Data sheet

PSS-MBB124115AZZZZ

PSS

ARRAY SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
PSS-MBB124115AZZZZ	1220058

Other models and accessories ➜ www.sick.com/PSS

Detailed technical data

Features

Dimensions (W x H x D)	26 mm x 62 mm x 47.5 mm
Sensing distance	≤ 27.5 mm
Sensing distance tolerance	± 4 mm presence detection ± 2 mm Quality check
Housing design	Rectangular
Light source	LED, White [1]
Wave length	400 nm ... 750 nm
Light emission	Long side of housing
Light spot size	0.8 mm x 8 mm
Light spot direction	Vertical [2]
Object speed max.	4 m/s
Tolerance lateral movement	± 1 mm ... 3 mm [3]
Adjustment	
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
Special features	Teach-in print without background (background homogeneous / same color)

[1] Average service life: 100,000 h at T_U = +25 °C.

[2] In relation to long side of housing.

[3] Depending on the set quality level.

Mechanics/electronics

Supply voltage	10.8 V DC ... 28.8 V DC [1]
Ripple	≤ 5 V_{pp} [2]

[1] Limit values: DC 12 V (–10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

[2] May not exceed or fall below U_V tolerances.

[3] Without load.

[4] Total current of all Outputs.

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

[1] Limit values: DC 12 V (–10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

[2] May not exceed or fall below U_V tolerances.

[3] Without load.

[4] Total current of all Outputs.

Communication interface

IO-Link	
VendorID	26
DeviceID HEX	8000A6
DeviceID DEC	8388774
Cycle time	4.3 ms
Process data structure	Bit 0 = switching signal Q Bit 2 = switching signal Q valid Bit 8 ... 15 = quality of print

Ambient data

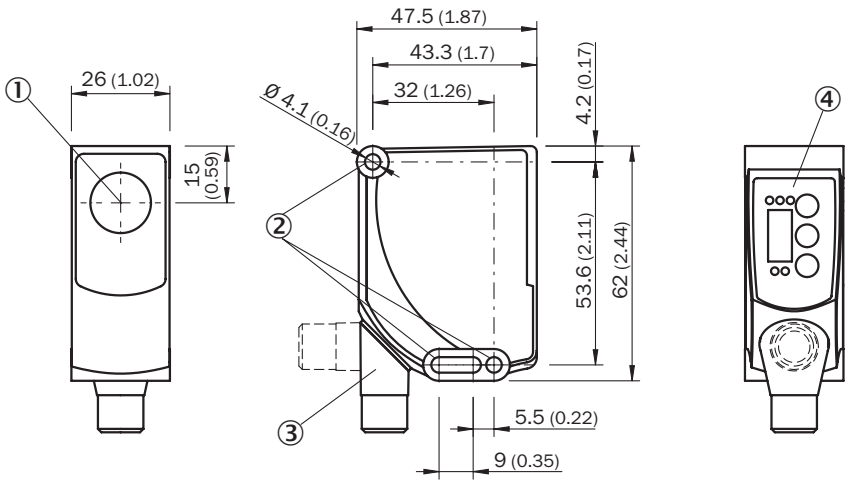
Ambient operating temperature	–20 °C ... +60 °C
Ambient temperature, storage	–25 °C ... +75 °C
Shock load	According to IEC 60068-2-27 (30 g/11 ms)

Classifications

ECLASS 5.0	27270906
ECLASS 5.1.4	27270906
ECLASS 6.0	27270906
ECLASS 6.2	27270906
ECLASS 7.0	27270906
ECLASS 8.0	27270906
ECLASS 8.1	27270906

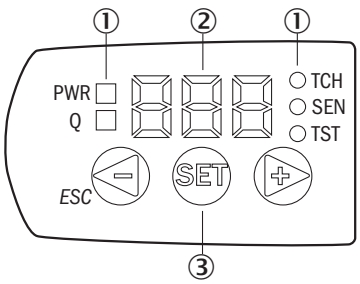
ECLASS 9.0	27270906
ECLASS 10.0	27270906
ECLASS 11.0	27270906
ECLASS 12.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	39121528

Dimensional drawing



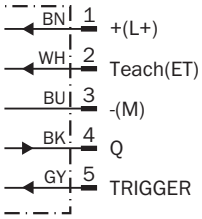
Dimensions in mm (inch)
① optical axis, sender
② fixing hole
③ Connector M12 (rotatable up to 180°)
④ Control panel

Adjustments



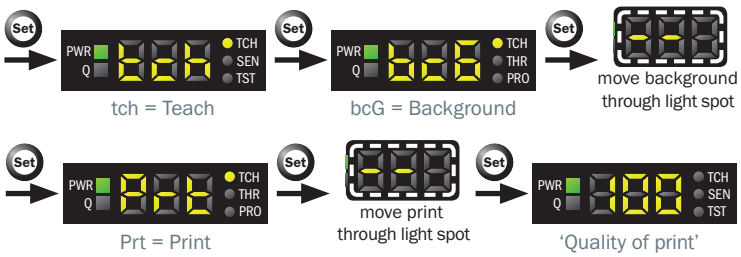
① LED status indicator
② Display
③ Control panel

Connection diagram Cd-394



Concept of operation

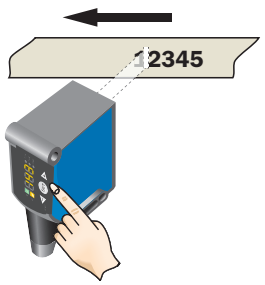
Teach-in



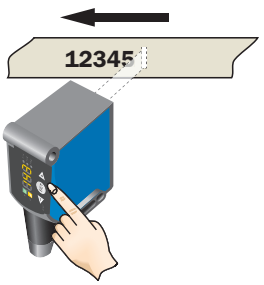
Teach-in via control panel Setting with a homogeneous background

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 (- - -).

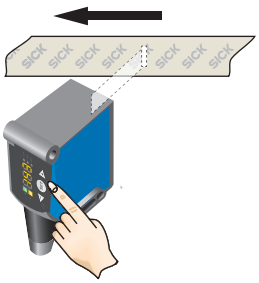


Press the “Set” pushbutton
to end the teach-in operation.
The quality of teach is displayed.

Teach-in via control panel Setting with with printed background

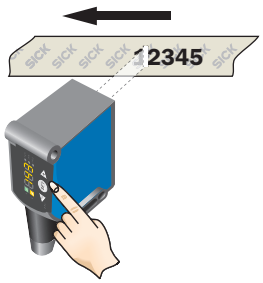
Teach-in printed background

1. Position background and move it through the light spot

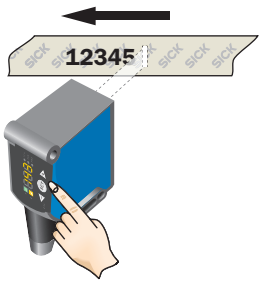


Menu level „bcG“
Press the “Set” pushbutton to start the teach-in operation.
Move the printed image through the light spot. The display lights up during detection (- - -).
Press the “Set” pushbutton to end the teach-in operation of the background.

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 (- - -).

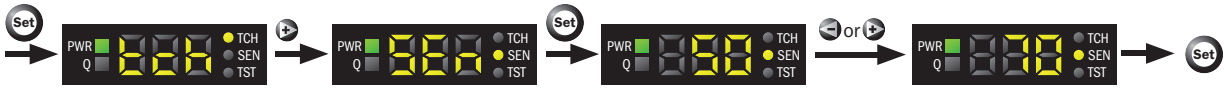


Press the “Set” pushbutton to end the teach-in operation.
The quality of teach is displayed.

Control panel Setting of the modes

Sensitivity

The quality level can be set as follows



SEn = Sensitivity

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

Test

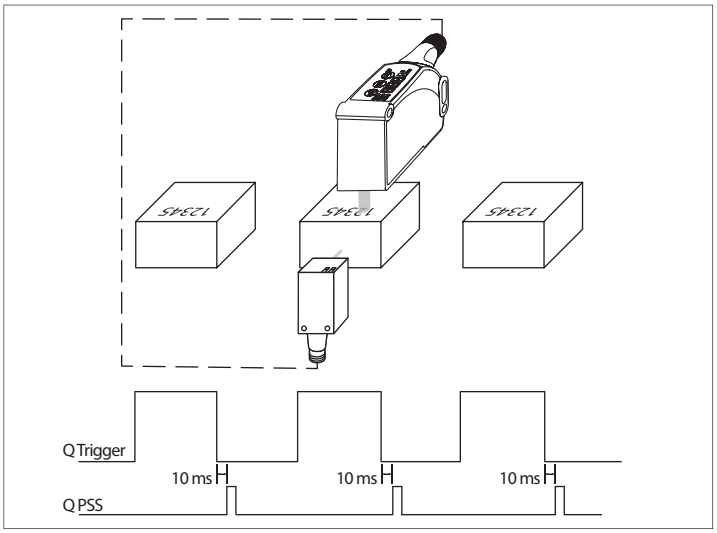
Test mode for the offline thorough check of the taught-in print (trigger is activated manually).

tSt = Test

'Quality of print'

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

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Male connector, M12, 5-pin, A-coded • **Connection type head B:** Female connector, M12, 5-pin, A-coded • **Connection type head C:** Female connector, M12, 3-pin, A-coded • **Description:** Unshielded	YM2A15-000S01FY2A5	2099606
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-020VB5XLEAX	2096215
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-050VB5XLEAX	2096216
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-020VB5XLEAX	2096239
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-050VB5XLEAX	2096240
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-C60VB5XLEAX	2145573
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-010VB5XLEAX	2145574
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 3 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-030VB5XLEAX	2145575
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-C60VB5XLEAX	2145570
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 3 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-030VB5XLEAX	2145572

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Plate K for universal clamp bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Universal clamp (2022726), mounting hardware • **Usable for:** 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	BEF-KHS-K01	2022718
network devices			
		SIG200-0A0412200	1089794
		SIG200-0A0G12200	1102605

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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.

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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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