



Safety light grid with integrated control unit

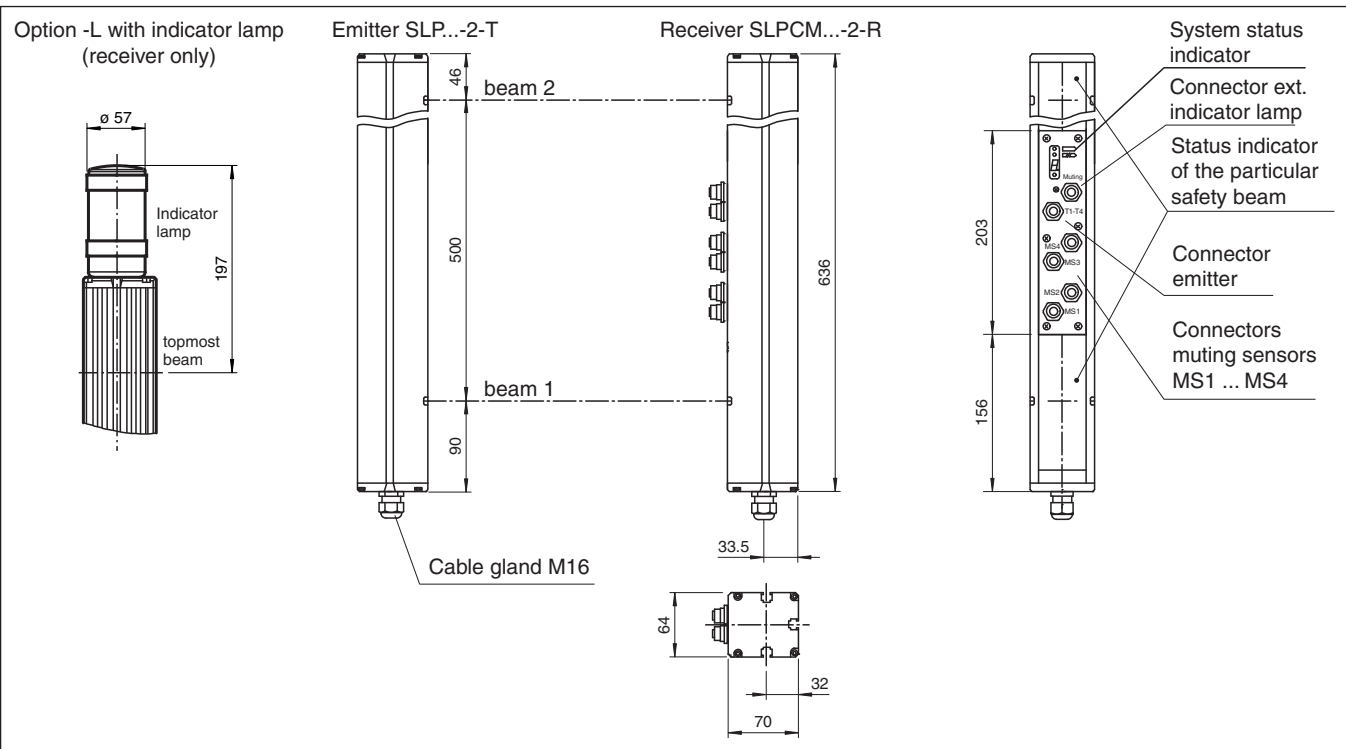


SLPCM10-2/31

- Sensing range up to 10 m
- 2-radial design
- Beam spacing 500 mm
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Red transmission light
- Usable with or without start/restart disable
- Sequential and parallel muting in various operating modes
- Emergency muting for the correction of the material jam
- Integrated relay monitor
- 7-segment diagnostic display
- Integrated function display
- Pre-fault indication
- OSSD outputs as semiconductor or relay outputs



Dimensions



Technical Data

System components

Emitter	SLP10-2-T
Receiver	SLPCM10-2-R/31

General specifications

Effective detection range	0.2 ... 10 m
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Technical Data

Light source	LED	
Light type		modulated visible red light
Tests	IEC/EN 61496	
Safety type according to IEC/EN 61496		4
Marking	CE	
Target size		static: 32 mm dynamic: 50 mm (at v = 1.6 m/s of the obstacle)
Beam spacing	500 mm	
Number of beams		2
Operating mode	Start/restart disable, relay monitor, muting operating modes	
Angle of divergence		< 5 °
Functional safety related parameters		
Performance level (PL)		PL e
Category	Cat. 4	
Mission Time (T _M)		20 a
PFH _d	3.54 E-9	
B _{10d}	see instruction manuals	
Type	4	
Indicators/operating means		
Diagnostics indicator	7-segment display	
Function indicator		LED red: per receiver channel off: interruption flashes: receiver continuously on: reception with sufficient stability control on the front plate: LED red: OSSD off LED green: OSSD on LED yellow: types of muting operation
Pre-fault indicator	LED red next to receiver flashes	
Control elements		10 DIP switch in receiver terminal compartment
Electrical specifications		
Operating voltage	U _B	24 V DC -15% / +25% , galvanically isolated
No-load supply current	I ₀	max. 250 mA
Protection class		III , IEC 61140
Input		
Activation current		approx. 10 mA
Activation time	0.03 ... 1 s	
Test input		Reset-input for system test
Function input	Relay monitor, start release, muting sensors (max. 4)	
Output		
Pre-fault indication output	1 PNP, +U _B -2 V, max. 300 mA	
Safety output		2 relay outputs, force-guided NO-contact
Signal output	1 PNP each, max. 300 mA for start readiness, OSSD on, OSSD off, muting lamp	
Switching voltage		20 ... 60 V DC, 12 ... 25 V AC _{rms}
Switching current	0.01 ... 2 A	
Switching power		100 VA
Response time	40 ms	
Conformity		
Functional safety	ISO 13849-1	
Product standard		EN 61496-1 ; IEC 61496-2
Approvals and certificates		
CE conformity		CE
Approvals	TÜV SÜD	
USA		TÜV NRTL mark
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 70 °C (-4 ... 158 °F)

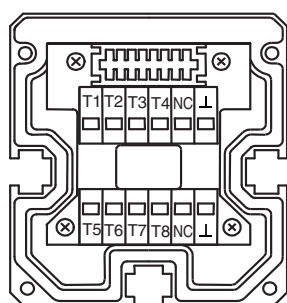
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Technical Data

Relative humidity	max. 95 %, not condensing
Mechanical specifications	
Degree of protection	IP65
Connection	M16 cable gland , terminal compartment with cage-terminals, M12-connector for emitter, muting lamp as well as other muting sensors
Connection options	Further electrical connection options on request: Connector DIN 43 651 Hirschmann, emitter: 6-pin+PE, receiver: 11-pin+PE
Material	
Housing	extruded aluminum profile, RAL 1021 (yellow) coated
Optical face	Plastic pane
Mass	Per 2300 g

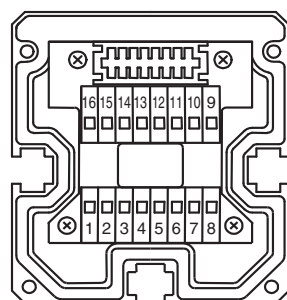
Connection

Emitter SLP



- T1 - Emitter channel 1
T2 - Emitter channel 2
L - 0 V

Receiver SLPCM

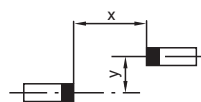
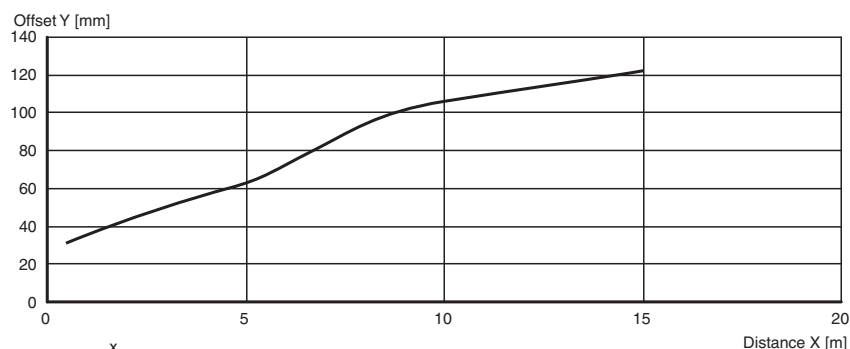


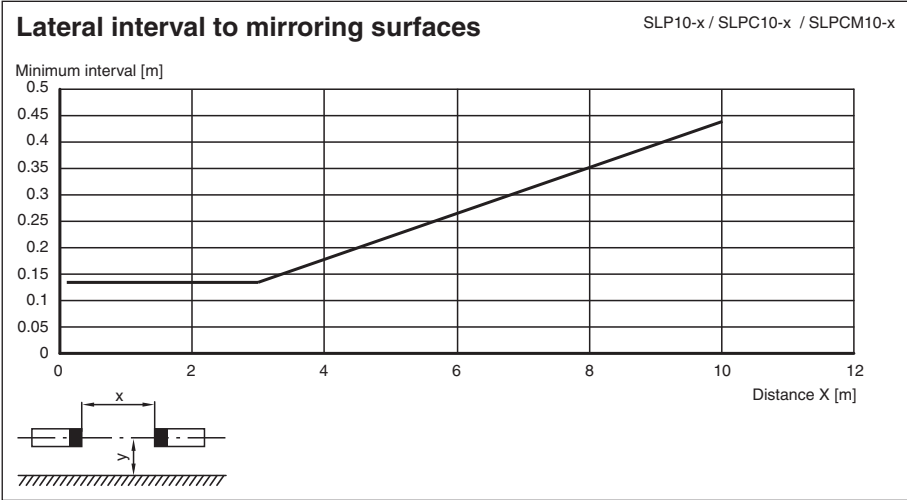
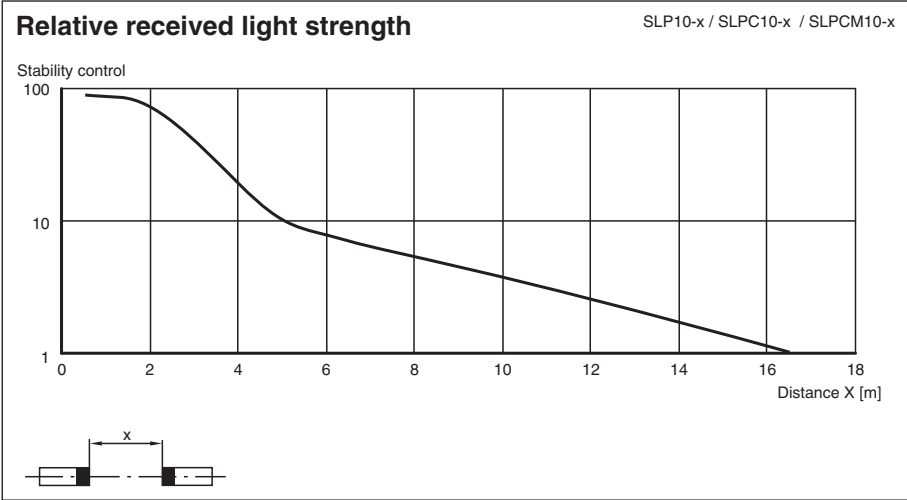
Receiver SLPCM (semiconductor outputs)	Receiver SLPCM/31 (relay outputs)
4 - n.c.	1 - Functional earth
5 - -	2 - 0 V
6 - +	3 - 24 V
7 - OSSD 1	4 - n.c.
8 - OSSD 2	5 - n.c.
	6 - n.c.
	7 - n.c.
	8 - n.c.
	9 - Input, Relay monitor
	10 - Input, Start release
	11 - Input, Reset
	12 - PNP-output, Soiled optics
	13 - PNP-output, Muting lamp
	14 - PNP-output, Startup readiness
	15 - PNP-output, Indicator OSSD OFF
	16 - PNP-output, Indicator OSSD ON

Characteristic Curve

Characteristic response curve

SLP10-x / SLPC10-x / SLPCM10-x



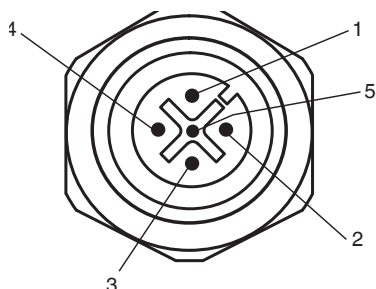


Accessories

	PG SLP-2	Protective glass panes for SLP series
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Additional information

Socket assignment on the front side of the device



Indicator lamp control 

Socket	Function
1	OSSD on
2	OSSD off
3	0 V
4	Readiness for startup
5	Muting (monitored)

T1 - T4 transmitter control

Socket	Function
1	Transmitter channel 1
2	Transmitter channel 2
3	0 V

Muting sensor inputs MS1 - MS4

Socket	Function
1	+ 24 V
3	0 V
4	Sensor signal

System accessories

- Mounting set MS SLP
- Profile alignment aid PA SLP/SLC
- Laser alignment aid BA SLP
- Ground pillar UC SLP/SLC
- Housing for pillar
Enclosure UC SLP/SLC
- Collision protector
Damping UC SLP/SLC
- Redirection mirror SLP-2-M