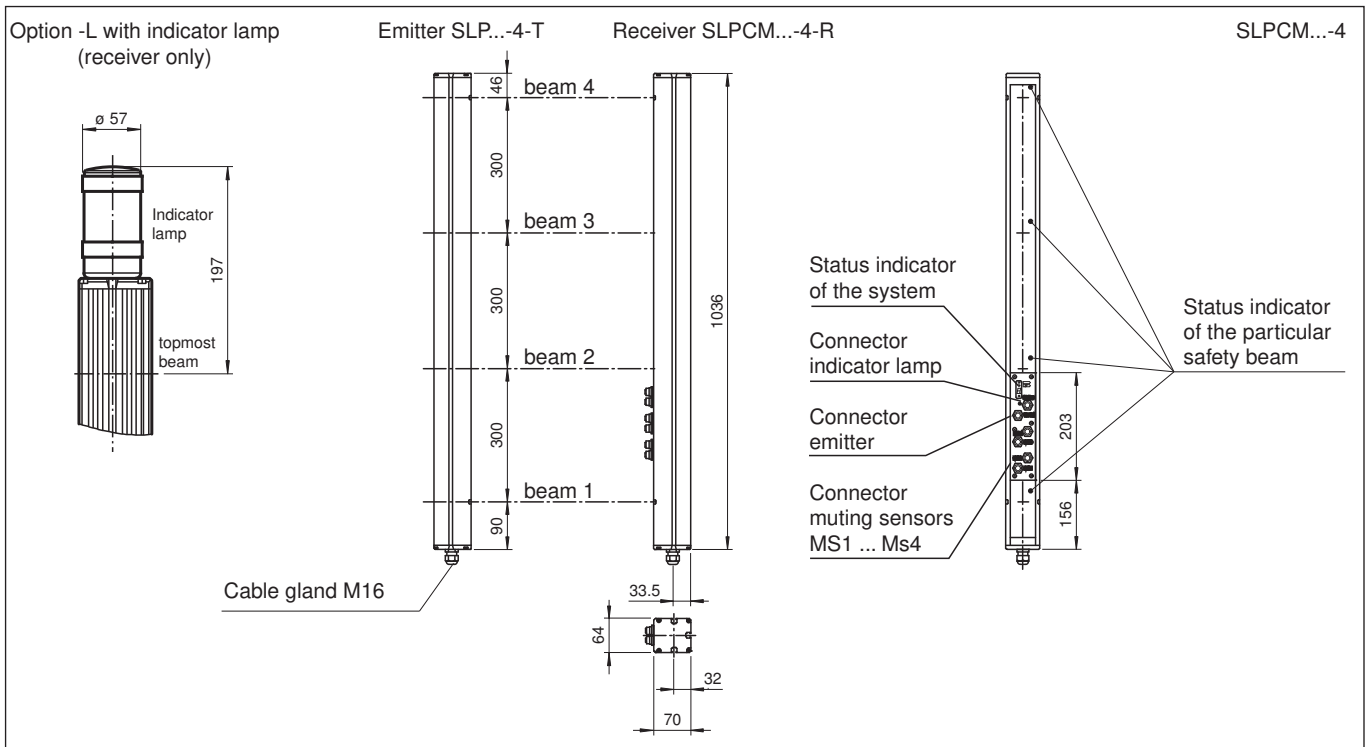# Safety light grid with integrated control unit

SLPCM10-4

- Sensing range up to 10 m
- 4-radial design
- Beam spacing 300 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

CE TÜV SÜD

Dimensions

Option -L with indicator lamp (receiver only)

ø 57

Indicator lamp

197

topmost beam

Emitter SLP...-4-T

46

beam 4

300

beam 3

300

beam 2

300

beam 1

90

Cable gland M16

Receiver SLPCM...-4-R

1036

33.5

64

32

70

SLPCM...-4

Status indicator of the system

Connector indicator lamp

Connector emitter

Connector muting sensors MS1 ... Ms4

Status indicator of the particular safety beam

203

156

Technical Data

System components	
Emitter	SLP10-4-T
Receiver	SLPCM10-4-R
General specifications	
Effective detection range	0.2 ... 10 m

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		300 mm
Number of beams		4
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
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 separated fail safe semiconductor outputs
Signal output		1 PNP each, max. 300 mA for start readiness, OSSD on, OSSD off, muting lamp
Switching voltage		Operating voltage -2 V
Switching current		max. 0.5 A
Response time		20 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)
Relative humidity		max. 95 %, not condensing
Mechanical specifications		

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

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 3700 g

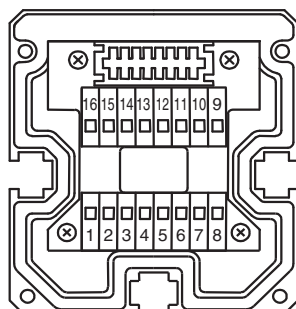## Connection

Emitter SLP
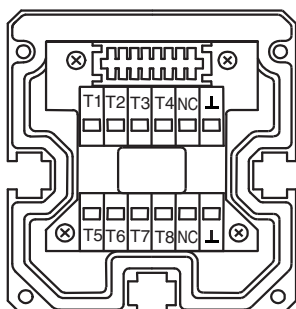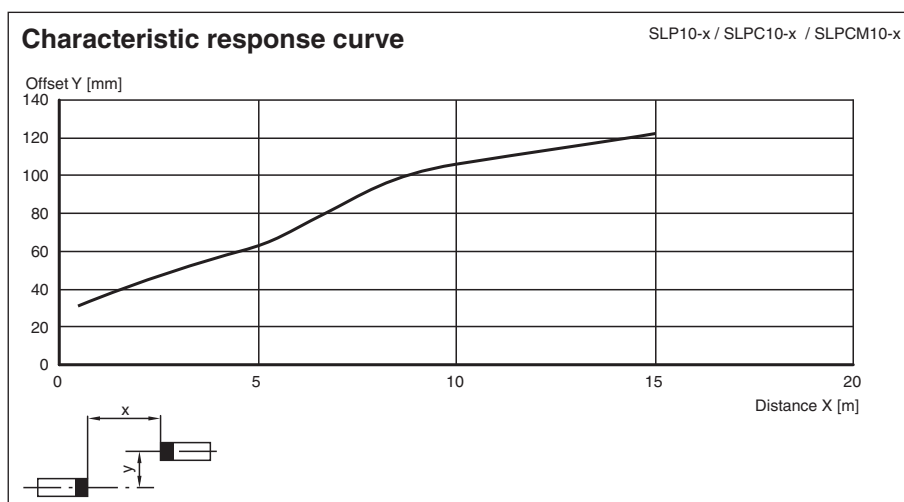

T1 - Emitter channel 1
T2 - Emitter channel 2
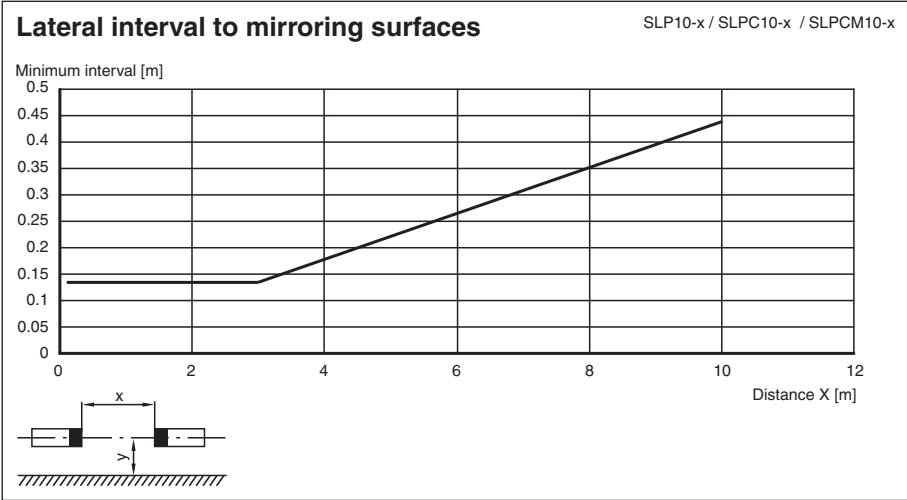T3 - Emitter channel 3
T4 - Emitter channel 4
⊥ - 0 V

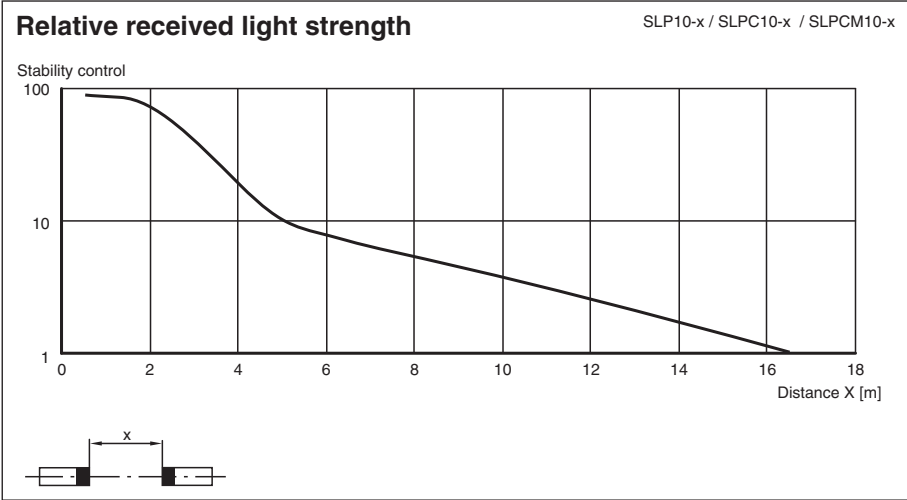### Receiver SLPCM

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

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Relative received light strength

SLP10-x / SLPC10-x / SLPCM10-x

Stability control

Distance X [m]

Lateral interval to mirroring surfaces

SLP10-x / SLPC10-x / SLPCM10-x

Minimum interval [m]

Distance X [m]

Accessories

	PG SLP-4	Protective glass panes for SLP series

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Additional information

Socket assignment on the front side of the device
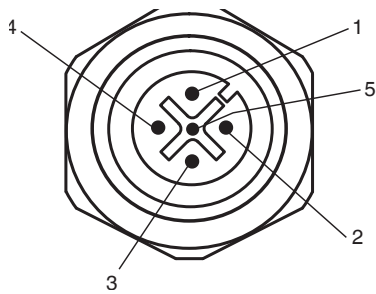
Indicator lamp control —⊗—

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
5	Transmitter channel 4

Muting sensor inputs MS1 - MS4

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

System accessories

- Mounting set MS SLC
- 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-4-M

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