Online data sheet

SGS4-S092P3PS2T00

SLG

SWITCHING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
SGS4-S092P3PS2T00	1208108

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

Detailed technical data

Features

Technology	Sender/receiver
Minimum detectable object (MDO)	Parallel beam, 45 mm
Beam separation	40 mm
Optical light exit	Slim
Number of beams	24
Detection height	920 mm
Configuration	Teach button with configuration software
Cross beam/parallel beam	Parallel beam active
Output 1	Output 1 active, if light beam interrupted
Automatic teach	Automatic teach inactive
Alignment aid	Without alignment aid
Muting function	Muting function deactivated

Performance

Maximum range	4 m [1]
Minimum range	Parallel beam: ≥ 0 mm [2]
Operating range	3 m
Response time	Parallel beam, 19 ms

[1] No reserve for environmental issue and deterioration of the diode.
[2] Aperture ± 10°.

Interfaces

Switching output	PNP
Inputs	Teach-in input

Mechanics/electronics

Light source	Infrared light
Wave length	950 nm
Supply voltage V_s	DC24 V, ± 20 % [1]
Power consumption sender	≤ 160 mA [2]
Power consumption receiver	≤ 70 mA
Ripple	< 5 V_{pp}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	25 mm x 992.4 mm x 8 mm
Connection type	Cable with M8 male connector, 4-pin
Housing material	PMMA
Indication	LED
Synchronization	Optical
Enclosure rating	IP65 [3]
Circuit protection	U_V connections, reverse polarity protected, Output Q short-circuit protected, Interference pulse suppression
Protection class	III
Weight	120 g
Pulse frequency	500 kHz
Aluminum stabilizer	With stabilizer

[1] Limit values.
[2] , without load.
[3] Operating in outdoor condition only with a external protection housing.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient operating temperature	–25 °C +55 °C
Ambient storage temperature	–25 °C +70 °C
Ambient light immunity	Direct: 100,000 lx [1] Indirect: 150,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Classifications

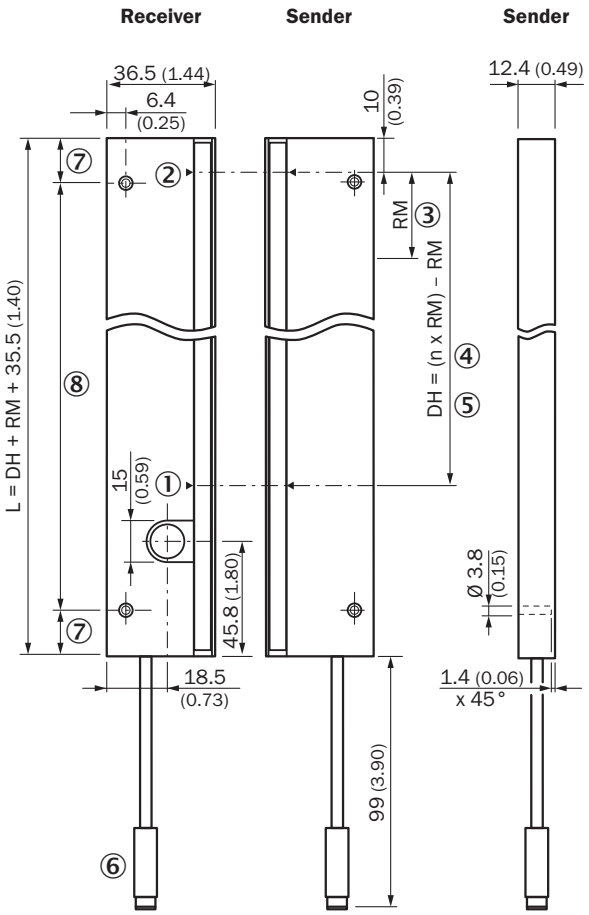
ECl@ss 5.0	27270910
ECl@ss 5.1.4	27270910
ECl@ss 6.0	27270910
ECl@ss 6.2	27270910

ECl@ss 7.0	27270910
ECl@ss 8.0	27270910
ECl@ss 8.1	27270910
ECl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

Sxx-Sxxxxxxx2xxx

Slim, with stabilizer

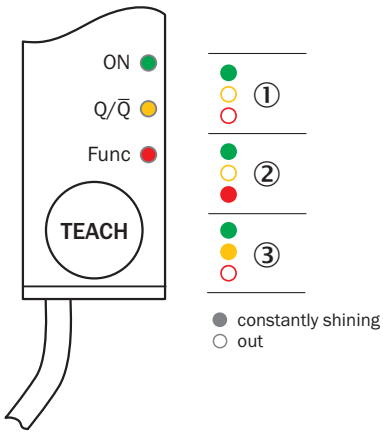


① First beam
② Last beam
③ Beam separation (RM)
④ Number of beams (n)
⑤ Detection height (DH)
⑥ Connection
⑦ Same distance
⑧ See table (hole spacing stabilizer)

0120	2	160	160
0280	2	320	320
0440	2	320	320
0600	3	320	640
0760	3	320	640
0920	4	320	960
1080	4	320	960
1240	5	320	1280
1400	5	320	1280

Adjustments

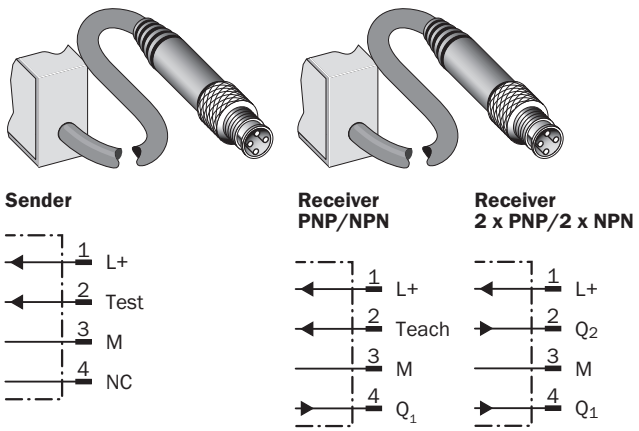
SAS, SGS, receiver, LED indication



① Supply voltage
② Active if teach-in button is pressed
③ No object in the light path

Connection type and diagram

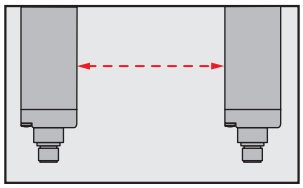
SGS



Concept of operation

SAS, SGS, SPL

Optical synchronization

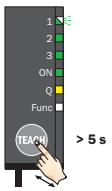


The light grid communicates via the light beams. A cable is not necessary for the optical synchronization.

Configuration mode

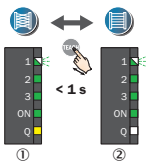
If the teach button is pressed longer than 5 s, you switch into the configuration mode. In the configuration mode the menu items are indicated by the green LEDs. If the teach button is then pressed for < 1 s, the respective function is activated or reset (yellow LED on or off). If the teach button is pressed for 1 s to 5 s long, you switch to the next menu item. To exit the configuration mode, press the teach button for > 5 s or wait for 30 s.

1. Light grid in RUN mode, green LED "ON" illuminates, yellow LED "Q" illuminates.



Press teach button > 5 s.
The light grid switches into the configuration mode – menu item "cross beam/parallel beam". The first green LED from top flashes.

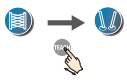
2. Cross or parallel beam set up. [1]



① = Yellow LED on,
⊠ **"Crossed beam" active.**
② = Yellow LED off,
⊠ **"Parallel beam" active.**

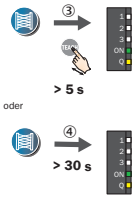
Press teach button < 1 s to switch between the settings.

3. Go to the next menu item.



Press teach button for 1 s to 5 s to switch to the next menu item (in this case "alignment aid").

4. Exit the configuration mode.



③ = Press teach button > 5 s,
⊠ **save parameters.**
④ = Wait > 30 s,
⊠ **parameters not saved.**

[1] Configure the light grid in a 3-way cross-beam or a parallel-oriented operating principle. The cross beam can be used to improve the resolution in the middle detection area. Objects up to a size of 25 mm can be detected. The response time increases.

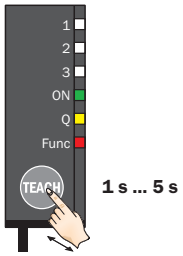
The other menu items in sequence of the menu setting of the light grid

Alignment aid [2]	Invert switching output	Auto-teach [3]	Pushbutton lock	Standard values [4]	Invert second switching output	Muting [5]
active	Q_1	active	active	active	Q_2	active
inactive	$\overline{Q_1}$	inactive	inactive	inactive	$\overline{Q_2}$	inactive

[2] The alignment aid is recommended for applications with high ranges. The signal strength of the receiver is permanently displayed by four green alignment LEDs. Depending on the strength, the number of illuminated LEDs differ. When reception is strong, all four LEDs illuminate. The alignment aid must be deactivated again after alignment.
[3] After commissioning (power on), the switching threshold is taught in automatically. No object should be between the sender and receiver during this process.
[4] With standard values "active" all parameters are reset to the delivery state.
[5] If a beam is interrupted permanently, it disappears after > 60 s, and the switching output Q_1 is enabled again. If a second switching output is present, it remains inactive.

Setting the switching threshold

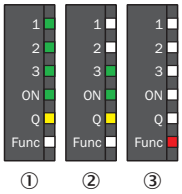
1. Light grid in RUN mode, green LED “ON” illuminates, yellow LED “Q” illuminates.



1 s ... 5 s

Press the teach button for 1 s to 5 s. During the teach process the green LEDs illuminates sequentially. The red LED “Func” illuminates.

2. Alignment aid is automatically activated for 10 s.



① = Optimum light reception.
② = Light reception not optimized, **➜ align sensors.**
③ = No light received, **➜ check light path.**

The light grid switches after 10 s automatically back into the RUN mode.

3. Light grid in RUN mode, green LED “ON” illuminates, yellow LED “Q” illuminates.

The switching threshold is set.

Funktionsprinzip

Slim & Flat

① Slim model = light emission on narrow side
② Flat model = light emission on broad side

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for light grids up to a monitoring height of 600 mm, mounting on the face sides, 2x BEF-SLG1, 2x BEF-SLG2	BEF-SLG-SET1	2055427
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF8U14-020VA3XLEAX	2095888

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