² case.

6.7 Cleaning the iTENDO² tablet

Observe the following when cleaning the touch display:

- Remove the iTENDO² tablet charger from the iTENDO² tablet before cleaning.
- For cleaning, use a soft cloth or sponge slightly moistened with a mild detergent.
- Do not use a cloth or sponge that could scratch the surface.
- Clean the touch display with a soft, clean, cloth or sponge sprayed with window or glass cleaner. Never spray the cleaning agent directly onto the touchscreen. Do not use alcohol (methyl, ethyl or isopropyl alcohol), thinners, benzines or other abrasive cleaners.

Note the following for cleaning the USB-C charging connection:

- Do not use any liquids or chemicals to clean the charging connection.
- Only clean the charging connection very carefully with a suitable tool.

6.8 Storage

When storing the iTENDO² tablet, the following points must be observed:

- Store the iTENDO² tablet in a suitable transport container.
- Store the iTENDO² tablet in dry rooms only.
- Protect the iTENDO² tablet from major temperature fluctuations.
- Comply with the storage temperature specified in the technical data.

7 Troubleshooting

Repair work may only be carried out by SCHUNK!

If you have any questions regarding maintenance and servicing, our technical after-sales service is available during our business hours:

Service telephone: +49-7133-103-2956

service.toolholder@de.schunk.com

Possible malfunction / occurring errors	Possible causes	Remedial measures	
iTENDO ² does not connect	iTENDO ² is not charged	Charge the iTENDO ²	
	Incorrect iTENDO ² (name) selected	Check the selected name	
	iTENDO ² out of wireless range of the tablet	Reduce distance of the iTENDO ² / tablet	
	Obstacles prevent a stable connection		Position the tablet differently and try to avoid having
			<ul style="list-style-type: none"> • obstacles, • operating personnel, • many layers of metal, between the iTENDO² and iTENDO² tablet
iTENDO ² is connected but no vibrations are displayed	Interference signals in the environment	Check the environment for other Bluetooth devices	
	Bluetooth is switched off	Switch on Bluetooth	
	Malfunction of the iTENDO ² app	Restart the iTENDO ² app	
iTENDO ² is not charging	Charger not properly connected to iTENDO ² charging contact	Align charging contact on iTENDO ² correctly	
	Dirty charging contact on the iTENDO ²	Clean charging contact	
	Charging pins on iTENDO ² charger dirty or damaged	Clean charging pins	
	Socket has no voltage	Check socket	
	Plug connection, loose USB cable	Check plug connection	
	iTENDO ² charger damaged	Return the iTENDO ² charger to SCHUNK	
	iTENDO ² power plug damaged	Return the iTENDO ² power plug to SCHUNK	

Possible malfunction / occurring errors	Possible causes	Remedial measures
iTENDO ² tablet is not charging	Dirty charging contact on the iTENDO ² tablet, iTENDO ² power plug or iTENDO ² charger	Clean charging contact
	Socket has no voltage	Check socket
	Plug connection, loose USB cable	Check plug connection
	iTENDO ² tablet charger damaged	Return the iTENDO ² tablet charger to SCHUNK
iTENDO ² power plug damaged	Return the iTENDO ² power plug to SCHUNK	

8 Spare parts list

ID	Description
1484493	iTENDO² pad complete system with <ul style="list-style-type: none"> • iTENDO² case • iTENDO² tablet including iTENDO² app • iTENDO² charger • iTENDO² tablet charger • iTENDO² power plug
1484677	iTENDO ² tablet with iTENDO ² app installed
1484683	iTENDO ² charger
1484679	iTENDO ² tablet charger
1484675	iTENDO ² power plug
1484670	iTENDO ² case
1491074	iTENDO² pad system without tablet with <ul style="list-style-type: none"> • iTENDO² case • iTENDO² charger • iTENDO² tablet charger • iTENDO² power plug

9 Disposal



- This product may not be disposed of in household waste. It must be taken to a collection point for material recovery and recycling.
- Follow local regulations on dispatching product components for recycling or proper disposal.

Alternatively, you can return the product to SCHUNK for correct disposal.

10 EU Declaration of Conformity

according to the European Directive 2014/53/EU, Annex VI.

Manufacturer/
Distributor

SCHUNK SE & Co. KG
Spanntechnik | Greiftechnik | Automatisierungstechnik
Bahnhofstr. 106 – 134
D-74348 Lauffen/Neckar

We hereby declare that on the date of the declaration, the product described below complied with all basic safety and health regulations found in Directive 2014/53/EU of the European Parliament and of the Council on machinery. The declaration shall be rendered invalid if modifications are made to the product.

Product designation – iTENDO² pad – 1484493
ID: iTENDO² HSK-A63 Ø20 x 90 – 1484050
iTENDO² HSK-A63 Ø32x125 – 1519203
iTENDO² HSK-A100 Ø32x115 – 1509955
iTENDO² SK40 Ø20x110 – 1484710
iTENDO² SK50 Ø32x103 – 1509960
iTENDO² CAT40 Ø3/4" x 101.6 – 1495390
iTENDO² BT30 Ø20x90 – 1495389
iTENDO² BT40 Ø20x110 – 1509899
iTENDO² Capto C6 Ø32x110 – 1509962

Harmonized standards and technical specifications applied:

EN 61000-6-2:2019	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity standard for industrial environments
EN 61000-6-4:2018	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments
EN 301 489-1 V2.2.3 2019-11	Electromagnetic compatibility (EMC) – Standard for radio equipment and services – Part 1: Common technical requirements – Harmonized standard for electromagnetic compatibility
EN 300 328 V2.2.2 2019-07	Wideband Transmission Systems – Data transmission equipment operating in the 2.4 GHz band – Harmonized standard on the use of the radio spectrum

Additionally, the product is declared to conform with the following standards and EU directives:

DIN EN ISO 12100	Safety of the machines
2014/30/EU	EMC Directive
2014/53/EU	Radio Equipment Directive
2011/65/EU	RoHS Directive

Person authorized to compile the technical documentation:
Moritz Wiedmann, address: refer to manufacturer's address

Signed for and on behalf of: SCHUNK GmbH & Co. KG

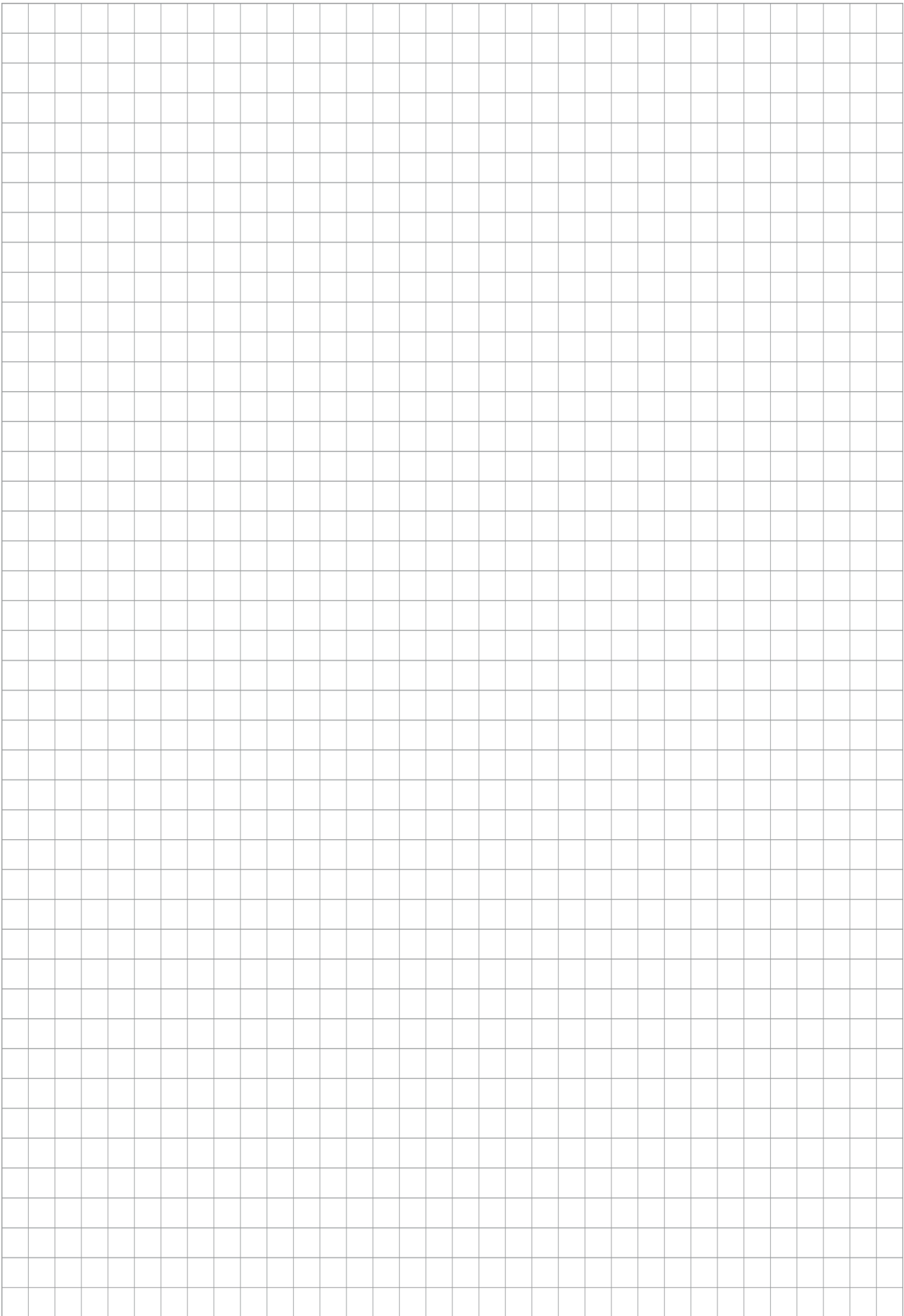
Signature: see original declaration

Lauffen/Neckar, February 2020

p.p. Moritz Wiedmann;
Head of Development Clamping Technology

Signature: see original declaration

p.p. Jörn Rastetter;
Head of Functional Safety;
Safety Assurance Manager (SAM)





SCHUNK SE & Co. KG
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