

Safety light grid with integrated control unit



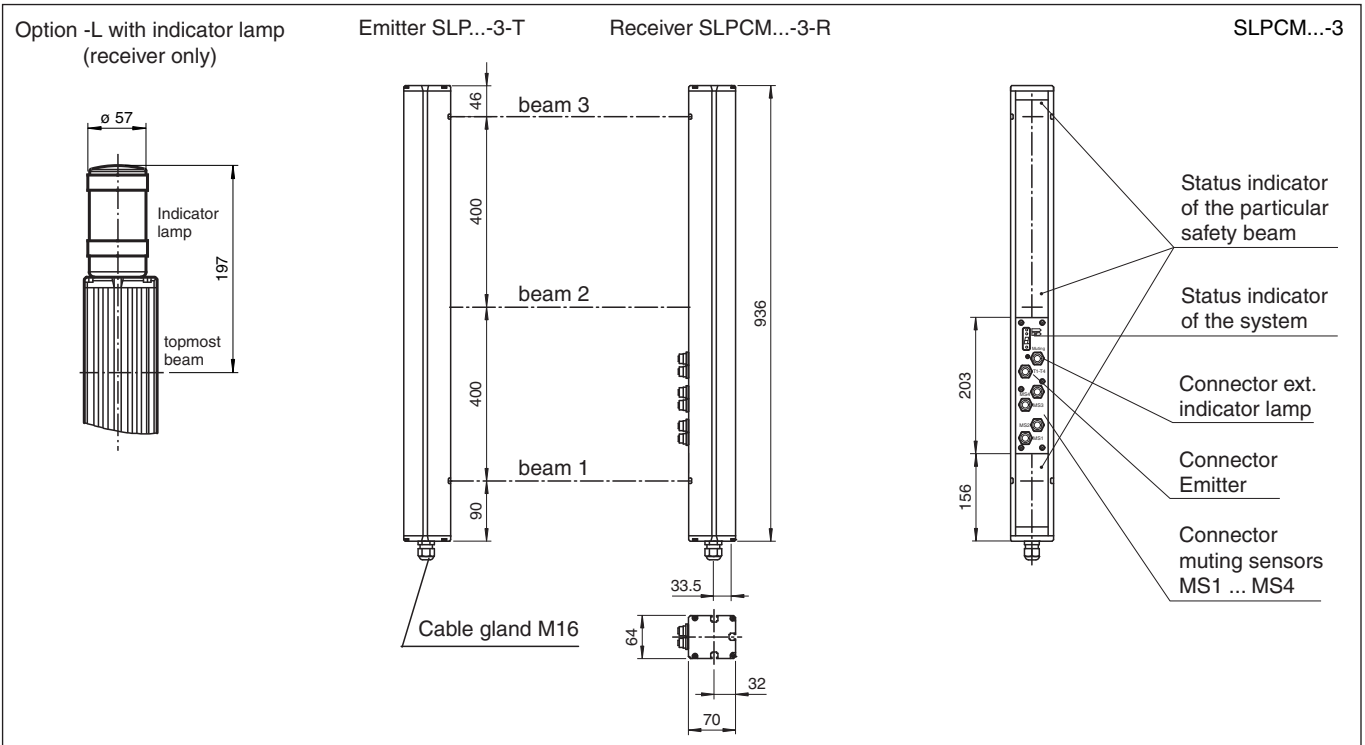
SLPCM10-3-L/31



- Sensing range up to 10 m
- 3-radial design
- Beam spacing 400 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	SLP10-3-T
Receiver	SLPCM10-3-R-L/31

General specifications

Effective detection range	0.2 ... 10 m
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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PEPPERL+FUCHS

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	400 mm	
Number of beams		3
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
Muting indicator	Indicator lamp	
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 startup readiness, OSSD on, OSSD off, muting lamp, signals in parallel in the lamp socket
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		

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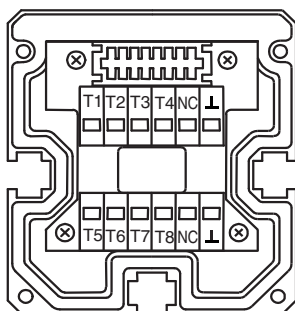
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 **PEPPERL+FUCHS**

Technical Data

Ambient temperature	0 ... 50 °C (32 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Relative humidity	max. 95 %, not condensing
Mechanical specifications	
Degree of protection	IP65
Connection	M16 cable gland , terminal compartment with cage terminals, M12 connector for transmitters, muting lamp, etc., muting sensors, lamp socket for muting lamp, etc.
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 3400 g

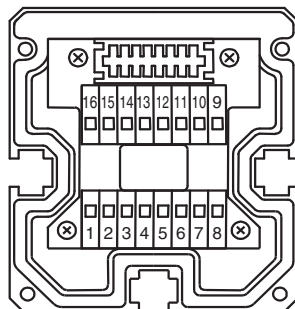
Connection

Emitter SLP



- T1 - Emitter channel 1
- T2 - Emitter channel 2
- T3 - Emitter channel 3
- ⏏ - 0 V

Receiver SLPCM

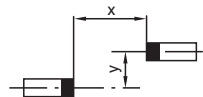
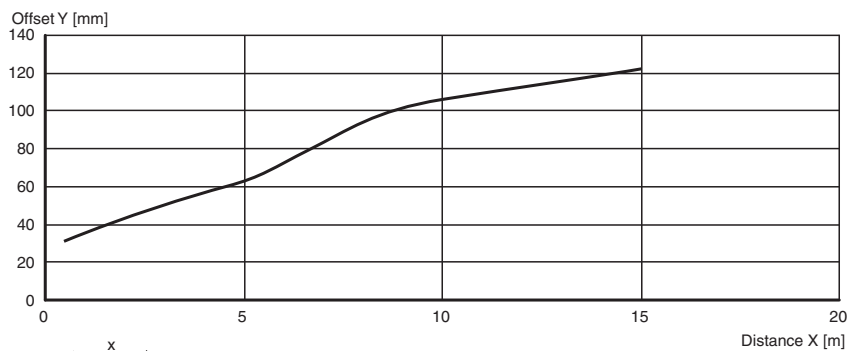


Receiver SLPCM (semiconductor outputs)		Receiver SLPCM/31 (Relay outputs)	
		1 - Functional earth	
		2 - 0 V	
		3 - 24 V	
4 - n.c.		4	
5 - -		5	
6 - +		6	
7 - OSSD 1		7	
8 - OSSD 2		8	
		9 - Input, Relay monitor	
		10 - Input, Start release	
		11 - Input, Reset	
		12 - PNP-output, Soiled optics	
		13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

Characteristic Curve

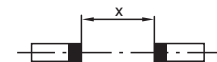
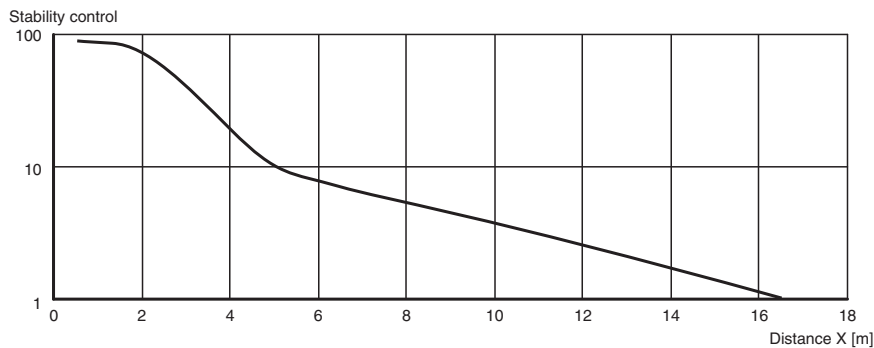
Characteristic response curve

SLP10-x / SLPC10-x / SLPCM10-x



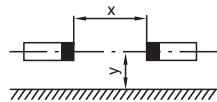
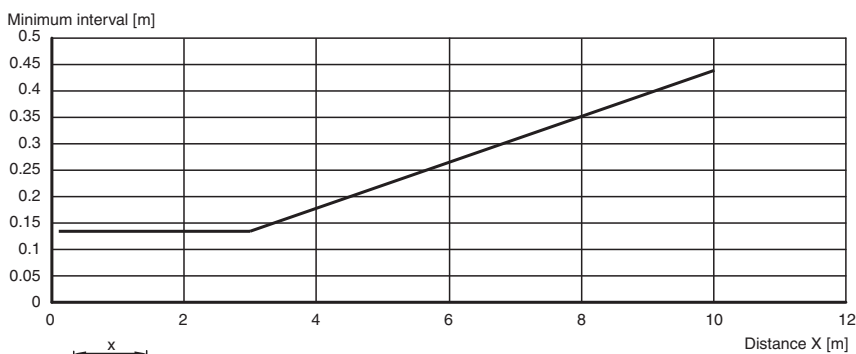
Relative received light strength

SLP10-x / SLPC10-x / SLPCM10-x



Lateral interval to mirroring surfaces

SLP10-x / SLPC10-x / SLPCM10-x



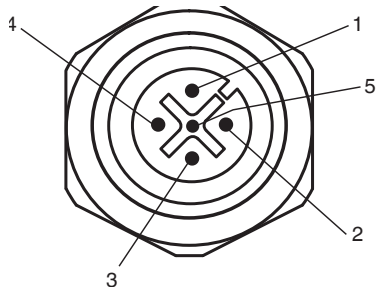
Accessories

	PG SLP-3	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
4	Transmitter channel 3

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-3-M