



# PSS-MBB114115AZZZZ

PSS

ARRAY SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
PSS-MBB114115AZZZZ	1219861

Other models and accessories → [www.sick.com/PSS](http://www.sick.com/PSS)

### Detailed technical data

#### Features

<b>Dimensions (W x H x D)</b>	26 mm x 62 mm x 47.5 mm
<b>Sensing distance</b>	≤ 13 mm
<b>Sensing distance tolerance</b>	± 4 mm presence detection ± 2 mm Quality check
<b>Housing design</b>	Rectangular
<b>Light source</b>	LED, White <sup>1)</sup>
<b>Wave length</b>	400 nm ... 750 nm
<b>Light emission</b>	Long side of housing
<b>Light spot size</b>	0.8 mm x 5.5 mm
<b>Light spot direction</b>	Vertical <sup>2)</sup>
<b>Object speed max.</b>	4 m/s
<b>Tolerance lateral movement</b>	± 1 mm ... 3 mm <sup>3)</sup>
<b>Adjustment</b>	
Teach-in control panel or ET	1. Teach-in: background / 2. Teach-in: printSensitivity
Sensitivity (%)	10 % ... 90 % (Increment = 10; determines the quality level)
IO-Link	Logic switching outputPin 2 configurationKey lockDelay switching outputPrinted image teach-inTeach-in backgroundSensitivityInput delay triggerImpuls length Q
<b>Special features</b>	Teach-in print without background (background homogeneous / same color)

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

<sup>2)</sup> In relation to long side of housing.

<sup>3)</sup> Depending on the set quality level.

#### Mechanics/electronics

<b>Supply voltage</b>	10.8 V DC ... 28.8 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub> <sup>2)</sup>

<sup>1)</sup> Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>y</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Total current of all Outputs.

<b>Current consumption</b>	< 100 mA <sup>3)</sup>
<b>Switch output delay after falling flank (trigger)</b>	Max. 10 ms
<b>Switching output</b>	Push-pull: PNP/NPN
<b>Switching output (voltage)</b>	Push-pull: PNP/NPN HIGH = $U_V - 3\text{ V}$ /LOW $\leq 3\text{ V}$
<b>Output current <math>I_{\text{max}}</math></b>	100 mA <sup>4)</sup>
<b>Input, teach-in (ET)</b>	Teach: $U = 10\text{ V} \dots < V_S$ ; Run: $U < 2\text{ V}$
<b>Input, trigger</b>	Recording: $U = 10\text{ V} \dots < U_V$ Evaluation: $U < 2\text{ V}$
<b>Retention time (ET)</b>	65 ms, non-volatile memory
<b>Connection type</b>	Male connector M12, 5-pin
<b>Protection class</b>	III
<b>Circuit protection</b>	$U_V$ connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
<b>Enclosure rating</b>	IP67
<b>Weight</b>	68 g
<b>Housing material</b>	Plastic, VISTAL®

<sup>1)</sup> Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

<sup>2)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Total current of all Outputs.

## Communication interface

<b>IO-Link</b>	VendorID	26
	DeviceID DEC	8388774
<b>Cycle time</b>		4.3 ms
<b>Process data structure</b>		Bit 0 = switching signal Q Bit 2 = switching signal Q valid Bit 8 ... 15 = quality of print

## Ambient data

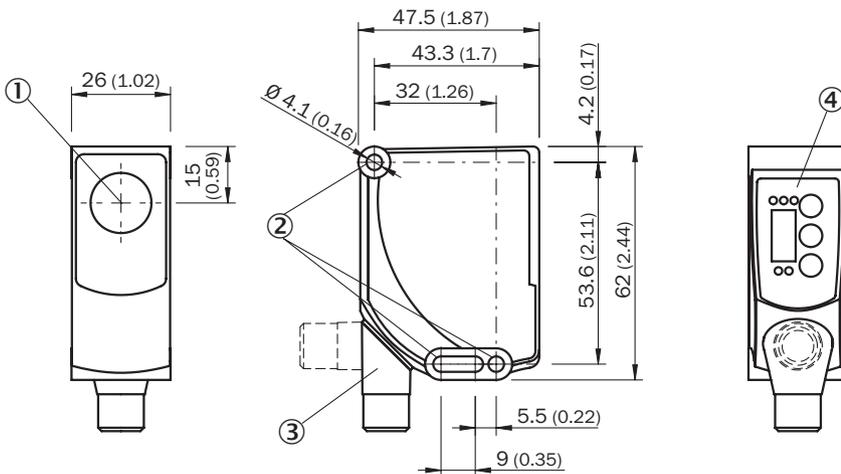
<b>Ambient operating temperature</b>	-20 °C ... +60 °C
<b>Ambient temperature, storage</b>	-25 °C ... +75 °C
<b>Shock load</b>	According to IEC 60068-2-27 (30 g/11 ms)

## Classifications

<b>ECLASS 5.0</b>	27270906
<b>ECLASS 5.1.4</b>	27270906
<b>ECLASS 6.0</b>	27270906
<b>ECLASS 6.2</b>	27270906
<b>ECLASS 7.0</b>	27270906
<b>ECLASS 8.0</b>	27270906
<b>ECLASS 8.1</b>	27270906
<b>ECLASS 9.0</b>	27270906

<b>ECLASS 10.0</b>	27270906
<b>ECLASS 11.0</b>	27270906
<b>ECLASS 12.0</b>	27270906
<b>ETIM 5.0</b>	EC001820
<b>ETIM 6.0</b>	EC001820
<b>ETIM 7.0</b>	EC001820
<b>ETIM 8.0</b>	EC001820
<b>UNSPSC 16.0901</b>	39121528

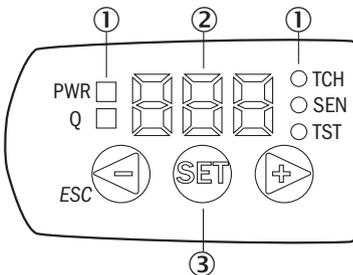
### Dimensional drawing



Dimensions in mm (inch)

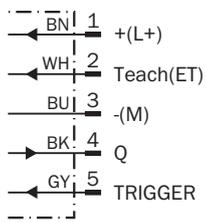
- ① optical axis, sender
- ② fixing hole
- ③ Connector M12 (rotatable up to 180°)
- ④ Control panel

### Adjustments



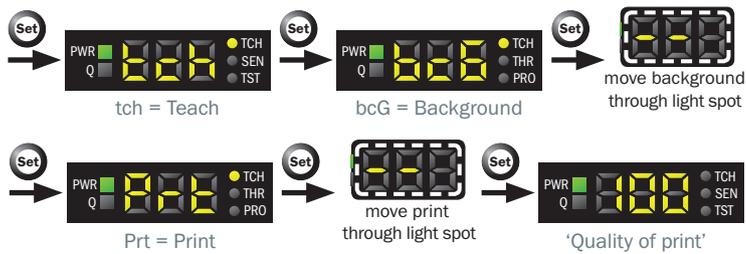
- ① LED status indicator
- ② Display
- ③ Control panel

### Connection diagram Cd-394



### Concept of operation

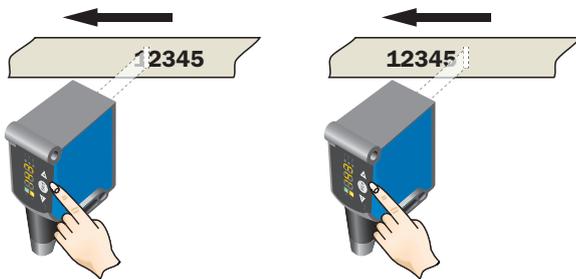
#### Teach-in



### Teach-in via control panel Setting with a homogeneous background

#### Teach-in homogeneous background

Place the light spot before the print and move it through the light spot



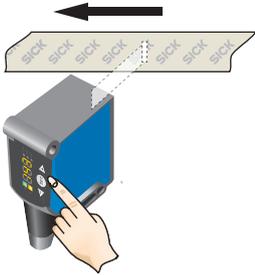
Menu level „Prt“  
 Press the “Set” pushbutton to start the teach-in operation. The display lights up during detection (---).

Press the “Set” pushbutton to end the teach-in operation. The quality of teach is displayed.

Teach-in via control panel Setting with with printed background

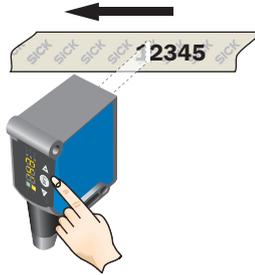
**Teach-in printed background**

**1. Position background and move it through the light spot**

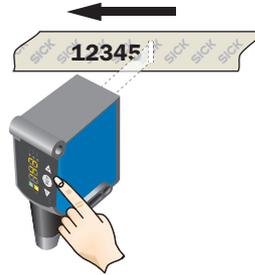


Menu level „bcG“  
 Press the “Set” pushbutton to start the teach-in operation. Move the printed image through the light spot. The display lights up during detection (---). Press the “Set” pushbutton to end the teach-in operation of the background.

**2. Place the light spot before the print and move it through the light spot**



Menu level „Prt“  
 Press the “Set” pushbutton to start the teach-in operation. The display lights up during detection (---).

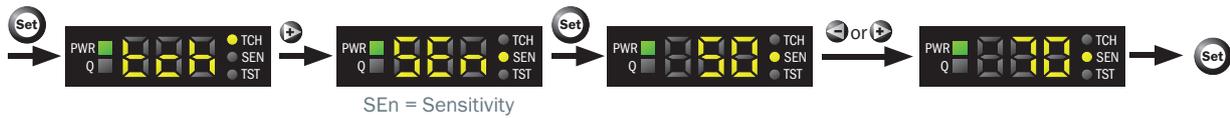


Press the “Set” pushbutton to end the teach-in operation. The quality of teach is displayed.

## Control panel Setting of the modes

### Sensitivity

The quality level can be set as follows



The printed image is detected above the set threshold (Q active 10 ms after end trigger).

### Test

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

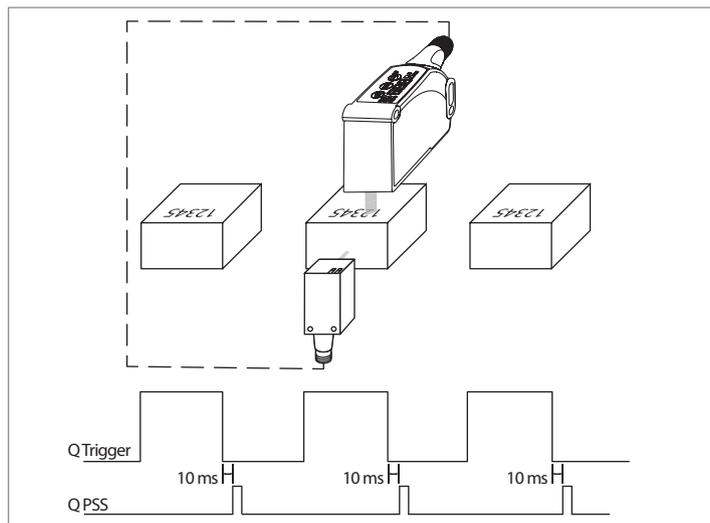


**Key lock (activation and deactivation):** Press and hold the "+" pushbutton for 10 s.

**Fault teach:** Q LED and TCH LED flashing.

For operation, the sensor needs a trigger signal regarding the length of the print to be evaluated for signaling the reading window.

See operating instructions for details (8022050).



Functional principle PSS with trigger

Recommended accessories

Other models and accessories → [www.sick.com/PSS](http://www.sick.com/PSS)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate K for universal clamp bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Universal clamp (2022726), mounting hardware</li> <li><b>Usable for:</b> W11-2, W12-3, W14-2, W18-3, W23-2, W24-2, W27-3, W30, W32, W34, W36, PL50A, PL80A, P250, UC12, LUT3, KT2, KT5-2, KT8, CS8, DT2, DS30, DS40, W12-2 Laser, W16, W26, KT5</li> </ul>	BEF-KHS-K01	2022718

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-020VB5XLEAX	2096215
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-050VB5XLEAX	2096216
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-020VB5XLEAX	2096239
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-050VB5XLEAX	2096240
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-C60VB5XLEAX	2145573
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 1 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-010VB5XLEAX	2145574
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 3 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YG2A15-030VB5XLEAX	2145575
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-C60VB5XLEAX	2145570
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 3 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-030VB5XLEAX	2145572

	Brief description	Type	part no.
network devices			
		SIG200-0A0412200	1089794
		SIG200-0A0G12200	1102605

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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