PSS Prime

Pattern sensor

Print Detector

SICK
Sensor Intelligence.

Described product

PSS Prime Print Detector

Manufacturer

SICK AG
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Germany

Legal information

Original document

This document is an original document of SICK AG.

Contents

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1 About this document

1.1 Information on the operating instructions

These operating instructions provide important information on how to use devices from SICK AG.

Prerequisites for safe work are:

- Compliance with all safety notes and handling instructions supplied
- Compliance with local work safety regulations and general safety regulations for device applications

The operating instructions are intended to be used by qualified personnel and electrical specialists.

> **NOTE**
> Read these operating instructions carefully before starting any work on the device, in order to familiarize yourself with the device and its functions.

The instructions constitute an integral part of the product and are to be stored in the immediate vicinity of the device so they remain accessible to staff at all times. Should the device be passed on to a third party, these operating instructions should be handed over with it.

These operating instructions do not provide information on operating the machine in which the device is integrated. For information about this, refer to the operating instructions of the specific machine.

1.2 Scope

These operating instructions serve to incorporate the device into a customer system. Instructions are given in stages for all actions required.

These instructions apply to all listed device variants of the product.

Available device variants are listed on the online product page.

▶   www.sick.com/PSS

Commissioning is described using one particular device variant as an example.

Simplified device designation in the document

In the following instructions, the sensor is referred to in simplified form as "PSS" or "device."

1.3 Explanation of symbols

Warnings and important information in this document are labeled with symbols. The warnings are introduced by signal words that indicate the extent of the danger. These warnings must be observed at all times and care must be taken to avoid accidents, personal injury, and material damage.

> **DANGER**
> ... indicates a situation of imminent danger, which will lead to a fatality or serious injuries if not prevented.

⚠️ **WARNING**
... indicates a potentially dangerous situation, which may lead to a fatality or serious injuries if not prevented.

⚠️ **CAUTION**
... indicates a potentially dangerous situation, which may lead to minor/slight injuries if not prevented.

❗ **NOTICE**
... indicates a potentially harmful situation, which may lead to material damage if not prevented.

ℹ️ **NOTE**
... highlights useful tips and recommendations as well as information for efficient and trouble-free operation.

1.4   Further information

ℹ️ **NOTE**
All the documentation available for the device can be found on the online product page at:

▶   **www.sick.com/PSS**

The following information is available for download from this page:

- Type-specific online data sheets for device variants, containing technical data and dimensional drawings
- EU declaration of conformity for the product family
- Dimensional drawings and 3D CAD dimension models in various electronic formats
- These operating instructions, available in English and German, and in other languages if necessary
- Other publications related to the devices described here
- Publications dealing with accessories
- IO-Link driver files and IO-Link Technical Information v1.1

1.5   Customer service

If you require any technical information, our customer service department will be happy to help. To find your agency, see the final page of this document.

ℹ️ **NOTE**
Before calling, make a note of all type label data such as type code, serial number, etc., to ensure faster processing.

2 Safety information

2.1 Intended use

The PSS is an opto-electronic sensor for the optical, non-contact detection of printed pattern. It also provides information on correspondence to the taught-in print (Quality of Run).

A PSS is designed for mounting and may only be operated according to its intended function. For this reason, a PSS is not equipped with direct safety devices.

The system designer must provide measures to ensure the safety of persons and systems in accordance with the legal guidelines.

SICK AG assumes no liability for losses or damage arising from the use of the product, either directly or indirectly. This applies in particular to use of the product that does not conform to its intended purpose and is not described in this documentation.

2.2 Improper use

- The device does not constitute a safety-relevant device according to the EC Machinery Directive (2006/42/EC).
- The device must not be used in explosion-hazardous areas.
- Any other use that is not described as intended use is prohibited.
- Any use of accessories not specifically approved by SICK AG is at your own risk.

The device is not suitable for the following applications (this list is not exhaustive):

- As a safety device to protect persons, their hands, or other body parts
- Underwater
- In explosion-hazardous areas
- Outdoors, without additional protection

! **NOTICE**
Danger due to improper use!

Any improper use can result in dangerous situations.

Therefore, observe the following information:

▶ The device should be used only in line with intended use specifications.
▶ All information in these operating instructions must be strictly complied with.

2.3 Limitation of liability

Applicable standards and regulations, the latest state of technological development, and our many years of knowledge and experience have all been taken into account when assembling the data and information contained in these operating instructions. The manufacturer accepts no liability for damage caused by:

- Failure to observe the operating instructions
- Improper use
- Use by untrained personnel
- Unauthorized conversions
- Technical modifications
- Use of unauthorized spare parts, wear and tear parts, and accessories

With special variants, where optional extras have been ordered, or owing to the latest technical changes, the actual scope of delivery may vary from the features and illustrations shown here.

2.4 Requirements for skilled persons and operating personnel

⚠️ **WARNING**
Risk of injury due to insufficient training!

Improper handling of the device may result in considerable personal injury and material damage.

- All work must only ever be carried out by the stipulated persons.

The operating instructions state the following qualification requirements for the various areas of work:

- **Instructed personnel** have been briefed by the operating entity about the tasks assigned to them and about potential dangers arising from improper action.
- **Skilled personnel** have the specialist training, skills, and experience, as well as knowledge of the relevant regulations, to be able to perform tasks assigned to them and to detect and avoid any potential dangers independently.
- **Electricians** have the specialist training, skills, and experience, as well as knowledge of the relevant standards and provisions to be able to carry out work on electrical systems and to detect and avoid any potential dangers independently. In Germany, electricians must meet the specifications of the BGV A3 Work Safety Regulations (e.g., Master Electrician). Other relevant regulations applicable in other countries must be observed.

The following qualifications are required for various activities:

Activities	Qualification
Mounting, maintenance	- Basic practical technical training - Knowledge of the current safety regulations in the workplace
Electrical installation, device replacement	- Practical electrical training - Knowledge of current electrical safety regulations - Knowledge of the operation and control of the devices in their particular application
Commissioning, configuration	- Basic knowledge of the design and setup of the described connections and interfaces - Basic knowledge of data transmission - Knowledge of the operation and control of the devices in their particular application
Operation of the devices in their particular application	- Knowledge of the operation and control of the devices in their particular application - Knowledge of the software and hardware environment in the application

2.5 Hazard warnings and operational safety

Please observe the safety notes and the warnings listed here and in other chapters of these operating instructions to reduce the possibility of risks to health and avoid dangerous situations.

2.5.1 Eye safety

> ⚠️ **CAUTION**
> The device is equipped with LEDs. The device meets the criteria of risk group 0 according to IEC 62471:2006. No special measures are required (e.g., eye protection).
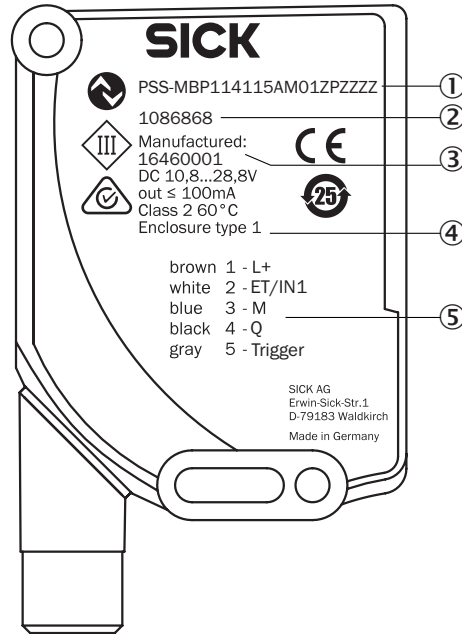
2.6 Repairs

The product is a replacement device. The device is not intended to be repaired. Interference with or modifications to the device on the part of the customer will invalidate any warranty claims against SICK AG.

3 Product description

3.1 Product ID

3.1.1 Type label

① Device type number

② Part number

③ Date of manufacture

④ Electrical data and environmental data

⑤ Pin assignment

3.1.2 Variants

Table 1: Variants

Part number	Type	Sensing distance	Light spot	Description
1219863	PSS-MBP124115AZZZZPZZZZPZZZZZ1	27.5 mm	0.8 x 8 mm	Teach-in background and print
1220058	PSS-MBB124115AZZZZBZZZZPZZZZZ1	27.5 mm	0.8 x 8 mm	Teach-in print without background

3.2   Product features and functions

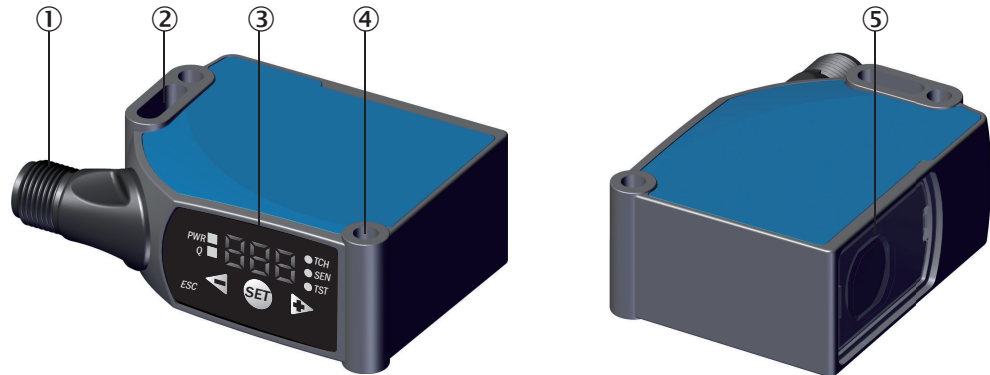### 3.2.1   Device view

Figure 1: PSS Prime light emission long housing side

①   Connection

②   Mounting slot

③   Display and control panel

④   Mounting hole

⑤   Light emission

3.2.2   Product characteristics

The PSS Print Detector is primarily used in the packaging industry for verifying the presence of prints, such as best-before dates, serial numbers, or 2D codes. They can, however, also be used in any 1D pattern verification application.

The PSS compares a taught-in pattern with the following patterns; checks that they match and checks for 100% correspondence to reduce deviations in contrast or length. The sensitivity level, i.e., a print that is yet to be recognized as good quality, can be set by the user.

- 10 - 30 coarse: Print is present.
- 40 - 60 medium: Print is present, but the quality is poor.
- 70 - 90 fine: Print is present, the quality is good, but details are missing.

Features

- Sensor-based pattern recognition
- Print pattern and background teach-in
- Flexible, adjustable sensitivity levels
- Response time: 10 ms
- Trigger required
- Print quality shown on sensor display
- Configuration via IO-Link

Fields of application

Presence monitoring of prints:

- Serial numbers
- Best-before date
- 2-D code

Detecting good and poor print quality according to the set sensitivity level:

- Degree of blackening
- Only partially printed

4 Mounting

4.1 Scope of delivery

- PSS in the version ordered
- Quickstart
- Safety notes

4.2 Mounting requirements

- Typical space requirement for the device, see type-specific dimensional drawing, see "Technical data", page 31.
- Comply with technical data, such as the permitted ambient conditions for operation of the device (e.g., temperature range, EMC interference emissions, ground potential).
- To prevent condensation, avoid exposing the device to rapid changes in temperature.
- Protect the device from direct sunlight.
- The device must only be mounted using the pairs of mounting threads/fixing holes provided for this purpose.
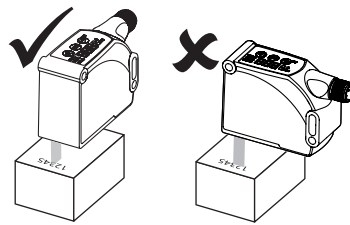- Shock and vibration-free mounting.
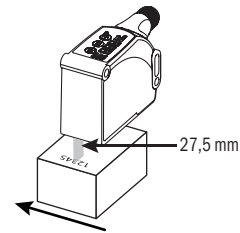
4.3 Mounting the device

Figure 2: PSS

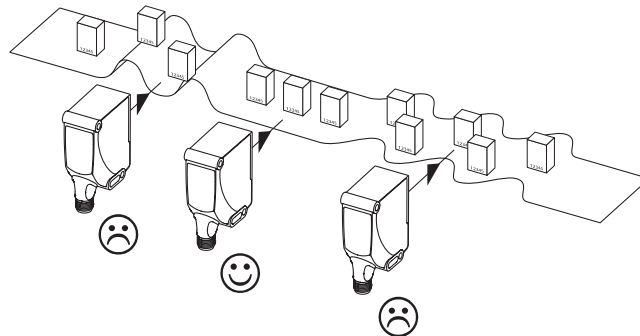*Figure 3: PSS - processing direction*

27,5 mm

Figure 4: PSS - alignment

1. Install the device via the fixing hole so that the light spot enters the mark longitudinally and the test object has the least possible vertical and horizontal movement. Note the sensing distance while doing so.
2. Compensate for the vertical and horizontal movement of the test object by marks of suitable lengths.
3. Ensure that any device movement does not affect the sensing distance.

5 Electrical installation

5.1 Notes on the electrical installation

> **!** **NOTICE**
> **Device damage due to incorrect supply voltage!**
>
> An incorrect supply voltage may result in damage to the device.
>
> - Only operate the device with safety/protective extra-low voltage (SELV/PELV).
> - The sensor is a device of protection class III.

> **!** **NOTICE**
> **Device damage due to incorrect supply voltage!**
>
> An incorrect supply voltage may result in damage to the device.
>
> • Only operate the device with an LPS (limited power source) in accordance with IEC 60950-1 or an NEC Class 2 power supply unit.

> **!** **NOTICE**
> **Device damage or unpredictable operation due to working with live parts!**
>
> Working with live parts may result in unpredictable operation.
>
> - Only carry out wiring work when the power is off.
> - Only connect and disconnect electrical connections when the power is off.

- **The electrical installation must only be performed by electrically qualified personnel.**
- **Standard safety requirements must be met when working on electrical systems!**
- Only switch on the supply voltage for the device when the connection tasks have been completed and the wiring has been thoroughly checked.
- When using extension cables with open ends, ensure that bare wire ends do not come into contact with each other (risk of short-circuit when supply voltage is switched on!). Wires must be appropriately insulated from each other.
- Wire cross-sections in the supply cable from the user's power system must be selected in accordance with the applicable standards.
- Only operate the device with an LPS (limited power source) in accordance with IEC 60950-1 or an NEC Class 2 power supply unit.
- All circuits connected to the device must be designed as SELV/PELV circuits.
- Operation in short-circuit protected network at max. 8 A.

> **i** **NOTE**
> **Layout of data cables**
>
> - Use screened data cables with twisted-pair wires.
> - Implement the screening design correctly and completely.
> - To avoid interference, e.g., from switching power supplies, motors, clocked drives, and contactors, always use cables and layouts that are suitable for EMC.
> - Do not lay cables over long distances in parallel with voltage supply cables and motor cables in cable channels.

The IP enclosure rating for the device is only achieved under the following conditions:

- The cables plugged into the connections are screwed tight.
- Any other covers present must be closed and lie flush on the device.

If these instructions are not complied with, the IP enclosure rating for the device is not guaranteed!

5.2 Note on the swivel connector

> **!** **NOTICE**
> **Damage to the connector unit from over-tightening!**
> The connector unit on the device has two opposite end positions.
>
> - Do not rotate the connector unit from either of the two end positions by more than 180°.

5.3 Pin assignment of the connections

Pin assignment

PSS Print Detector	
1	L+
2	ET
3	M
4	Q / C
5	Trigger

IO-Link

No.	Description	Data type
Bit 0	Switching signal Q	Boolean
Bit 1	Empty	-
Bit 2	Q valid	Boolean
Bit 3 - 7	Empty	-
Bit 8 - 15	Quality of print	Unsigned integer

5.4 Connecting the supply voltage

> **!** **NOTICE**
> **Risk of damage to the device!**
> The device can become damaged if it is connected to a voltage supply that is already switched on.
>
> - Only connect the device when the supply cable is de-energized.

The device must be connected to a power supply unit with the following properties:

- Supply voltage DC 10.8 V – 28.8 V (SELV/PELV as per currently valid standards)
- Electricity source with at least 3 W power

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

5.5 Wiring the interfaces

5.5.1 Wiring the digital inputs

The digital inputs can be used to start a teach-in procedure or.

Electrical values

LOW: $0\ V \le U_e \le 2\ V$

HIGH: $10\ V \le U_e \le U_V$

Input, teach-in (ET)

Push/pull: Teach = HIGH; Run = LOW

Input, Trigger

Recording = HIGH; Evaluation = LOW

5.5.2 Wiring the digital outputs

Switching behavior: push/pull

Electrical values

The sum current (100 mA) for all digital outputs is identical.

Push/pull HIGH: $U_V - 3\ V$; LOW: $\le 3\ V$

In the case of a push/pull sensor, the signal must be inverted in the control system in order to obtain the same result as a sensor with NPN switching behavior.

Table 2: Push-Pull

6 Operation

6.1 Operating elements
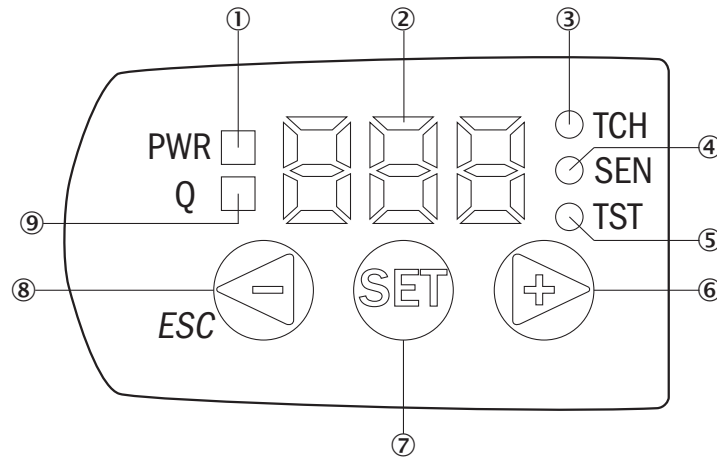
Table 3: Operating elements legend

No	Description	Function
1	PWR	Illuminates when the voltage supply is connected.
2	Segment display	Shows menu item, values, or qualities.
3	TCH	Illuminates when the "teach-in" menu is selected.
4	SEN	Illuminates when the "sensitivity" menu is selected.
5	TST	Illuminates when the "test" menu is selected.
6	Plus	Scrolls through menu items or increases values.
7	SET	Opens the menu, confirms entries, or switches to lower-level menus.
8	Minus/ESC	Switches to the previous menu item, decreases values, or cancels the current operation (press for > 3 s).
9	Q	Illuminates when there is a switching event.

6.2 Navigation tree, general

To leave the current menu level, press and hold the minus pushbutton for > 3 seconds.
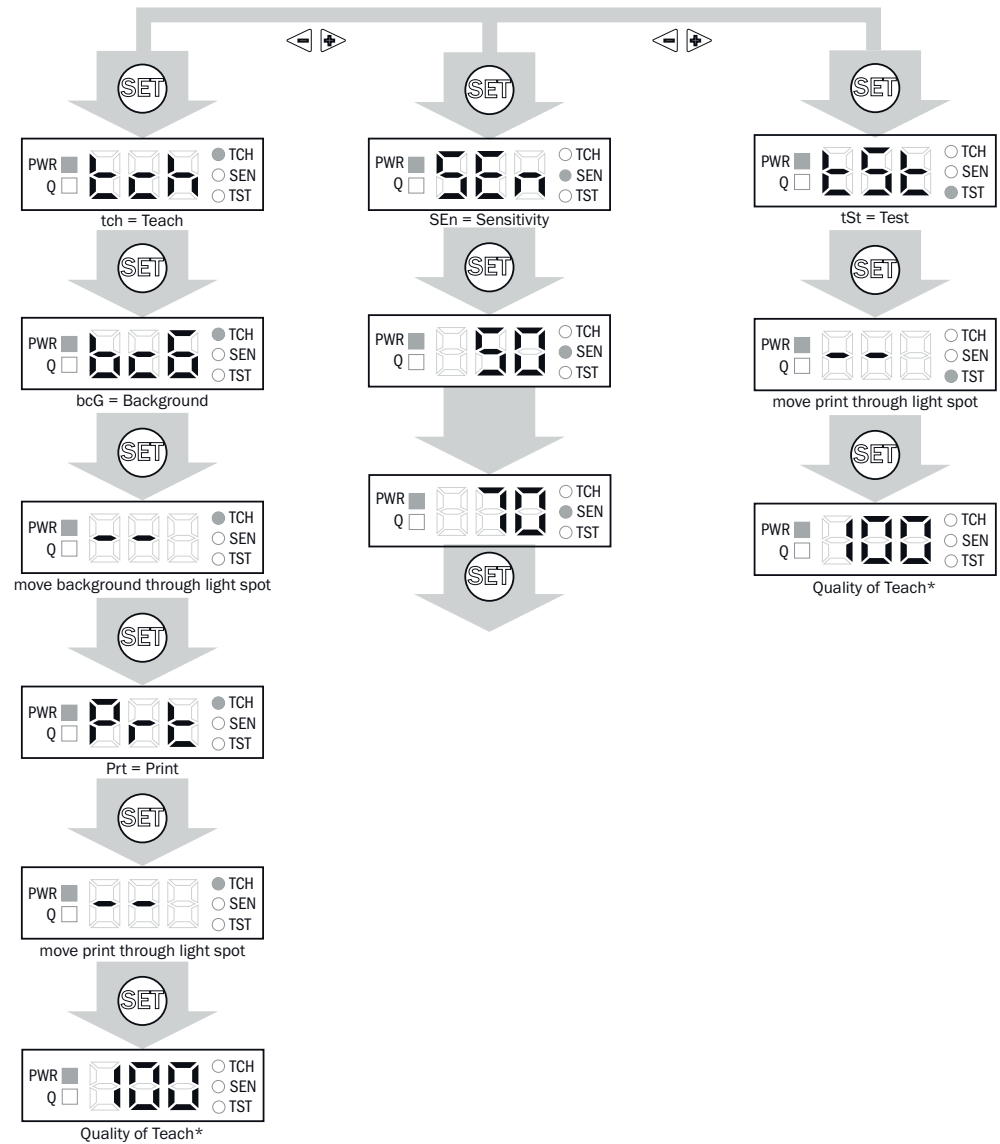
6.3 Resetting the device (factory setting)

1. Press and hold the plus/minus pushbuttons for 10 s.

2. The set parameters are reset to the factory settings.

6.4 Teach-in

Several teach-in processes are available for configuring the device:

- Teach-in for background and print.
- Teach-in for print without background.

6.4.1 Teach-in for print (background, within the trigger window, uniform/same color)

1 Start the teach-in process either by
- Selecting the menu item "tch" on the display and confirming with Set. The sensor now displays "prt".
Or
- Setting the input line "ET" to HIGH
Or
- Sending the "Start Teach" (ISDU 2 – Value 73) system command to the sensor.
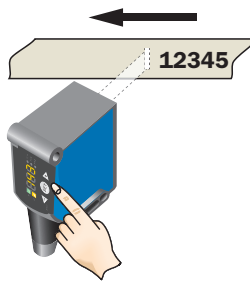
The sensor is now in teach-in mode and waits for the print to be taught in.

2 Start to teach in the print either by
- Pressing the Set pushbutton when "Prt" is shown on the display
Or
- Activating windowing via the trigger input line
Or
- Sending the "Trigger window start" (ISDU 2 – Value 226) system command to the sensor.

3 The section that is now read is taught in as a reference pattern. Move the sensor over the print.
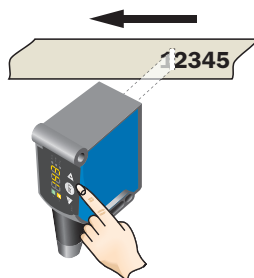
4   Depending on the type of window start, quit the teach-in process by
  ▪ Pressing the Set pushbutton when the progress bar is shown on the display
    Or
  ▪ Deactivating windowing via the trigger input line
    Or
  ▪ Sending the "Trigger window stop" (ISDU 2 – Value 227) system command to the sensor.
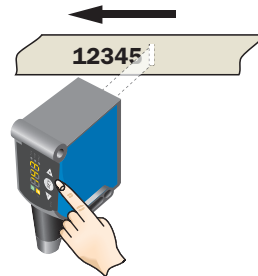
5   The teach-in process is now complete; the quality of the process (quality of teach) is shown on the display. If the teach-in process was started via the "ET" input line, the signal should now be reset to LOW.

6.4.2   Teach-in for background and print (background, within the trigger window, textured)

> **NOTE**
> – The direction of movement during teach-in must match the processing direction in RUN mode.
> – If the background changes compared with the reference pattern that was taught in, the level of correspondence and therefore the quality of print is reduced.

1   Start the teach-in process either by
  ▪ Selecting the menu item "tch" on the display and confirming with Set. The sensor now displays "bck"
    Or
  ▪ Setting the input line "ET" to HIGH
    Or
  ▪ Sending the "Start Teach" (ISDU 2 – Value 71) system command to the sensor.
    The sensor is now in teach-in mode and waits for the background to be taught in. Now position the sensor in front of the background to be taught in.

2   Start to teach in the background window either by
  ▪ Pressing the Set pushbutton when "bck" is shown on the display
    Or
  ▪ Activating windowing via the trigger input line
    Or
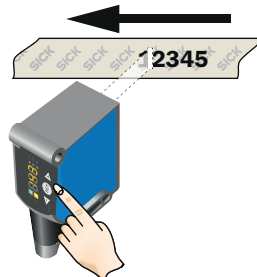 ▪ Sending the "Trigger window start" (ISDU 2 – Value 226) system command to the sensor.

3   The section that is now read is taught in as a background. Move the sensor over the background.
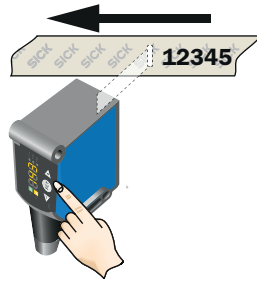
4   Depending on the type of window start, quit the teach-in process by
- Pressing the Set pushbutton when the progress bar is shown on the display
  Or
- Deactivating windowing via the trigger input line
  Or
- Sending the "Trigger window stop" (ISDU 2 – Value 227) system command to the sensor.
  The background teach-in process is now complete. The sensor waits for the print to be taught in. Now position the sensor in front of the lettering to be taught in.

5   Start to teach in the print either by
- Pressing the Set pushbutton when "Prt" is shown on the display
  Or
- Activating windowing via the trigger input line
  Or
- Sending the "Trigger window start" (ISDU 2 – Value 226) system command to the sensor.

6   The section that is now read is taught in as a reference pattern. Move the sensor over the print.

7   Depending on the type of window start, quit the teach-in process by
- Pressing the Set pushbutton when the progress bar is shown on the display
  Or
- Deactivating windowing via the trigger input line
  Or
- Sending the "Trigger window stop" (ISDU 2 – Value 227) system command to the sensor.
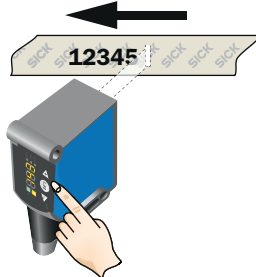
The teach-in process is now complete; the quality of the process (quality of teach) is shown on the display. If the teach-in process was started via the "ET" input line, the signal should now be reset to LOW.

6.5 Sensitivity

If the quality is the same or better than the set threshold, the print is recognized (Q active 10 ms after falling edge of the trigger signal).

Table 4: Sensing distance tolerance

Sensing distance tolerance	±2.5 mm (presence detection)
	±1 mm (quality control)

tch = Teach

SEn = Sensitivity
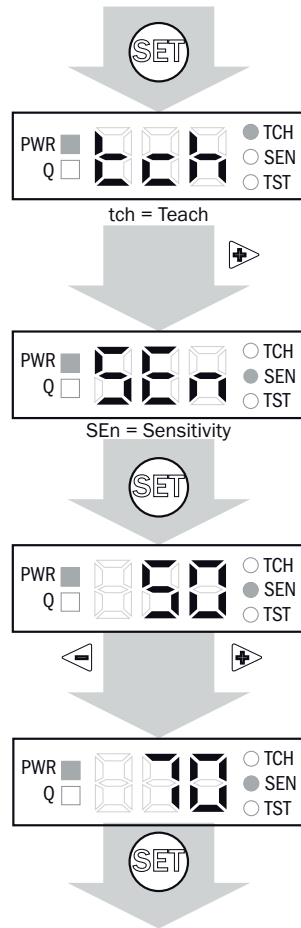
10 - 30	coarse: Print is present.Presence detection
40 - 60	medium: Print is present, but the quality is poor.
70 - 90	fine: Print is present, the quality is good, but details are missing.

6.6 Test

Test mode for the offline thorough check of the taught-in print (trigger is activated manually via the control panel).

tch = Teach

tSt = Test

move print through light spot

Quality of Print*
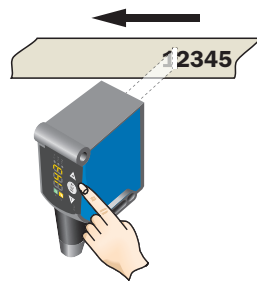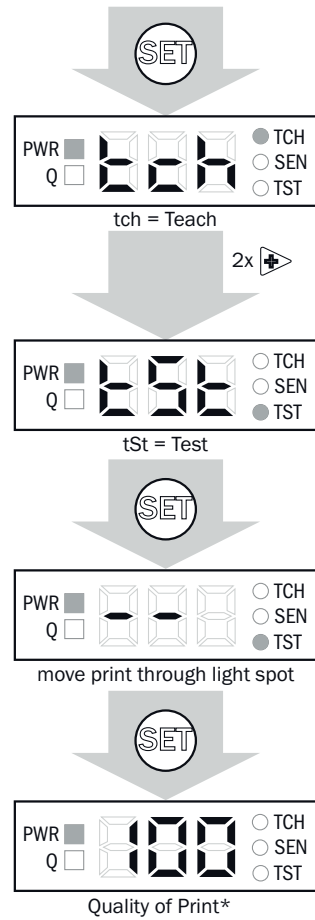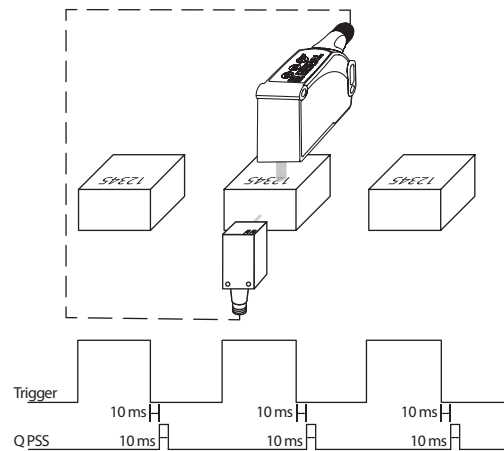
6.7 Trigger

Figure 5: Trigger

For operation, the sensor needs a trigger signal regarding the length of the print to be evaluated for signaling the reading window. This is supplied to the sensor via Pin 5. The start of the reading window is signaled by the rising edge of the trigger signal, the control panel cannot be operated during this time. The end is signaled by the falling edge. The associated output state change is present no later than 10 ms after the falling edge. The process quality (quality of print) is displayed. When checking the print on packaging and other objects, we recommend generating the trigger signal via a photoelectric sensor; if continuous material is used, the signal can be generated via a control or a contrast sensor.

6.8 External teach-in

The external teach-in and the trigger input can be synchronized for the teach-in process as follows:
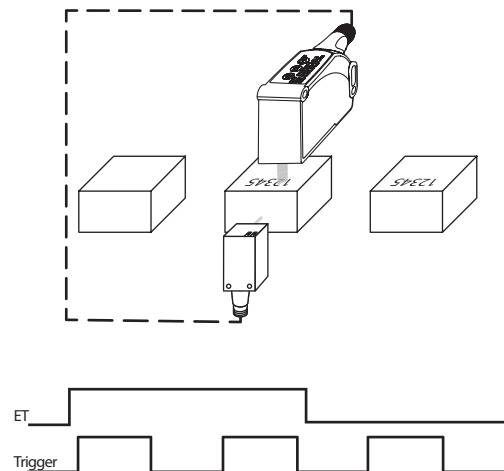
6.9   IO-Link

- Switching output logic
  Switching output active if print is present or switching output active if print is not present
- Pin 2 configuration
  Pin 2 = external teach-in (default) or 2nd switching output
- Keylock
  On/off
- Print teach-in/background teach-in
- Sensitivity
  Sensitivity level determines the point at which the switching output is active
- Job backup
  Data from various print can be saved and retrieved if necessary.
- Trigger input delay and pulse length Q
  The trigger input delay ① and the pulse length ② enable the area of the print to be defined more precisely
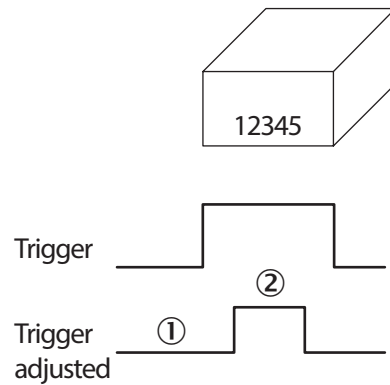
6.10 Other indicators and functions

Incorrect teach-in

In the event of a teach-in failure, Err appears on the display and the Q LED and TCH LED flash.

Control panel locked

If the device is undergoing an internal process (e.g., reading or storing parameter sets or teaching-in via IO-Link), the control panel is locked and the device shows "bSY" on the segment display.

Short-circuit and overcurrent detection

In the event of a short-circuit and overcurrent, Err appears on the display and the Q LED flashes.

Live measured value (run mode)

In run mode, the device displays the quality compared to the reference print in %.

The higher the value, the better the correspondence with the taught-in print.

7 Troubleshooting

7.1 Possible errors during commissioning

Table 5: Troubleshooting during commissioning

Display, error situation	Cause	Measure
• "Err" flashes • Q LED (yellow) flashes	• Short-circuit message/ overcurrent message • Sensor is not connected properly	• Disconnect sensor from the power network • Check pin assignment • Reconnect sensor • Check the current at the switching output
After the teach process • "Err" flashes • Q LED (yellow) and TCH LED (yellow) flash • No signal change at the switching output for object detection	Programmed contrast or contrast difference is not sufficient for stable contrast detection.	• Readjust sensor • Clean sensor • Check the application conditions • Restart teach process • Increase contrast difference

7.2 Possible errors during operation

Table 6: Troubleshooting during operation

Display, error situation	Cause	Measure
Busy	Sensor is undergoing an internal process.	Wait until the process has finished.
Indication of quality "0"	• Distance or angle to material not consistent • Light emission (optics) is dirty • Print information is so low that it cannot be captured by the sensor	• Clean sensor • Readjust sensor • Check parameter settings • Perform teach process again

8 Maintenance

8.1 Maintenance

During operation, the device works maintenance-free.

Depending on the assignment location, the following preventive maintenance tasks may be required for the device at regular intervals:

Table 7: Maintenance schedule

Maintenance work	Interval	Implementation
Clean housing and front screen	Cleaning interval depends on ambient conditions and climate	Specialist
Check screw connections and plug connectors	Every 6 months	Specialist

8.2 Cleaning the device

At regular intervals (e.g., weekly), check the light emission window and the housing of the device for dirt. This is especially relevant in harsh operating environments (dust, abrasion, damp, fingerprints, etc.). The lens of the light emission window must be kept clean and dry during operation.

> **!** **NOTICE**
> **Device damage due to improper cleaning!**
> Improper cleaning may result in device damage.
> - Only use suitable cleaning agents.
> - Never use sharp objects for cleaning.

Cleaning the light emission window

> **!** **NOTICE**
> **Damage to the light emission window!**
> Reduced reading performance due to scratches or streaks on the light emission window!
> ▶ Clean the light emission window only when wet.
> ▶ Use a mild cleaning agent that does not contain powder additives. Do not use aggressive cleaning agents, such as acetone, etc.
> ▶ Avoid any movements that could cause scratches or abrasions on the light emission window.
> ▶ Only use cleaning agents suitable for the lens material.

> **ⓘ** **NOTE**
> Static charge may cause dust particles to stick to the light emission window. This effect can be avoided by using an anti-static glass cleaner in combination with the SICK lens cloth (can be obtained from **www.sick.com**).

> **ⓘ** **NOTE**
> If the light emission window is scratched or damaged (cracked or broken), the device must be replaced. Contact SICK Service to arrange this.

Cleaning the housing

In order to ensure that the heat produced by the internal power loss is adequately dissipated, the housing surface must be kept clean.

9 Decommissioning

9.1 Disassembly and disposal

Disassembling the device

1. Switch off the supply voltage to the device.
2. Detach all connecting cables from the device.
3. If the device is being replaced, mark its position and alignment on the bracket or surroundings.
4. Detach the device from the bracket.

Disposing of the device

Any device which can no longer be used must be disposed of in an environmentally friendly manner in accordance with the applicable country-specific waste disposal regulations. As it is categorized as electronic waste, the device must never be disposed of with household waste!

9.2 Returning devices

▶ Do not dispatch devices to the SICK Service department without consultation.

NOTE
To enable efficient processing and allow us to determine the cause quickly, please include the following when making a return:

- Details of the contact person
- Description of the application
- Description of the fault that occurred

10 Technical data

10.1 General data

Table 8: Technical data

Attribute	Value
Sensing distance	27.5 mm
Sensing distance tolerance	±2.5 mm (presence monitoring) ±1 mm (quality control)
Light spot size/light spot direction	0.8 mm x 8 mm
Supply voltage[1]	10.8 V – 28.8 V
Switching type	Push/pull
Switching output (Q)	Switching output active after falling edge of the trigger signal: max. 10 ms
Input, teach-in (ET)	Teach: $U = 10\ V\ ... < U_V$ Run: $U < 2\ V$
Input, trigger	current consumption: $U = 10\ V\ ... < U_V$ Evaluation: $U < 2\ V$
Enclosure rating	IP67
Ambient temperature (operation)	-20 C ...+60 °C
Ambient temperature (storage)	-25 °C ... +75 °C
Protection class	III
Circuit protection	U_V connections, reverse polarity protected, output Q short-circuit protected, interference-pulse suppression
Max. output current of the switching output	100 mA[2]

[1] Operation in short-circuit protected network max. 8 A
[2] Sum current of all digital outputs

10.2 Dimensional drawings
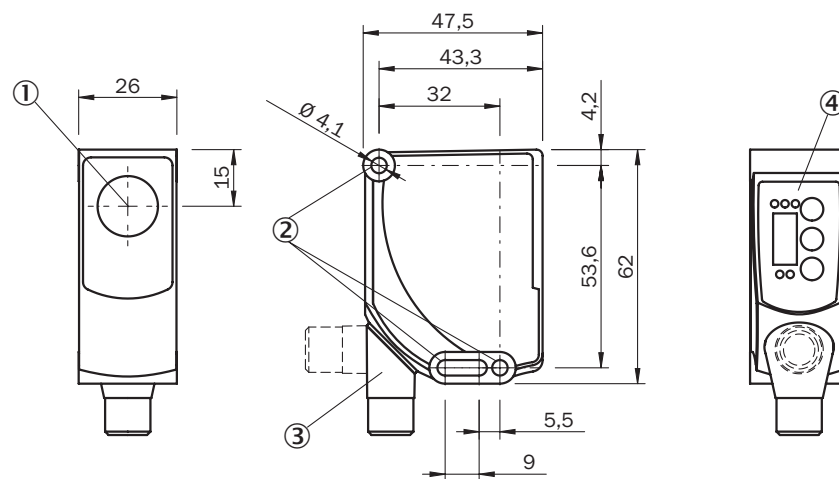
① Optical axis, sender

② Fixing hole

③ M12 male connector (can be rotated by 180°)

④ Control panel

11 Accessories

NOTE

Accessories can be found on the online product page at:

▶   **www.sick.com/PSS**

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12 Annex

12.1 EU declaration of conformity and certificates

The EU declaration of conformity and other certificates can be downloaded from the Internet at:

▶   www.sick.com/PSS

12.2 Certification according to UL 60947-5-2

The PSS Prime Print Detector is certified in accordance with UL 60947-5-2 if they are supplied with power by LPS or Class 2 power supply units.

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

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