



OPERATING INSTRUCTIONS

sensingCam SEC200

Image-based code reader

SICK Sensor Intelligence

Described product

sensingCam SEC200

Manufacturer

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Original document

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1 About this document

1.1 Information on the operating instructions

Read these operating instructions carefully before starting any work in order to familiarize yourself with the product and its functions.

The operating instructions are an integral part of the product and should remain accessible to the personnel at all times. When handing this product over to a third party, include these operating instructions.

These operating instructions do not provide information on the handling and safe operation of the machine or system in which the product is integrated. Information on this can be found in the operating instructions for the machine or system.

1.2 Scope

This document applies to the following products:

- sensingCam SEC200

These operating instructions serve to incorporate the product into a customer system. Step-by-step instructions are given for all required actions. These instructions apply to all listed variants of the product. Available variants are listed on the online product page.

www.sick.com/sensingCam_SEC200

Commissioning is described using one particular variant as an example.

Simplified product designation in the document: In the following, the cameras are referred to simply as "SEC" or "product".

1.3 Target group

This document is intended for persons who commission, install, operate and maintain the product.

1.4 Further information

You can find the product page with further information via the SICK Product ID:

pid.sick.com/{P/N}/{S/N}

(see "Product identification via the SICK product ID", page 12).

The following information is available depending on the product:

- This document in all available language versions
- Data sheets
- Other publications
- CAD files and dimensional drawings
- Certificates (e.g., declaration of conformity)
- Software
- Accessories

1.5 Symbols and document conventions

Warnings and other notes



DANGER

Indicates a situation presenting imminent danger, which will lead to death or serious injuries if not prevented.

**WARNING**

Indicates a situation presenting possible danger, which may lead to death or serious injuries if not prevented.

**CAUTION**

Indicates a situation presenting possible danger, which may lead to moderate or minor injuries if not prevented.

**NOTICE**

Indicates a situation presenting possible danger, which may lead to property damage if not prevented.

**NOTE**

Highlights useful tips and recommendations as well as information for efficient and trouble-free operation.

Instructions to action

- The arrow denotes instructions to action.
- 1. The sequence of instructions is numbered.
- 2. Follow the order in which the numbered instructions are given.
- ✓ The tick denotes the results of an action.

2 Safety information

2.1 General safety notes

Please observe the safety notes and the warnings listed here and in other sections of this product documentation to reduce the possibility of risks to health and avoid dangerous situations.



CAUTION

Failure to observe the relevant work safety regulations may lead to physical injury or cause damage to the system.



CAUTION

Optical radiation: LED risk group 1, in accordance with IEC 62471:2006, visible radiation, 400 nm to 780 nm

The LEDs may pose a danger to the eyes in the event of incorrect use.

- Do not look into the light source intentionally.
- Do not open the housing. Opening the housing will not switch off the light source. Opening the housing may increase the level of risk.
- Comply with the current national regulations on photobiological security of lamps and lamp systems.

2.2 Intended use

The SEC200 is an image-based 1D/2D barcode reader for industrial use.

The products are primarily designed for use in industrial and logistics areas, and they meet the requirements for industrial stability, interfaces and data processing

Intended use requires consideration of all information listed in this document and, where applicable, of the referenced applicable documents.

Incorrect use, improper modification or manipulation of the product will invalidate any warranty from SICK; in addition, any responsibility and liability of SICK for damage and secondary damage caused by this is excluded.

2.3 Improper use

Impermissible use

- As a physical guard. The product works as an indirect protective measure and cannot provide protection from parts thrown from the application nor from emitted radiation.
- As a safety component as defined in the relevant applicable safety standards for machines, e.g. Machinery Directive.
- Detection of persons and animals
- Access control or authorization

Impermissible ambient conditions

- Outdoor areas
- Direct UV radiation (sunlight)
- Precipitation
- Inadequate protection against moisture and contamination
- Publicly accessible areas
- Explosion-hazardous area

- Corrosive environment
- This equipment is not suitable for use in locations where children are likely to be present.

2.4 Cybersecurity

2.4.1 Comprehensive cybersecurity concept

Overview

To protect against cybersecurity threats, the operator must have a comprehensive cybersecurity concept, which must be continuously monitored and maintained. A suitable concept consists of organizational, technical, procedural, electronic, and physical levels of defense and considers suitable measures for different types of risks. The measures implemented in this product can only support protection against cybersecurity threats if the product is used as part of such a concept.

You will find further information at www.sick.com/psirt, e.g.:

- General information on cybersecurity
- Contact option for reporting vulnerabilities
- Information on known vulnerabilities (security advisories)

Further topics

- ["Improper use", page 7](#)
- ["Product identification", page 12](#)
- ["Software from trustworthy sources", page 8](#)
- ["Logging", page 8](#)
- ["Access management"](#)
- ["TEMPLATE_OPTIONAL_Managing passwords_SEC310"](#)
- ["Maintenance", page 41](#)

2.4.2 Software from trustworthy sources

When installing software (e.g. firmware, application software), the operating entity must ensure the relevant sources are known and trustworthy.

For information on verifying downloads from the SICK website, visit www.sick.com/verify-downloads.

2.4.3 Logging

Logging

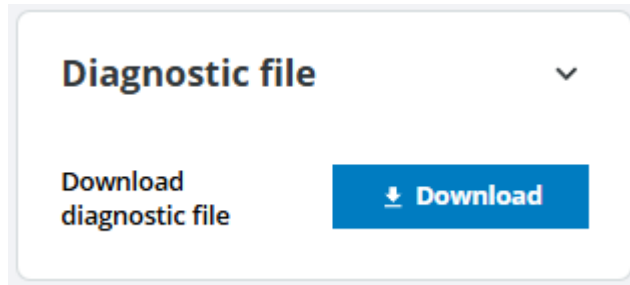
The product captures and stores events in log files.

Deactivation of the logging function is not supported due to the use of the product in an industrial environment.

When the available memory for log files is exceeded, the oldest entries are deleted.

Accessing log files

- Diagnostic files for SICK Service support
Open the **Diagnostics** page on the WebUI; you can download the log files from there



- System logs
Messages and system information are displayed directly on the **Diagnostics** page on the WebUI with a description and time stamp.

2.5 Qualification of personnel

Any work on the product may only be carried out by personnel qualified and authorized to do so.

Qualified personnel are able to perform tasks assigned to them and can independently recognize and avoid any potential hazards. This requires, for example:

- Technical training
- Experience
- Knowledge of the applicable regulations and standards

3 Transport and storage

3.1 Transport



NOTICE

Damage due to improper transport!

- The product must be packaged with protection against shock and damp.
- Recommendation: Use the original packaging.
- Note the symbols on the packaging.
- Do not remove packaging until immediately before you start mounting.

3.2 Unpacking

- To protect the device against condensation, allow it to equilibrate with the ambient temperature before unpacking if necessary.
- Handle the device with care and protect it from mechanical damage.

3.3 Transport inspection

Immediately upon receipt in incoming goods, check the delivery for completeness and for any damage that may have occurred in transit. In the case of transit damage that is visible externally, proceed as follows:

- Do not accept the delivery or only do so conditionally.
- Note the extent of damage on the transport documents or on the transport company's delivery note.
- File a complaint.



NOTE

Complaints regarding defects should be filed as soon as these are detected. Damage claims are only valid before the applicable complaint deadlines.

3.4 Storage

- Do not store outdoors.
- Store in a place protected from moisture and dust.
- Recommendation: Use the original packaging.
- To allow any residual dampness to evaporate, do not package in airtight containers.
- Do not expose to any aggressive substances.
- Protect from sunlight.
- Avoid mechanical shocks.
- Storage temperature: [see "Technical data", page 45](#).
- Relative humidity [see "Technical data", page 45](#).

4 Initial commissioning



NOTE

Below you will find brief instructions for the initial commissioning of the product. Detailed explanations of the points mentioned can be found in the other sections of the operating instructions.

1. Mounting, [see "Mounting", page 16](#)
2. Electrical installation, [see "Electrical installation", page 21](#)
3. Commissioning, [see "Commissioning", page 25](#)

5 Product description

5.1 Scope of delivery

- sensingCam SEC200 in the version ordered
- Safety notes

5.2 Product identification

5.2.1 Product identification via the SICK product ID

SICK product ID

The SICK product ID uniquely identifies the product. It also serves as the address of the web page with information on the product.

The SICK product ID comprises the host name pid.sick.com, the part number (P/N), and the serial number (S/N), each separated by a forward slash.

For many products, the SICK product ID is displayed as text and QR code on the type label and/or on the packaging.



Figure 1: SICK product ID

5.3 Overview of the product

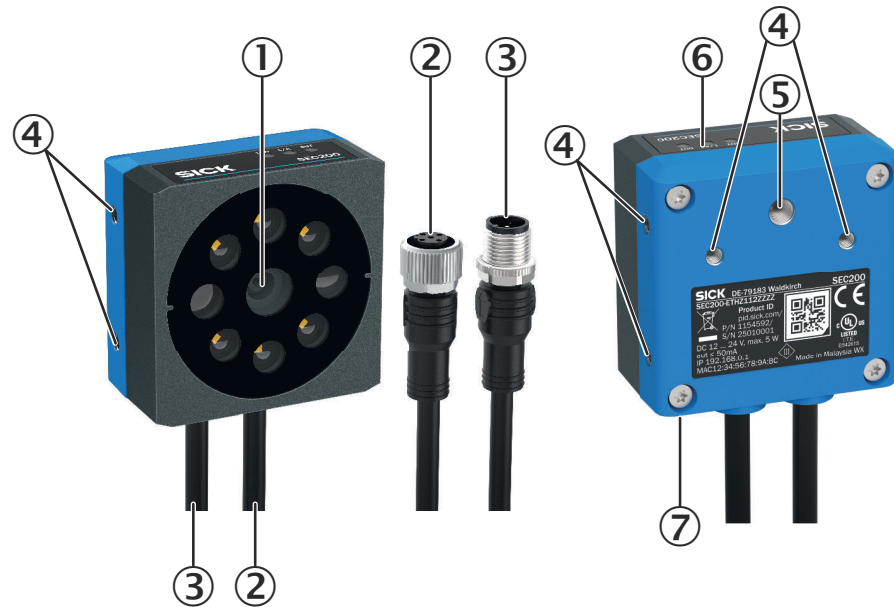


Figure 2: Overview of the SEC200 product with Ethernet interface

- ① Camera with protective glass
- ② Ethernet interface: socket, M12, 4-pin, D-coded
- ③ Supply voltage & I/O: M12 plug, 5-pin, A-coded
- ④ Six threads for M4 screws
- ⑤ one 1/4" - 20 UNC thread for photo tripod
- ⑥ Display elements
- ⑦ Acoustic signal transmitter



Figure 3: Product overview of the SEC200 with USB-C®¹⁾ interface

- ① Camera with protective glass
- ② USB-C® interface
- ③ Six threads for M4 screws
- ④ one ¼" - 20 UNC thread for photo tripod
- ⑤ Display elements
- ⑥ Acoustic signal transmitter

5.3.1 Status indicators



Figure 4: Position and meaning of the LED displays

- ① RDY
- ② L/A
- ③ OUT

Table 1: LED behavior

	LED	LED behavior	Meaning
①	RDY	Flashing green	SEC is connected to the power supply but is not yet ready for operation. Application loads
		Flashing green quickly	The product is not ready for operation (hard- ware or software error).
		Green	The product is ready for operation.

¹⁾ USB-C® is a registered trademark of the USB Implementers Forum.

	LED	LED behavior	Meaning
②	L/A	 Flashing green	Data traffic via the data interface.
③	OUT	 Flashing green	Read was successful (Good Read).
		 Flashing red	Read was unsuccessful (No Read).

6 Mounting

6.1 Mounting requirements

- In order to maintain the functional earth, the earthing thread must be used to attach the SEC to grounded metal with a metal screw.
- Suitable vibration damping measures must be taken if the vibration and shock requirements exceed the values and test conditions specified in the data sheet (see "Technical data", page 45).

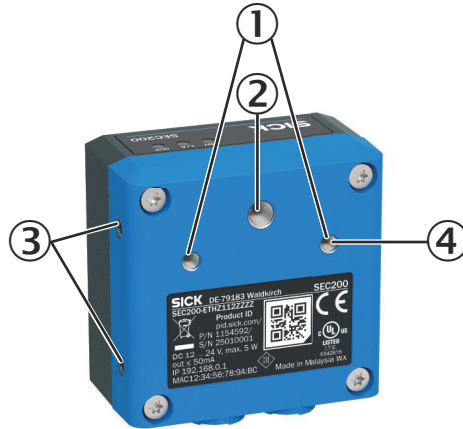


Figure 5: Mounting requirements

- ① Mounting with attachment using M4 screws
- ② Alternative mounting on a camera tripod using a 1/4" -20 UNC screw
- ③ Mounting with attachment using M4 screws
- ④ Grounding thread (M4) for establishing a functional ground

6.2 Mounting

6.2.1 Attachment using M4 screws

There are M4 threads on the back and the side of the SEC. The camera can be mounted on a bracket, for example, using two M4 screws.

Screw the screws no more than 4 mm into the threaded mounting hole. The screw lengths depend on the mounting surface: The mounting kit (No. 2145070) includes 8 mm-long screws.

Mounting with bracket for M4 thread

Mounting kit (no. 2145070) including brackets, screws and washers.

Maximum tightening torque 1.2 Nm.

Maximum screw depth 4 mm from the housing edge.



Figure 6: Mounting kit for M4 thread - variant 1



Figure 7: Mounting kit for M4 thread - variant 2

Mounting with rotating bracket for M4 thread

Mounting kit (no. 2153773) including brackets, screws and washers.

Maximum tightening torque 1.2 Nm.

Maximum screw depth 4 mm from the housing edge.

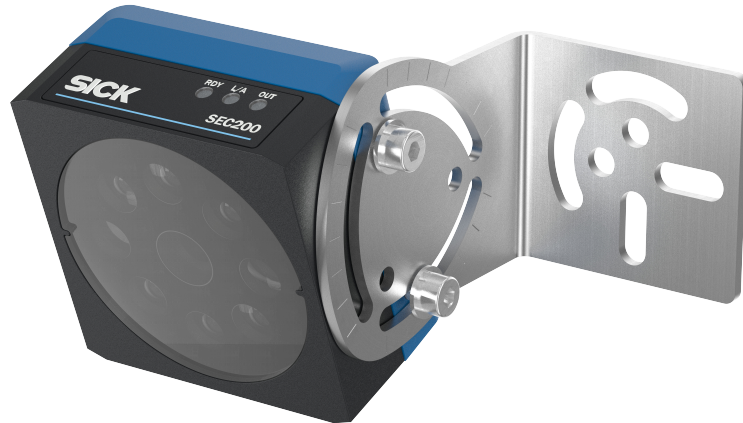


Figure 8: Mounting kit swivel bracket for M4 thread

Mounting with rod holder

Mounting kit (no. 2147922) including mounting brackets, screws and washers.

Maximum tightening torque 1.2 Nm.

Maximum screw depth 4 mm from the housing edge.

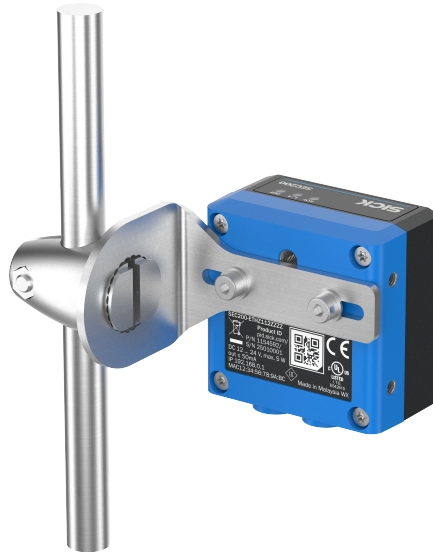


Figure 9: Mounting with rod holder

6.2.2 Alternative: Attachment to photo tripod with a ¼"- 20 UNC screw



NOTE

Option 1 is recommended for mounting, especially if the product is exposed to vibration.

There is a ¼" - 20 UNC thread on the back of the SEC. The camera can then be mounted on a tripod, for example using a ¼" - 20 UNC screw. Screw the screw no more than 4 mm into the threaded mounting hole.

6.3 Alignment

Align the SEC200 taking into account the field of view and the application conditions.

The working range of the SEC200 depending on the reading distance and code size is shown in the following figures.

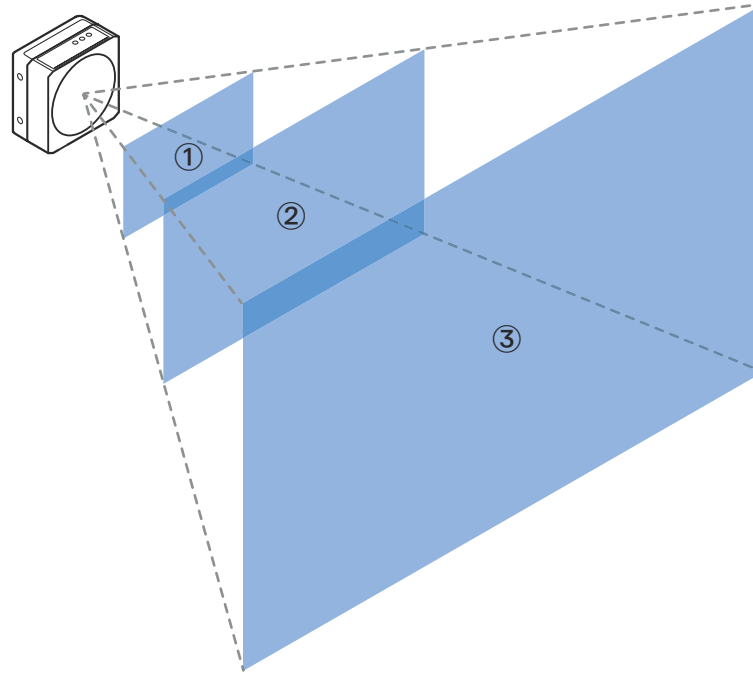


Figure 10: Field of view

Table 2: Alignment

	Distance	Horizontal field of view	Vertical field of view
①	100 mm	65 mm	55 mm
②	200 mm	130 mm	110 mm
③	300 mm	195 mm	165 mm

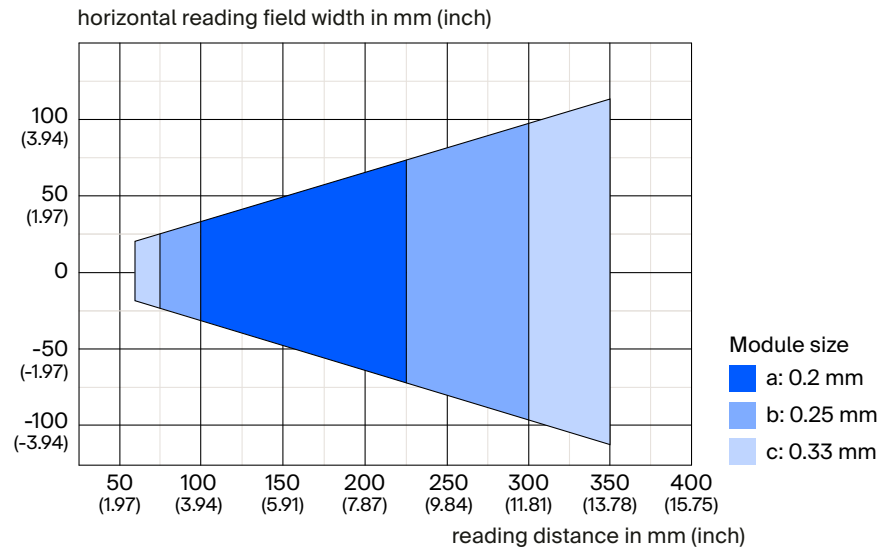


Figure 11: 1D code reading field

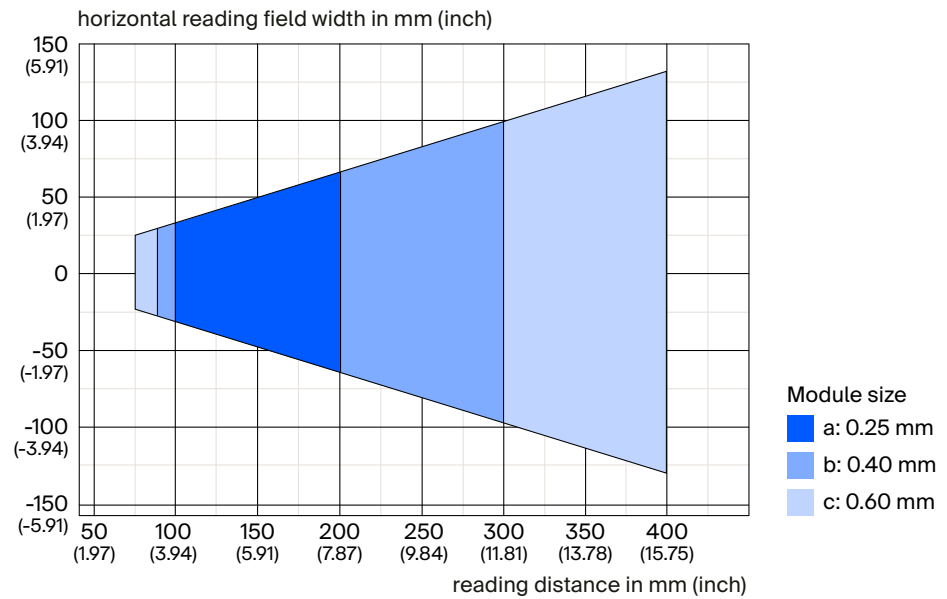


Figure 12: 2D code reading field

7 Electrical installation

7.1 Notes on electrical installation



WARNING

Risk of injury and damage caused by electrical current!

As a result of possible equipotential bonding currents between the product and other earthing products in the system, faulty earthing of the product can give rise to the following dangers and faults:

- Metal housings are vulnerable to dangerous electrical voltage.
- Products will behave incorrectly or be destroyed.
- Cable shielding will be damaged by overheating and cause cable fires.

Remedial measures

- Only skilled electricians should be permitted to carry out work on the electrical system.
- If the cable insulation is damaged, disconnect the power supply immediately and have the damage repaired.
- Ensure that the ground potential is the same at all grounding points.
- Where local conditions do not meet the requirements for a safe earthing method, take appropriate measures. For example, ensure low-impedance and current-carrying equipotential bonding.

Prerequisites: General

- Connect the connecting cables in a de-energized state. Do not switch on the supply voltage until installation is complete and all connecting cables are connected to the device and controller.
- The conductor cross sections of the supply cable from the operating entity's electricity mains must comply with applicable standards.
- For cables with flying leads, care must be taken to ensure that the bare wire ends do not touch each other. The wires must be properly insulated from one another.

Prerequisites: Data cable

- Use shielded data cables with twisted-pair wires.
- Implement proper and complete shielding concept.
- To prevent faults, always use EMC-compliant cables and cable routing. This applies, for example, to cables for switching power supplies, motors, clocked drives, and contactors.
- Do not lay cables parallel to power supply and motor cables over long distances in cable ducts.

Prerequisites: Voltage supply

- The sensor is a device of protection class III. Only operate the device with safety/protective extra-low voltage (SELV/PELV).
- Ensure the circuits connected to the device meet the requirements of ES1 and max. PS2 in accordance with IEC/UL/EN 62368-1. The Ethernet connection must be implemented as ES1 and PS1.
- The supply cables must be protected with a fuse with a maximum rating of 4 A and suitable for the cross-sectional area of the connecting cable. Insert the fuse in the power supply circuit at the beginning of the supply cable.
- To ensure protection against short-circuits/overload in the customer's supply cables, choose and implement wire cross-sections in accordance with the applicable cable standards.

The product is connected to the peripheral products via shielded cables (e.g., local trigger sensor(s), system control). The cable shield, e.g., of the data cable, is in contact with the metal housing of the product. If the peripheral products have metal housings and the cable shields are also in contact with their housings, it is assumed that all products involved in the installation have the same ground potential.

This is achieved by complying with the following conditions:

- Electrical connection of the earthing connector of the product to a conductive metal surface
- Correct earthing of the products and metal surfaces in the system
- If required: Low-impedance and current-carrying equipotential bonding between areas with different ground potentials



NOTE

The USB shielding is connected to the housing and isolated from GND.

7.2 Pinouts

Table 3: System connection for electrical supply and inputs and outputs (IO)

PIN	Signal	Description
1	L+	Supply voltage DC 12 ... 24 V
2	IN1	Digital input for external trigger, pull-down 15 kOhm
3	M	Ground
4	OUT1	Digital output, push-pull
5	OUT2	Digital output, push-pull

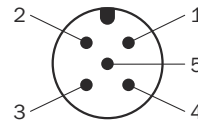
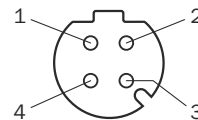


Table 4: Connection for Ethernet interface

PIN	Signal	Description
1	TD +	Sender +
2	RD +	Receiver +
3	TD -	Sender -
4	RD -	Receiver -



7.3 Connecting supply cable

Connect device to voltage-free connecting cable.

The power supply unit used must have the following properties:

- Supply voltage DC 12...24 V $\pm 10\%$ (SELV/PELV according to currently applicable standards)
- Power output (applies to devices with 2 loaded digital outputs each at 50 mA) = max. 8 W

To ensure protection against short-circuits/overload in the customer's supply cables, the wire cross-sections used must be appropriately selected and protected.

Current and power consumption

Table 5: Typical current and power consumption depending on the supply voltage and digital outputs

Designation		Supply voltage in DC V			
		10.8 V 12 V -10%	12 V	24 V	26.4 V 24 V +10 %
Typ. Current consumption, digital outputs unloaded	$I_{B\text{ RMS}}$ [A]	0.22	0.19	0.11	0.10
Typ. Power loss, digital outputs unloaded	P_{RMS} [W]	2.3	2.3	2.59	2.68
Max. current consumption, digital outputs unloaded	$I_{B\text{ Peak}}$ [A]	0.33	0.30	0.14	0.13
Typ. Current consumption, 2 digital outputs loaded (each 50 mA)	$I_{B\text{ RMS 2 Outs}}$ [A]	0.33	0.29	0.21	0.20
Max. power loss, with 2 digital outputs loaded (each 50 mA)	$P_{\text{Peak 2 Outs}}$ [W]	4.63	4.34	5.93	6.46

7.4 Use digital interfaces

Wiring the digital input

The device has a configurable digital input. The voltage level (rising or falling edge) of the digital input controls the digital read trigger of the device.

Digital input

- Pull-down
- Debouncing: 1 ms (standard)
- $U_V \geq 18\text{ V}$
 - Level active: $U_{IN} \geq 15\text{ V}$
 - Level inactive: $U_{IN} \leq 5\text{ V}$
- $U_V \leq 18\text{ V}$
 - Level active: $U_{IN} \geq 0.83 \cdot U_V$
 - Level inactive: $U_{IN} \leq 0.28 \cdot U_V$

Evaluate the digital output

The device has two switching digital outputs. The voltage level of the two digital outputs can be used to signal events during the reading process and to control external peripherals, such as signal transmitters, conveyor belts, etc. The digital outputs can be assigned various functions for this purpose. When the assigned event (e.g., Good Read) occurs, the corresponding digital output becomes active, e.g., after the end of the read cycle, for the configured signal duration (default setting). Good Read and No Read are never active at the same time; the most recent read result is decisive. As a result, the signal duration may be shorter than configured. Between two events, the signal is inverted for approximately 50 μs .

Digital output

- Push/pull
- Level active: $U_{OUT} \geq U_V - 3\text{ V}$
- Level deactivated: $U_{OUT} \leq 3\text{ V}$
- Maximum output current = 50 mA

7.5 Use USB interface

- A USB interface with a supply current of at least 900 mA is required. This does not apply to all USB 2.0® and USB 3.0®²⁾ interfaces.
- The total length of cable for the USB interface must not exceed 3 m.



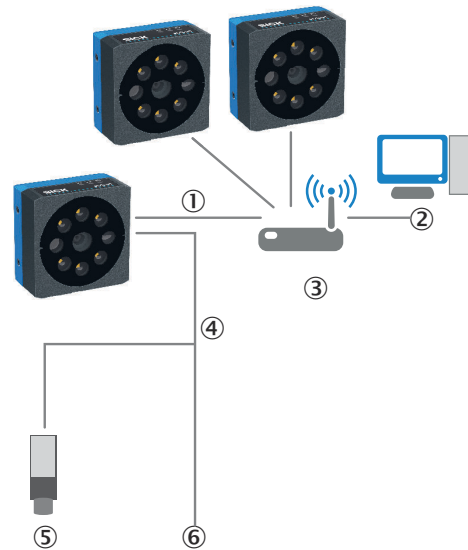
NOTE

The device's IP and EMC ratings can only be ensured by using the appropriate SICK accessory cables. The USB shielding is connected to the housing and isolated from GND.

²⁾ USB 2.0® and USB 3.0® are registered trademarks of the USB Implementers Forum

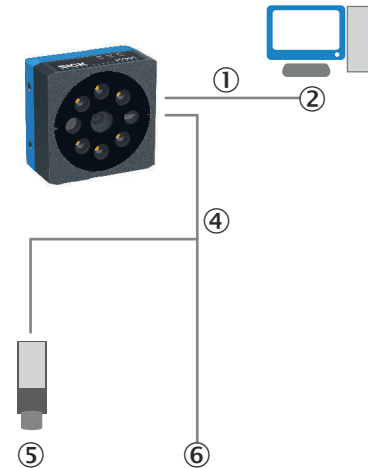
8 Commissioning

Option 1 - Ethernet



- ① Ethernet
- ② Computer / PLC
- ③ Router
- ④ Voltage supply and I/Os
- ⑤ External trigger (e.g. photoelectric sensor)
- ⑥ Power supply

Option 2 - Ethernet



Option 3 - USB



- ① USB
- ② Computer / PLC



NOTE

On delivery, DHCP is activated. If no DHCP server is available, the system attempts to negotiate an address in the 169.254.x.x address space via Auto-IP.

Accessing the SEC via Computer

- Open the browser (recommended: Firefox or Chrome) and enter device address (sec200-sick.local).
- Log in to Service level using the password “servicelevel” and set a new password.

SICK releases new firmware versions at irregular intervals on www.sick.com. New firmware improves, for example, the device behavior or introduces new functions. You can find the version number of the currently installed firmware in the web interface. You can install the new firmware using the REST API or the web interface. For initial commissioning of the device, it is recommended to install the latest firmware.

9 Operation

9.1 Operation via web interface

The SEC features a web-based user interface where captured images can be viewed and all settings can be edited.

9.1.1 Home

The Home start screen is displayed during initial configuration and after a device reset. After successful configuration, the dashboard is displayed. The dashboard can be configured.

Home

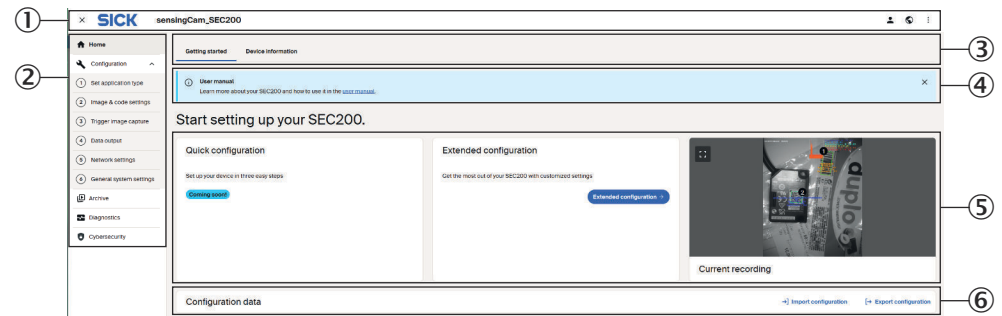


Figure 13: Home - Start screen - Overview

- ① Header
- ② Navigation area
- ③ Selection view
- ④ Link to the operating instructions
- ⑤ Selection of configuration options
- ⑥ Configuration data

Table 6: Home overview

Status		Description
Header	☰	Display/hide navigation area
	×	
	👤	Log-in
	🌐	Language selection
	⋮	Quick access to • Device configuration • License information • REST API description
Navigation menu	🏠	Home
	🔧	Configuration • Application type • Image & code settings • Image capture trigger • Data output • Network settings • General system settings • Test settings (only appears when the “Moving objects” application type is selected)
	📁	Archive
	📊	Diagnostics
	🛡️	Cybersecurity
Selection view		• Configuration • Device information
Link to the operating instructions		The operating instructions can be opened online as a PDF using this link.
Selection of configuration options		• Quick configuration (this function is not yet available) • Advanced configuration switches to the configuration menu. • Current image. This can be displayed in full screen mode.
Configuration data		Import configuration data • Opens a dialog window to import a device file. Export configuration data • Exports the current configuration to a download folder.
Device information		• Status • Device information

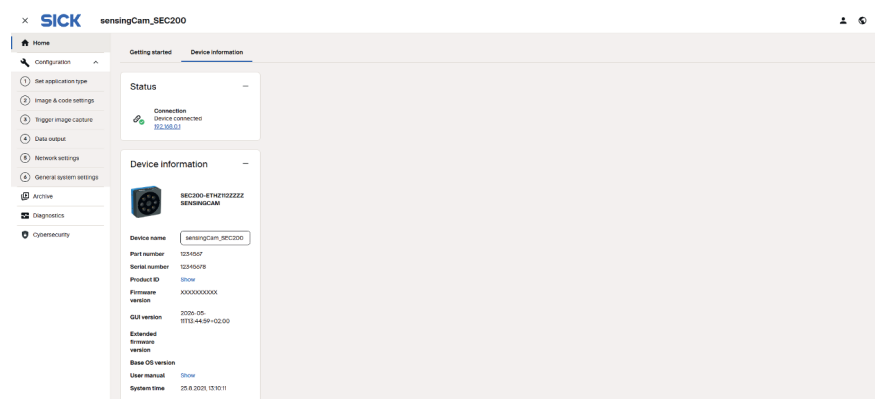
**Figure 14:** Home - Start screen - Device information

Table 7: Device information overview

Status	Description
Device information	Status ● Connection Device information ● Product name ● Part number ● Serial number ● Product ID ● Firmware version ● GUI version (in the service level) ● Advanced firmware version ● Basic OS version ● System time

9.1.2 Configuration

In the Configuration menu, the device settings are listed chronologically and can be carried out step by step.

Use the “Back,” “Skip” and “Next →” buttons to navigate between the configuration steps. You do not need to use the buttons to save parameters. These are always saved immediately during processing.



Figure 15: Footer configuration

Configuration steps that have been successfully completed are marked with green ticks in the navigation area.

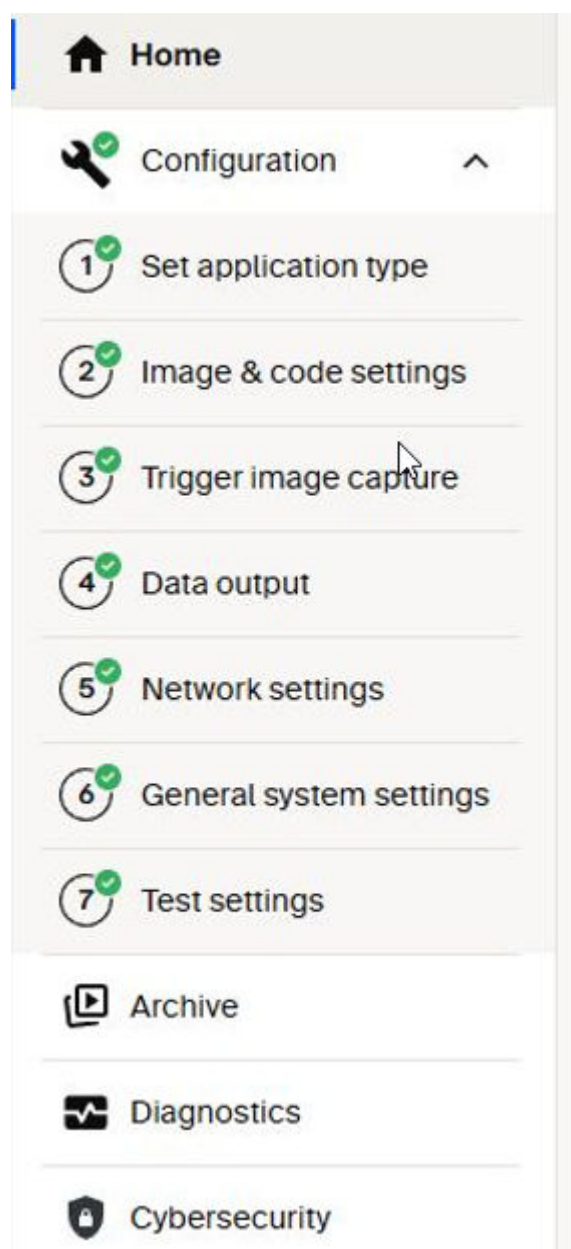


Figure 16: Navigation area after configuration

9.1.2.1 Application type

The application type specifies how the object is placed in the area of the code reader for scanning.

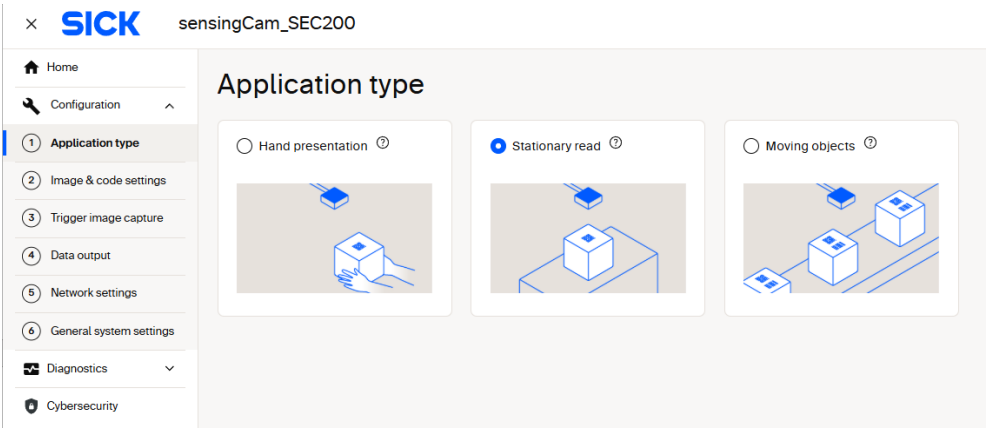


Figure 17: Application type

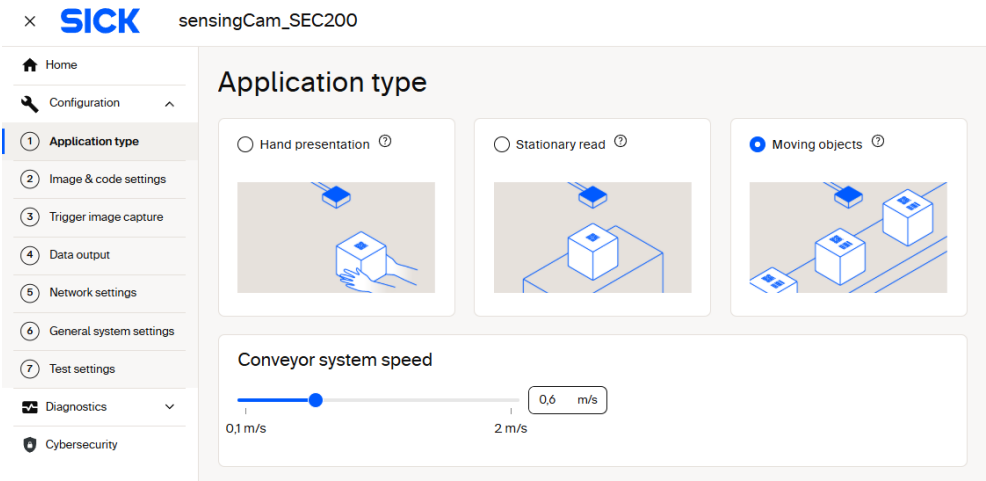


Figure 18: Moving objects application type

Table 8: Define application type

Status	Description
Hand presentation	An object is held manually in front of the code reader. The code is automatically detected and read. Typical features - Object guidance by the user. - Variable distance and angle of the object. - No trigger signal or release button required. - Object detection and feedback.
Stationary reading	An object is in front of the code reader. The code is read automatically. Typical features - Object is automatically transported to the code reader. - Object is stationary during scanning. - Intended code range.
Moving objects	When selecting Moving objects, the speed of the conveyor system can be set. Different objects pass through the code reader. The code is read automatically. Typical features - Objects move on a conveyor belt. - Various shapes and sizes. - Large detection range.

9.1.2.2 Image & code settings

Guided setup

The object must be placed in the area of the code reader in such a way that the code reader can detect the codes without interference.

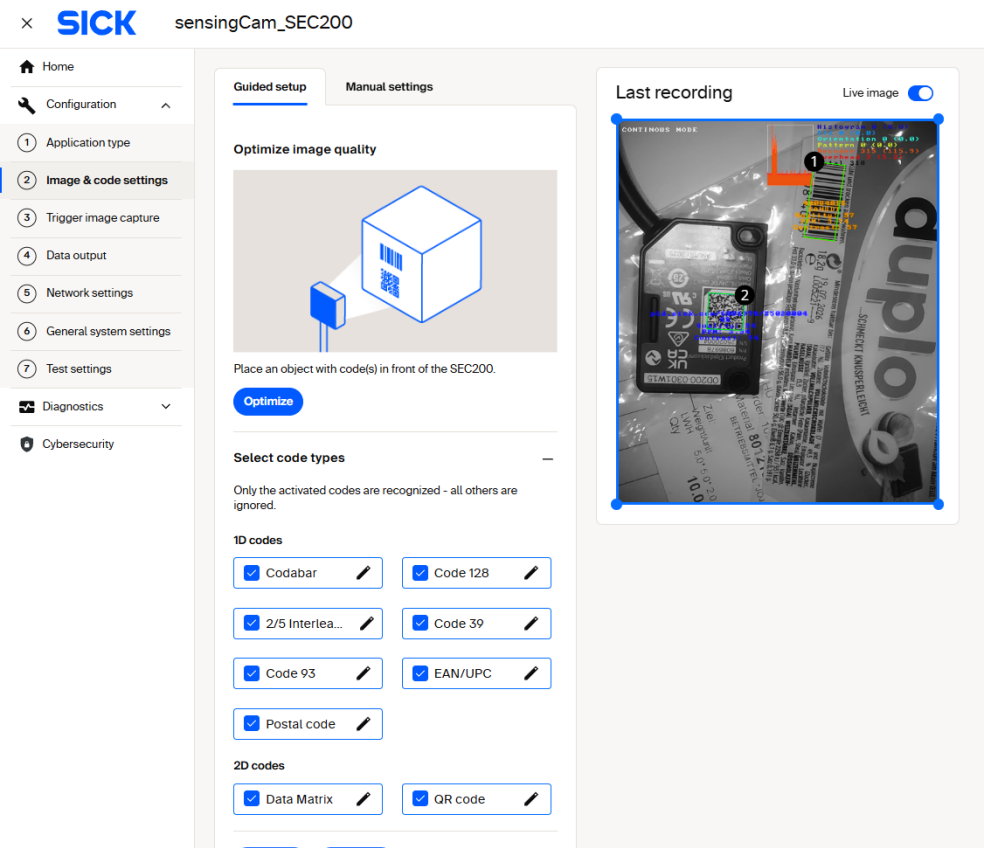


Figure 19: Image & code settings - guided setup

Click the **Optimize** button to optimize the image quality.

The pencil  icon opens custom settings for the respective code type.



NOTE
Decoding time can be reduced by deactivating code types that are not needed.

Manual settings

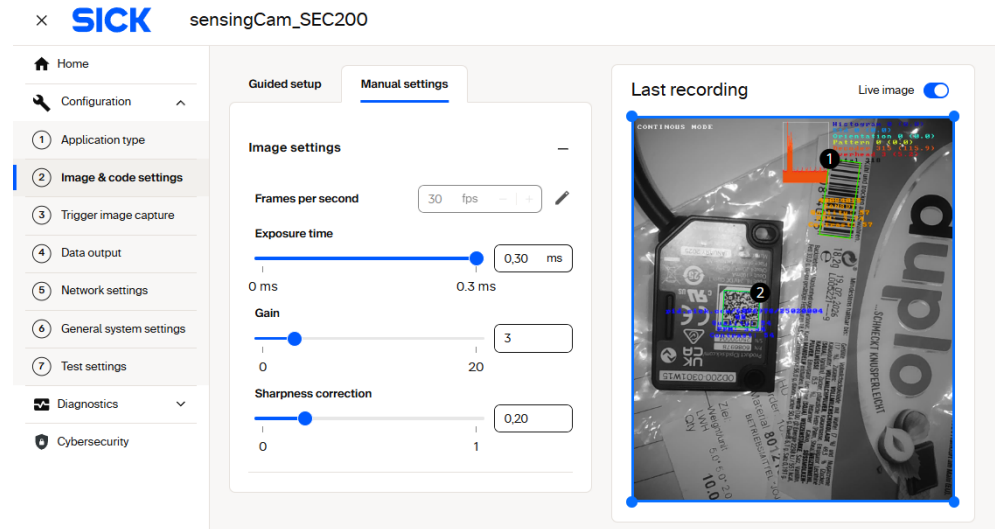


Figure 20: Image & code settings - manual settings

In the manual settings, you can adjust the exposure time, gain and sharpness correction if the automatically set parameters need to be optimized.

9.1.2.3 Image capture trigger

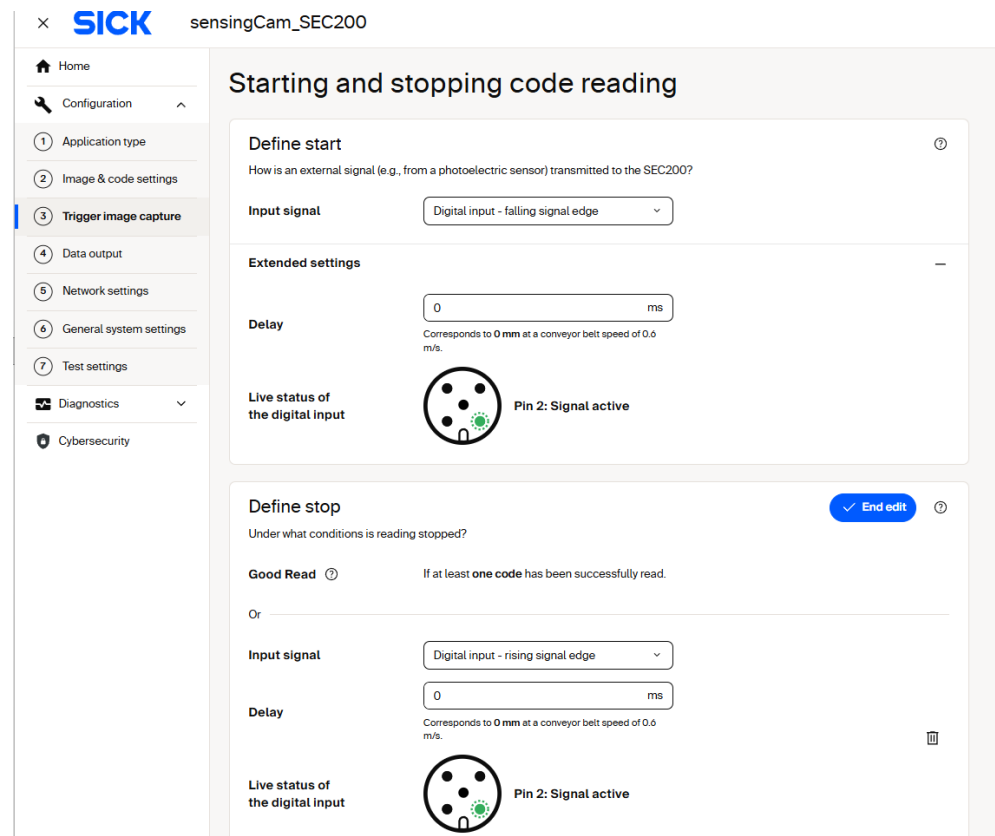


Figure 21: Image capture trigger

Depending on the application mode and device variant, various trigger types can be defined. Delays and various stop conditions are possible.

9.1.2.4 Data output

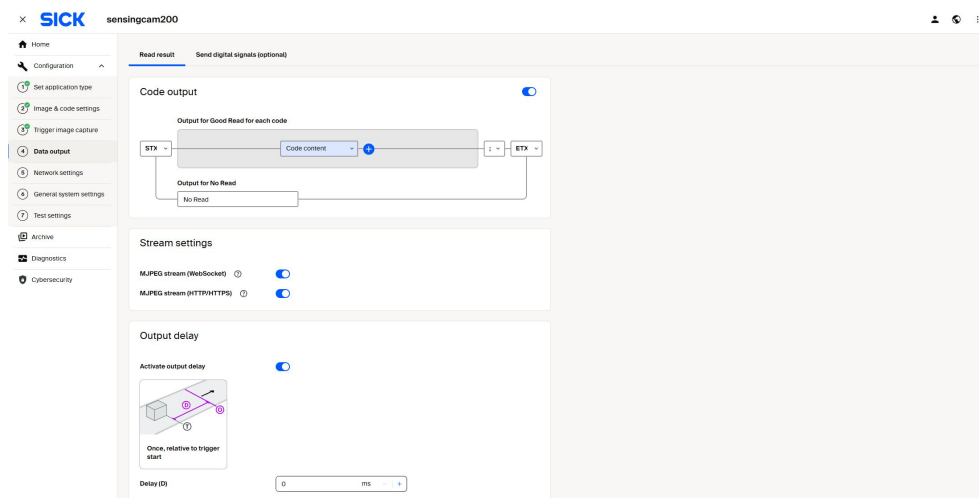


Figure 22: Data output read results

If code output via TCP/IP is activated, the code output for Good Read and No Read can be set.

The output delay can be activated here for the "Moving objects" application type.

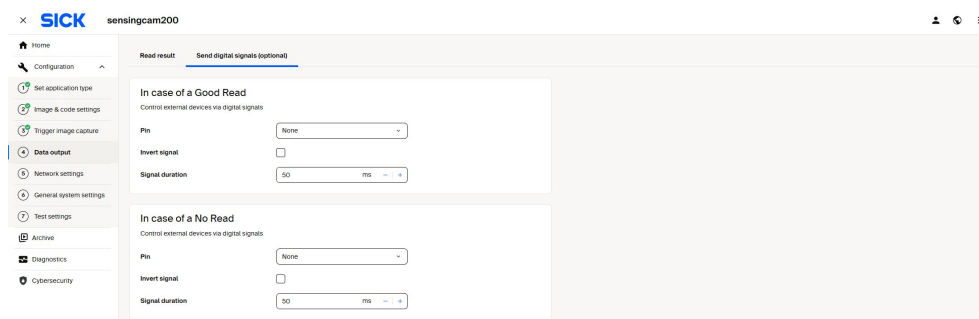


Figure 23: Send digital signals data output (optional)

Pins 4 and 5 can also be used to activate a digital output signal for Good Read and No Read.

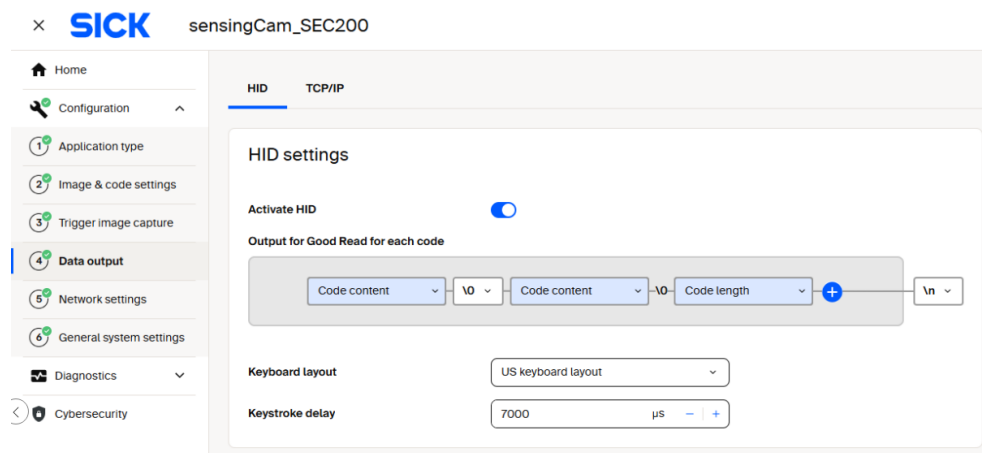


Figure 24: HID data output (USB variant)

9.1.2.5 Network settings

Figure 25: Network settings

The network settings include the configuration of the Ethernet interface, the system time (manually or via an NTP server), and an FTP connection.

9.1.2.6 General system settings

Figure 26: General system settings

Various aids can be set in the general system settings:

- No Read Save images (in the archive or via FTP—if connected)
- Audible feedback (beeper)
- Green confirmation light as visual feedback (LED)
- Green light strip as LED alignment aid

9.1.2.7 Test settings (for application type: Moving objects)

After all configuration steps for the application type “Moving objects” have been successfully completed, the settings can be tested.

Select **Start verification**. A note appears, asking if at least five objects are positioned on the conveyor belt. Start the conveyor belt and select **Object placed**. Verification starts.

The "Open optimization options" button opens the "Image & code settings" page.

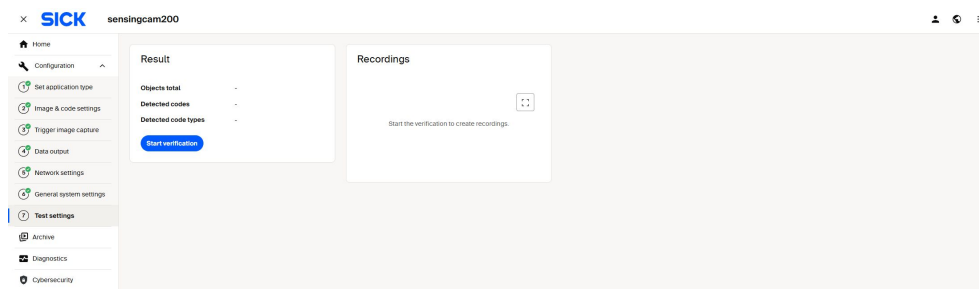


Figure 27: Test settings

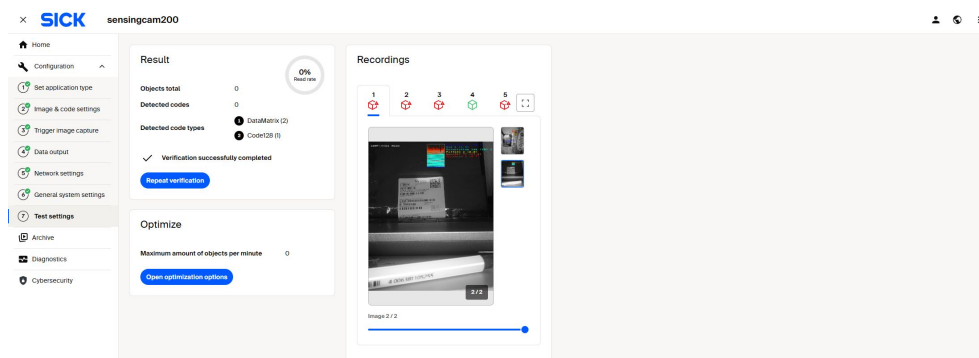


Figure 28: Settings tested

In this example, only 1 out of 5 objects was successfully read. The individual images per object make it easy to see, for example, whether the trigger time or the start-stop conditions need to be adjusted.

9.1.3 Using the dashboard

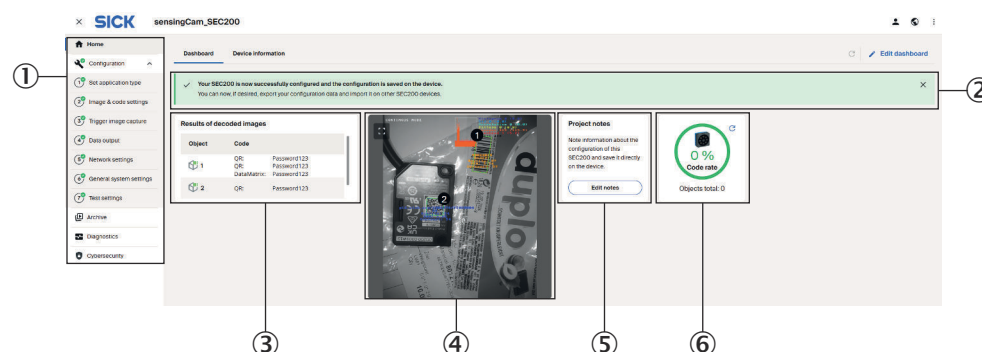


Figure 29: Home - Dashboard overview

- ① Navigation area
- ② Info about configuration status
- ③ Results of decoded images
- ④ Current recording, which can be displayed in full screen mode.
- ⑤ Notes
- ⑥ Application type

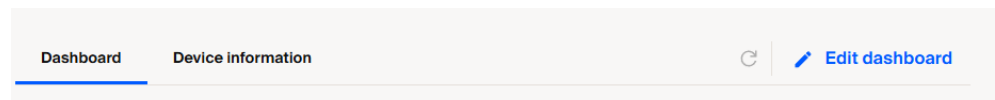
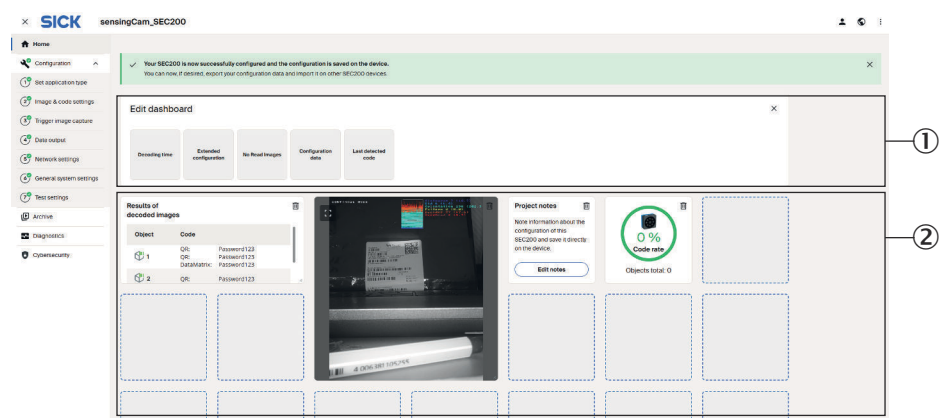
Table 9: Dashboard overview

Status	Description
Navigation area	After successful configuration, the individual steps are marked with green ticks in the navigation area. The dashboard is only displayed once all configuration steps have been carried out and configuration has been completed.
Info about configuration status	Once configuration is complete, the information appears here: Your SEC200 is now successfully configured and the configuration is saved on the device. You can now export your configuration data and import it to other SEC200 units.
Last detected codes	- Object Shows the respective scanning process - Code The code type of the scanning process - Contents Contents of the scanned code
Current recording	The current recording is displayed and can be displayed in full screen mode. Full screen mode can be closed with ESC.
Notes	A note can be created and edited.
Application type	The application type can be changed. Adjustments to the configuration may then be necessary.

Edit dashboard

The **Edit dashboard** button opens an editable view of the dashboard. Various functions can be positioned and resized on the dashboard using drag and drop.

Click **X** in the **Edit dashboard** area to close edit mode.

**Figure 30:** Edit dashboard button**Figure 31:** Home - editing dashboard

- ① Edit dashboard
- ② Dashboard view

9.1.4 Archive

- Overview of all image captures and event videos stored on the device. The code reader has an internal circular memory. Once 1,024 recordings have been stored, the oldest recordings are overwritten.
- Files can be sorted by name, date, type and file size.
- Files can be viewed, played, deleted and downloaded individually or as a selection.

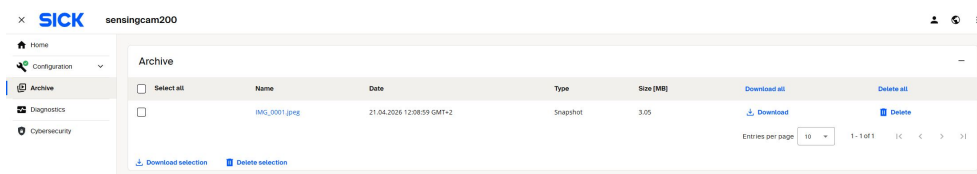


Figure 32: Archive

9.1.5 Diagnostics

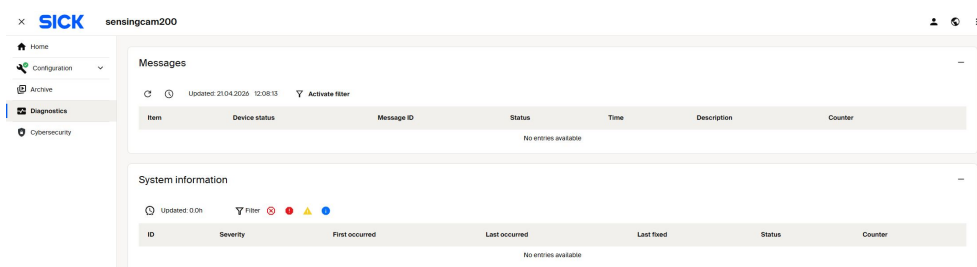


Figure 33: Diagnostics

Table 10: Diagnostics

Designation	Description
Messages	• Listing and counting of device-specific events. • Changing the time mode • Filtering of messages by device status, number and status.
System information	• Listing and counting of system information, warnings and errors. • Filtering of messages by device status, number and status.
Cybersecurity	Overview and management of all active or deactivated services/protocols with the respective port.
Diagnostic file	Option to download a diagnostic file for SICK Support.

9.1.6 Cybersecurity

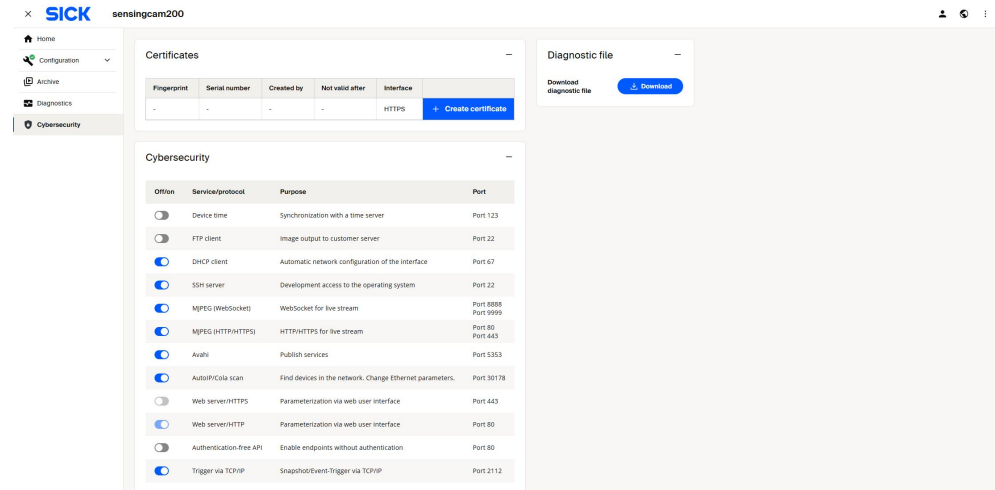


Figure 34: Cybersecurity

All available ports are listed, and their status can be viewed. Unused ports can optionally be disabled.

Table 11: Cybersecurity

Designation	Description
Certificates	- Upload a certificate with a private key to establish a secure connection via HTTPS. - Insight into relevant properties such as their validity.
Cybersecurity	Overview and management of all active or deactivated services/protocols with the respective port.

9.1.7 Access management

In the browser (recommended: Firefox or Chrome), enter the device's IP address (sec200-sick.local).

Two user levels are available:

Users	Default password	Authorization
Service	servicelevel	no restriction
without login	-	- Cannot view images in memory. - Cannot make any settings. - You can view the live stream (MJPEG) if it is activated.

9.1.7.1 Managing passwords

When you log in for the first time, you'll be prompted to change your password right away.

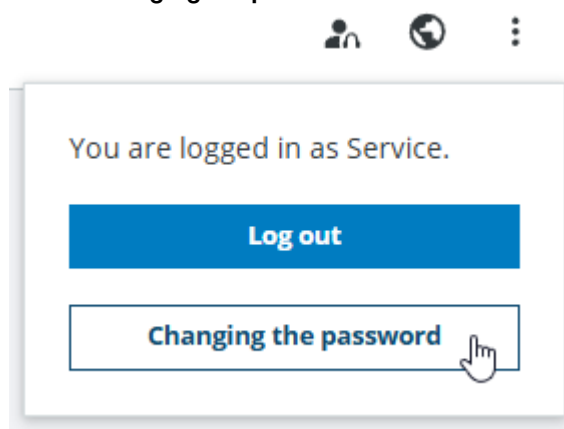
Overview

Passwords should meet the following requirements:

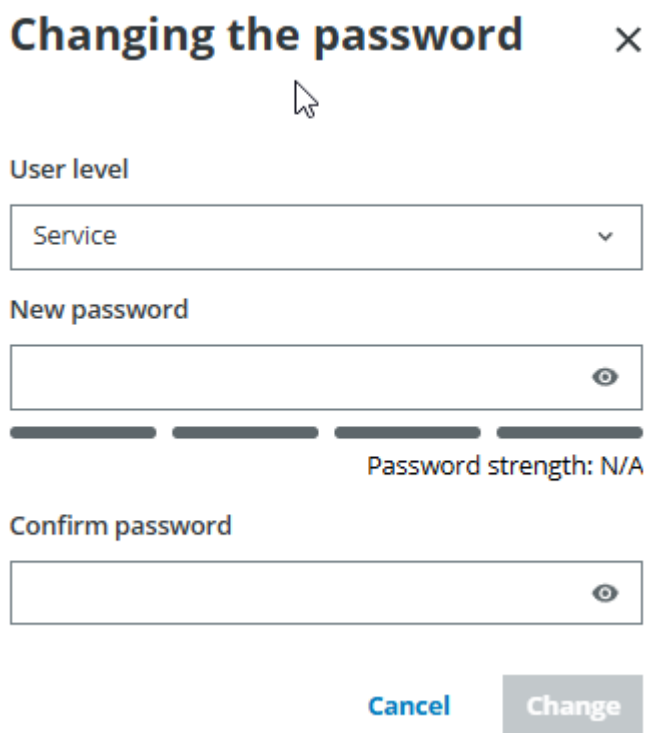
- Use secure passwords. Information on secure passwords can be obtained, for example, from the authority responsible for IT security.
- Protect passwords from unauthorized access.
- Do not assign a password more than once.

Procedure

1.  Select  from the right side of the header.
2. Select **Changing the password**.



3. Enter the new password and confirm.


 A screenshot of a "Changing the password" dialog box. The title is "Changing the password" with a close button (X) on the right. Below the title is a "User level" dropdown menu showing "Service". Underneath is a "New password" text field with a toggle icon on the right. Below the text field is a password strength indicator consisting of four segments, with the text "Password strength: N/A" to its right. Below that is a "Confirm password" text field with a toggle icon on the right. At the bottom are two buttons: "Cancel" and "Change".

4. Press **Change**.
- ✓ The password is changed.

9.1.7.2 HTTPS certificate

To use an HTTPS connection, you can upload your own HTTPS certificate and the associated private key directly to the device. After the upload, encrypted communication is automatically activated so that access is via HTTPS instead of HTTP. This protects the data transmission and makes the connection to the sensor more secure.

9.1.8 Reset to factory settings

Procedure for WebGUI

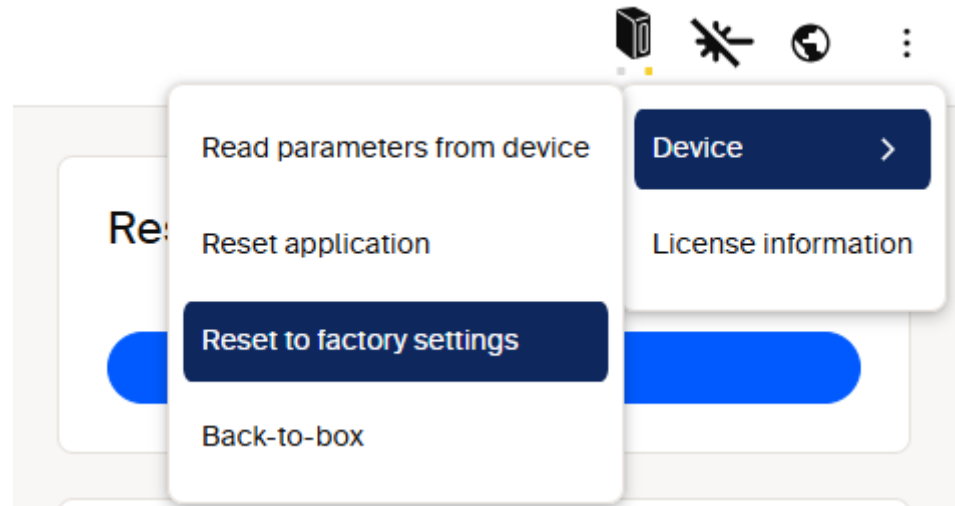


Figure 35: Reset to factory settings (Factory Reset)

**NOTICE**

The power supply must remain connected during the reset.

1.  on the right in the header.
 2. Select the **Device**
 3. Select **Reset to factory settings**.
 4. Confirm the displayed message with **YES**.
- ✓ The SEC is reset to the factory settings (Factory Reset).

9.2 REST API interface

The product can be directly integrated into the system using the REST API application programming interface. It can also serve as the basis for designing a customized user interface. An overview of the information that can be retrieved and the commands that can be executed is available at .

POST requests (unless authentication-free) are secured using the challenge-response mechanism. Additional information can be found on the Sick Support Portal <https://support.sick.com/sick-knowledgebase/article/?code=KA-10054>

10 Maintenance

10.1 Updates

Overview

SICK provides updates at irregular intervals to eliminate known vulnerabilities.

As the product is used in the industrial sector, it does not have an automatic update function.

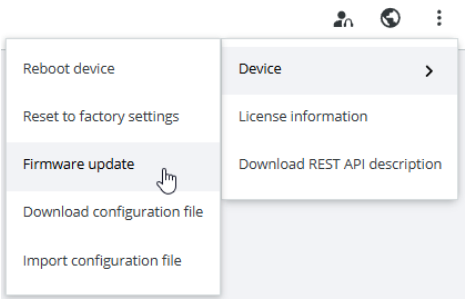
The operating entity of the product should regularly check for the availability of updates, carry out a risk analysis, and install the updates if necessary.

Procedure

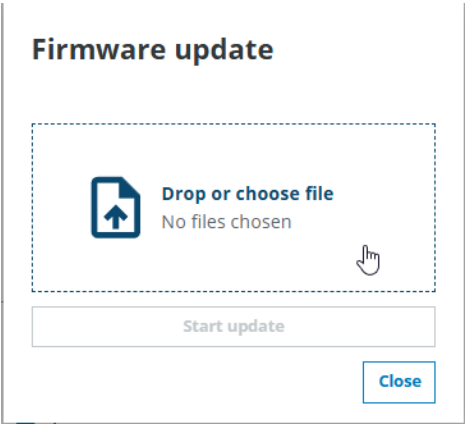
 **NOTICE**
The power supply must remain connected during the update.

To install an update, proceed as follows:

- 1.  on the right in the header.
- 2. Select **Device**.
- 3. Select **Firmware update**.



- 4. Select swu file



- 5. Press **Start update**.
- ✓ The update will be installed.

The product does not have an update function.

Further topics

- ["Software from trustworthy sources", page 8](#)

11 Troubleshooting

The Troubleshooting table indicates which measures are to be taken if the product stops working.

Table 12: Troubleshooting

LED/fault pattern	Cause	Measures
RDY LED does not light up	No supply voltage	Checking voltage supply
L/A LED does not light up or flashes slowly	No network connection established	Check the Ethernet or USB cable
RDY LED flashes quickly	Error message	Check cabling Disconnect voltage supply for 10 s
User interface is not accessible	Network configuration faulty	- Check your network settings, especially those of the network adapter - The device may be unreachable due to an active VPN connection - Check firewall settings or contact your local IT department

11.1 Reset the device

The device can be reset with codes if required or in case of error. To do so, the reset code must be placed within the camera's reading area for approximately 30 seconds after switching on the device.

The corresponding QR codes are shown below:

- Reset to factory settings



- Reset application (communication interface will be retained)



- Reset user password
All stored recordings are deleted when the password is reset to protect data privacy.



12 Decommissioning

**NOTE**

The camera flashes briefly when the device is disconnected from the power supply.

12.1 Disposal



If a device can no longer be used, dispose of it in an environmentally friendly manner in accordance with the applicable country-specific waste disposal regulations. Do not dispose of the product along with household waste.

**NOTICE**

Danger to the environment due to improper disposal of the device.

Disposing of devices improperly may cause damage to the environment.

Therefore, observe the following information:

- Always observe the national regulations on environmental protection.
- Separate the recyclable materials by type and place them in recycling containers.

13

Technical data

Features**Table 13:** Features

Technology	Image-based code reading
Sensor	CMOS monochrome
Shutter technology	Global shutter
Sensor resolution	1,080 px x 1,280 px (1.3 MP)
Field of view	36° x 31°
User memory	internal memory or FTP upload
Illumination	LED (6 white LEDs, risk group 1 according to IEC 62471:2006)
Alignment aid	Green LED line, risk group 1 according to IEC 62471:2006
Feedback	- Green LED spot, risk group 1 according to IEC 62471:2006 - Acoustic signaler (beeper)
Lens	Integrated
Code-n reading performance	
Readable code structures	1D codes, 2D codes
Bar code types	- Code 39 - Code 128 - Code 93 - UPC / EAN / JAN (with add-on) - Code 25 - MSI - Postal codes
2D code types	- QR code - Data Matrix
Code resolution	≥0.2 mm
Working distance	0.1 m ... 0.3 m
Number of codes per scan	1 ... 25
Evaluation time/Decoding speed	
Exposure time	50 µs ... 33,000 µs
Scan/frame rate	≤60 fps
Conveyor speed	max. 1.5 m/s
Image capture	
Image format	JPEG
Trigger	Digital input or software trigger via TCP/IP

Interface**Table 14:** Ethernet interface

Ethernet	✓, TCP/IP
Note	DHCP/Auto IP/static
Data transmission rate	100 Mbit/s, 100Base-TX

Table 15: USB interface

USB	✓
Data transmission rate	USB 2.0@

Electrical system**Table 16:** SEC200 electrical unit with Ethernet interface

Supply voltage	DC 12 ... 24 V, tolerance ±10%
----------------	--------------------------------

Power consumption	Typ. 5 W Max. 8 W
Protection class	III
Enclosure rating	IP65
Electrical safety	EN 62368-1
Connection type	
Supply voltage & I/O	M12 plug, 5-pin, A-coded, length of cable 300 mm
Ethernet interface	M12 socket, 4-pin, D-coded, length of cable 200 mm

Table 17: SEC200 electrical unit with USB interface

Supply voltage	5 V
Power consumption	Typ. 2.5 W Max. 5 W
Protection class	III
Enclosure rating	IP65
Electrical safety	EN 62368-1
Connection type	
USB port	USB Type-C®, Dual Screw Locking, IP65, 200 mm cable length

Mechanics

Table 18: Mechanics

Dimensions (W x H x D)	56 mm x 56 mm x 30,5 mm (without connection)
Housing material	Aluminum, plastic
Front screen material	Glass
Weight	180 g
Mounting	two threads for M4 screws one ¼" - 20 UNC thread for photo tripod

Ambient data

Table 19: Ambient data

Ambient temperature, operation	0°C ... +50°C
Ambient temperature, storage	-20°C ... +60°C
Permissible relative humidity	≤90 %
Shock resistance	150 m/s² EN 60068-2-27
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Electromagnetic compatibility (EMC)	Radiated emission as per EN 61000-6-3 Immunity as per EN 61000-6-2

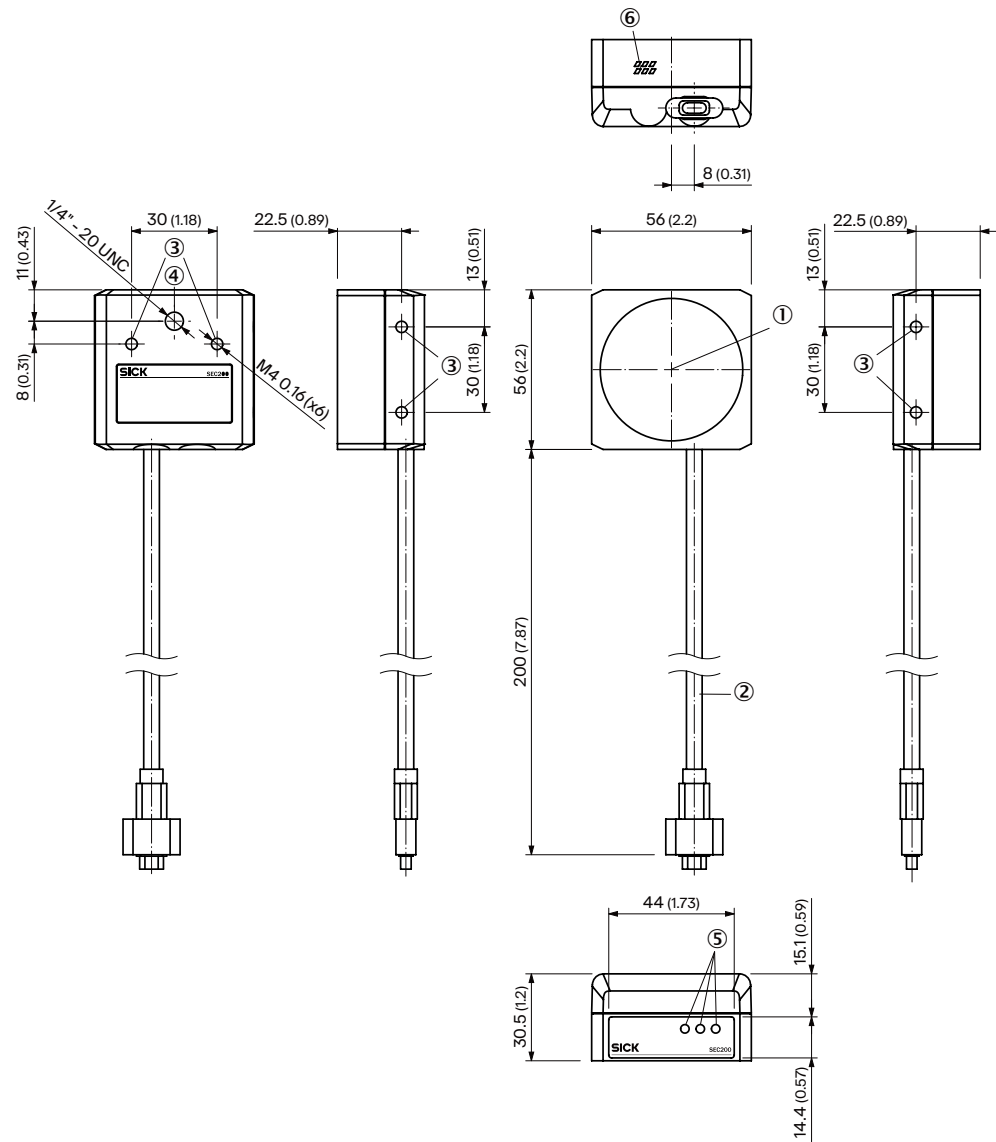


Figure 37: Dimensional drawing SEC200 with USB interface

- ① Camera with protective glass
- ② USB-C® cable
- ③ Six threads for M4 screws
- ④ One 1/4" - 20 UNC thread for photo tripod
- ⑤ Display elements
- ⑥ Audible signaling device

14 Annex

14.1 Conformities and certificates

You can obtain declarations of conformity, certificates, and the current operating instructions for the product at www.sick.com. To do so, enter the product part number in the search field (part number: see the entry in the “P/N” or “Ident. no.” field on the type label).

14.2 Certified to UL 62368-1



SEC200 is certified to UL 62368-1. The certification is only valid with corresponding device identification on the type label of the respective device.

The certification is only valid with corresponding device identification on the type label of the respective device.

14.3 Licenses

SICK uses open-source software. This software is licensed by the rights holders using the following licenses, among others: The free licenses GNU General Public License (GPL Version2, GPL Version3) and GNU Lesser General Public License (LGPL), the MIT license, zlib license, ISC, FTL, Open SSL license and the licenses derived from the BSD license.

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnership with our customers is more than just a promise: Together, we optimize productivity, elevate quality, protect health and safety, and sustain the future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions.