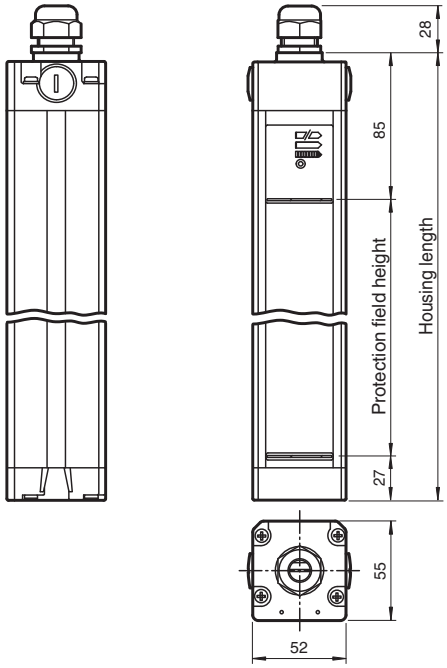
Safety light curtain

SLC30-1800/31/130

- Sensing range up to 15 m
- Resolution 30 mm (hand protection)
- Protective field height up to 1800 mm
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Master/Slave detection, Plug and Play
- Start/Restart disable
- Very short response time
- Degree of protection IP67
- Integrated function display
- Pre-fault indication
- Safety outputs OSSD in potential-separated semiconductor design or with monitored, compelled connection NC-contacts
- Optional with relay monitor (Option 129)

Dimensions



Technical Data

System components	
Emitter	SLC30-1800-T/130
Receiver	SLC30-1800-R/31/130
General specifications	
Effective detection range	0.2 ... 15 m
Light source	IRED
Light type	modulated infrared light
LED risk group labelling	exempt group

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Technical Data

Tests		IEC/EN 61496
Safety type according to IEC/EN 61496		4
Width of protected area		0.2 ... 15 m
Protection field height		1800 mm
Number of beams		96
Operating mode		can be selected with or without start/restart disable
Optical resolution		30 mm
Angle of divergence		< 5 °
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 3
Performance level (PL)		PL e
Category		Cat. 4
Mission Time (T_M)		20 a
PFH_d		1.5 E-8
Type		4
Indicators/operating means		
Operation indicator		7-segment display in emitter
Diagnostics indicator		7-segment display in receiver
Function indicator		in receiver: LED red: OSSD off LED green: OSSD on LED yellow: Protected area free, system start-ready
Pre-fault indicator		LED orange
Control elements		switch for start/restart disable, transmission coding
Electrical specifications		
Operating voltage	U_B	24 V DC (-30 %/+25 %) / 24 V AC (-20 %/+10 %)
No-load supply current	I_0	Emitter: ≤ 100 mA receiver: ≤ 150 mA
Protection class		III
Input		
Activation current		approx. 10 mA
Activation time		0.03 ... 1 s
Test input		Reset-input for system test
Function input		Start release
Output		
Safety output		2 relay outputs, force-guided NO-contact
Signal output		1 PNP each, max. 100 mA for start readiness and OSSD status
Switching voltage		50 V
Switching current		max. 2 A
Switching power		100 VA
Response time		39 ms
Conformity		
Functional safety		ISO 13849-1
Product standard		EN 61496-1 ; IEC 61496-2
Approvals and certificates		
CE conformity		CE
UL approval		cULus Listed
CCC approval		CCC approval / marking not required for products rated ≤36 V
TÜV approval		TÜV
Ambient conditions		
Ambient temperature		0 ... 55 °C (32 ... 131 °F)
Storage temperature		-25 ... 70 °C (-13 ... 158 °F)
Relative humidity		max. 95 %, not condensing
Mechanical specifications		
Housing length L		1910 mm

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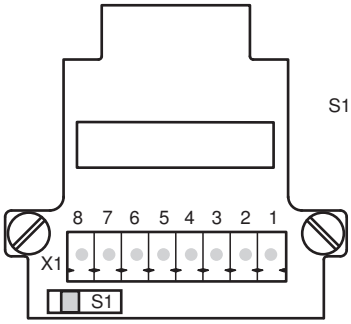
Technical Data

Degree of protection	IP67
Connection	M20 cable gland , terminal compartment with screw terminals, lead cross-section max. 1.5 mm²
Connection options	Further electrical connection options on request: Connector M12, 8-pin Connector DIN 43 651 Hirschmann, 6-pin+PE Connector M26x11 Hirschmann, 11-pin+PE
Material	
Housing	extruded aluminum profile, RAL 1021 (yellow) coated
Optical face	Plastic pane
Mass	Per 5700 g

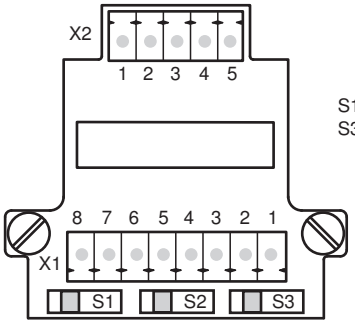
Connection

Emitter:



S1: Beam coding

Receiver:

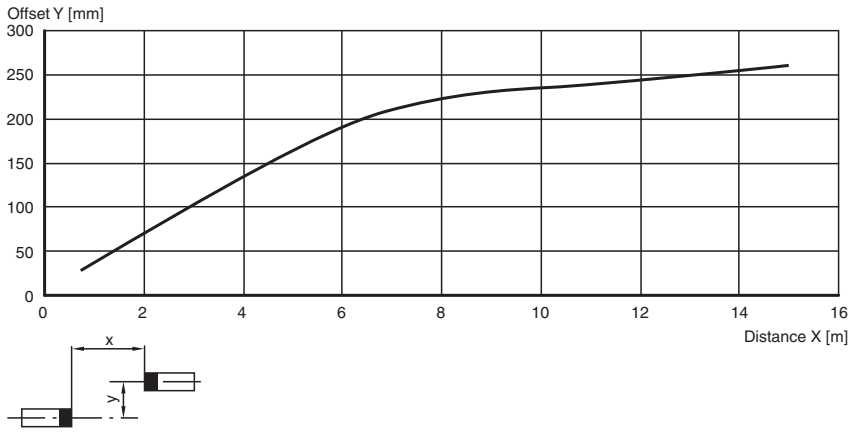


S1/S2: Startup/restar interlock
S3: Beam coding

terminal	emitter	receiver SLC...-R/31 (relay output)	receiver SLC...-R/31 (Relay monitor)
X1:1	Functional earth	Functional earth	Functional earth
X1:2		test (input)	Relay monitor
X1:3		OSSD2.2 (output)	OSSD2.2 (output)
X1:4		OSSD1.2 (output)	OSSD1.2 (output)
X1:5		OSSD2.1 (output)	OSSD2.1 (output)
X1:6		OSSD1.1 (output)	OSSD1.1 (output)
X1:7	0 V AC/DC	0 V AC/DC	0 V AC/DC
X1:8	24 V AC/DC	24 V AC/DC	24 V AC/DC
X2:1	Not placed on board	Start release (output)	Start release (output)
X2:2		Status OSSD (output)	Status OSSD (output)
X2:3		24 V reference potential for I/O	24 V reference potential for I/O
X2:4		0 V reference potential for I/O	0 V reference potential for I/O
x2:5		Startup readiness (input)	Startup readiness (input)

Characteristic Curve

Characteristic response curve SLC30 / SLC60 / SLC90



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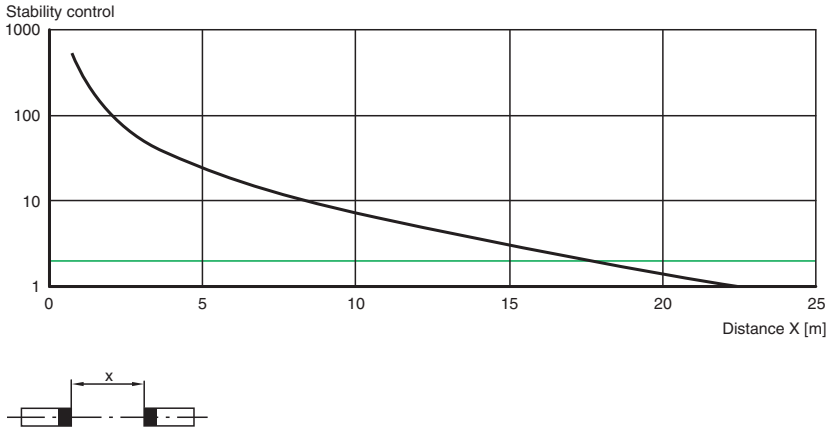
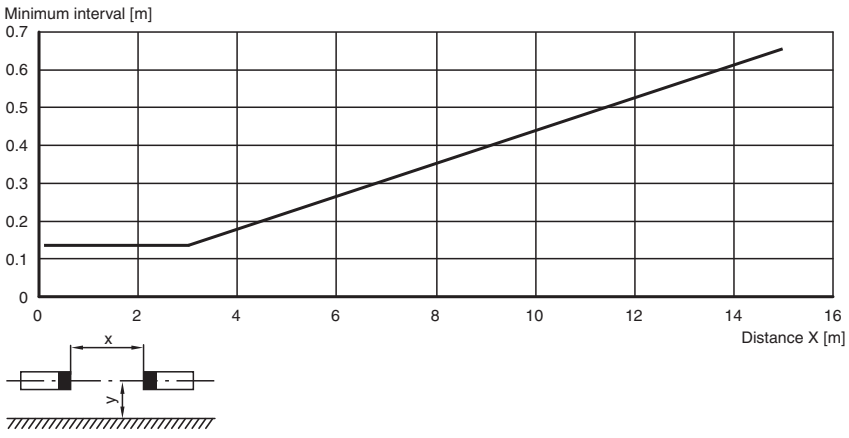
Relative received light strength

SLC30 / SLC60 / SLC90



Lateral interval to mirroring surfaces

SLC30 / SLC60 / SLC90



Matching system components

	**SB4-OR-4XP-B-4159**	Safety control unit
	**SB4-OR-4XP**	Safety control unit
	**SB4-OR-4XP-B**	SB4 series safety control unit with 1 optional module slot for functional enhancement
	**SB4-OR-4XP-B-B**	SB4 series safety control unit with optional module slots for functional enhancement
	**SB4-OR-4XP-B-B-B**	SB4 series safety control unit with optional module slots for functional enhancement
	**SB4-OR-4XP-B-B-B-B**	SB4 series safety control unit with optional module slots for functional enhancement
	**SB4-OR-4XP-B-B-B-B-B-B**	SB4 series safety control unit with optional module slots for functional enhancement
	**SB4-OR-4XP-B-4158**	Safety control unit
	**SB4-OR-4XP-3819**	Safety control unit

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Matching system components

	**SB4-OR-4XP-4M**	Safety control unit
	**SB4-OR-4XP-4MD**	Safety control unit
	**SB4-OR-4XP-4M-4136**	Safety control unit of series SB4
	**SB4-OR-4XP-4X**	Safety control unit
	**SB4-OR-4XP-4X-3819**	Safety control unit
	**SB4-OR-4XP-4136**	Safety control unit of series SB4

Accessories

	PG SLC-1800	Protective glass panes for SLC series

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Note

Master-Slave operation

Master: SLC..-... (semiconductor)
or SLC..-.../31 (relay)
Slave: SLC..-...-S

The use of slaves allows both the protection fields to be extended and protection fields to be created that do not all exist at a single level. When deciding which slaves to connect, remember that the total maximum of 96 beams must not be exceeded. Up to 192 beams are possible if the /130 option is selected.
Slaves exist for the transmitter and the receiver. These simply need to be connected to the master light curtain. Up to two slaves can be connected to both the transmitter and receiving units. Only one slave can be connected if the /130 option is selected.
Installation:

1. The end cap (no cable gland) on the light curtain is unscrewed and removed.
2. The plug-in jumper on the connectors of the now visible PCB is removed.
3. The slave is designed in such a way that the cap and PCB on the connecting cable plug directly onto the open end of the light curtain.
4. Once the end cap has been screwed on, the system is complete.

System accessories

- Mounting set SLC
- Test rods SLC14/SLC30/SLC60
- Protection glass for SLC (to protect the optical surface)
- Side cable gland SLC
- Profile alignment tool
- Beam alignment tool SLC
- Mirror for SLC (to protect danger areas on more than one side)
- Stands UC SLP/SLC
- Enclosure for stands
  Enclosure UC SLP/SLC
- Start protection
  Damping UC SLP/SLC

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