



Safety light grid with integrated control unit

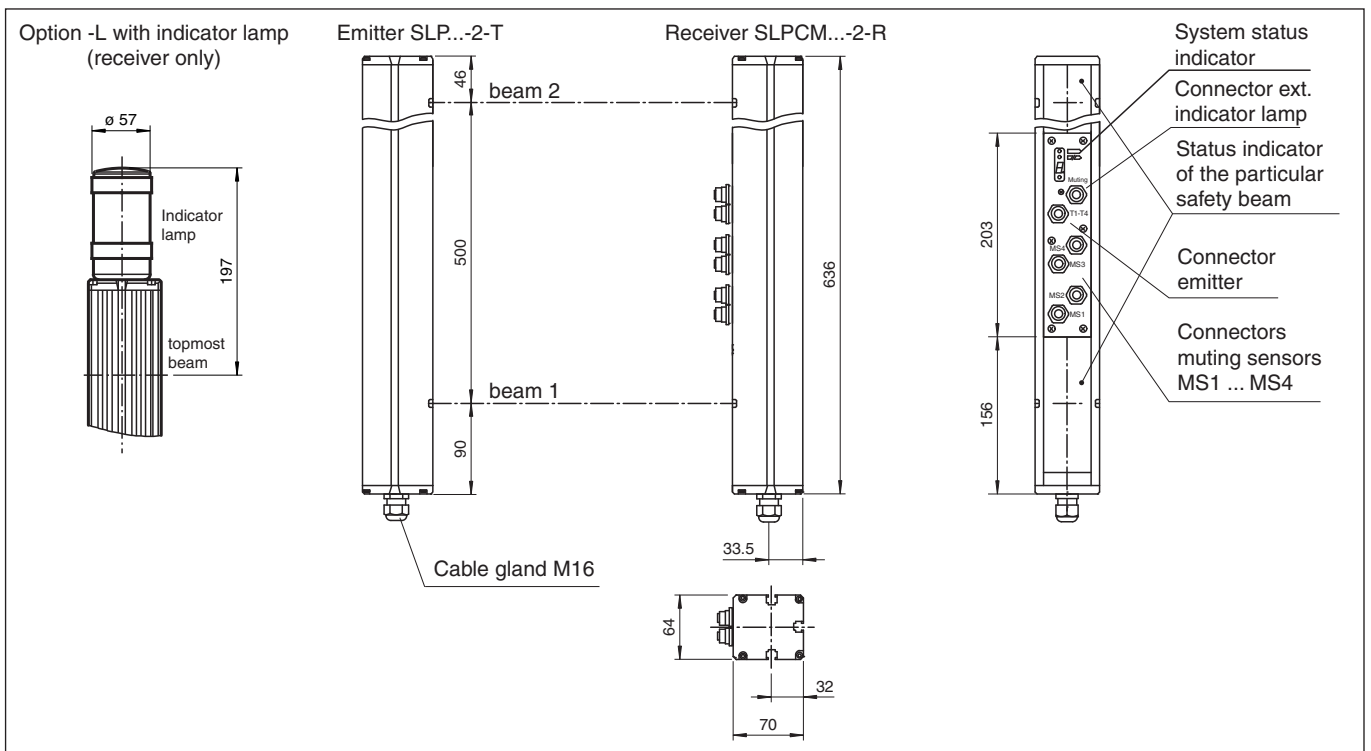


SLPCM10-2-L/31

- 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-L/31 |
| General specifications | |
| Effective detection range | 0.2 ... 10 m |
| Light source | LED |

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

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Technical Data

| | | |
|---|-------|---|
| 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 | | $< 5^\circ$ |
| 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 | | |
| Ambient temperature | | 0 ... 50 °C (32 ... 122 °F) |

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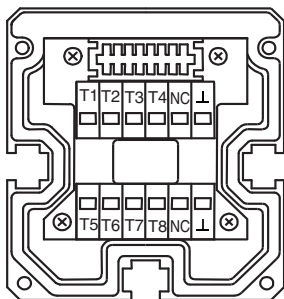
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Technical Data

| | |
|----------------------------------|--|
| 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 2300 g |

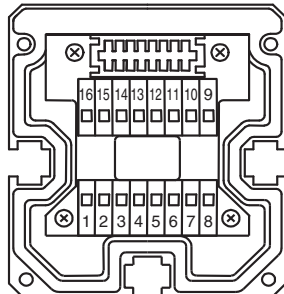
Connection

Emitter SLP



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

Receiver SLPCM

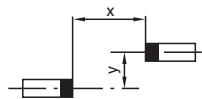
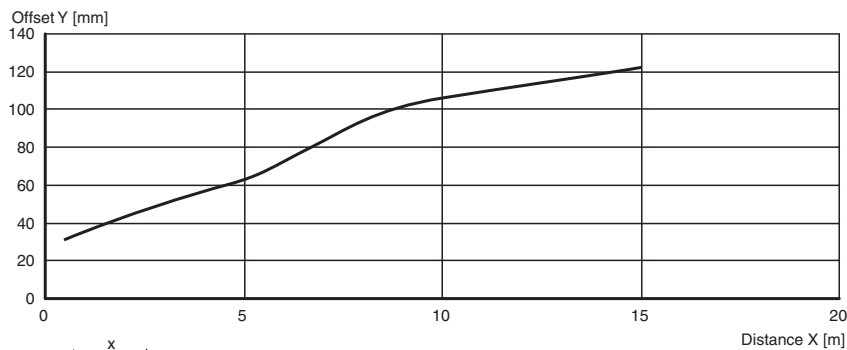


| Receiver SLPCM (semiconductor outputs) | Receiver SLPCM/31 (relay outputs) |
|--|---|
| | 1 - Functional earth 2 - 0 V 3 - 24 V |
| 4 - n.c. 5 - - 6 - + 7 - OSSD 1 8 - OSSD 2 | |
| | 9 - Input, Relay monitor 10 - Input, Start release 11 - Input, Reset 12 - PNP-output, Soiled optics 13 - PNP-output,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

Characteristic Curve

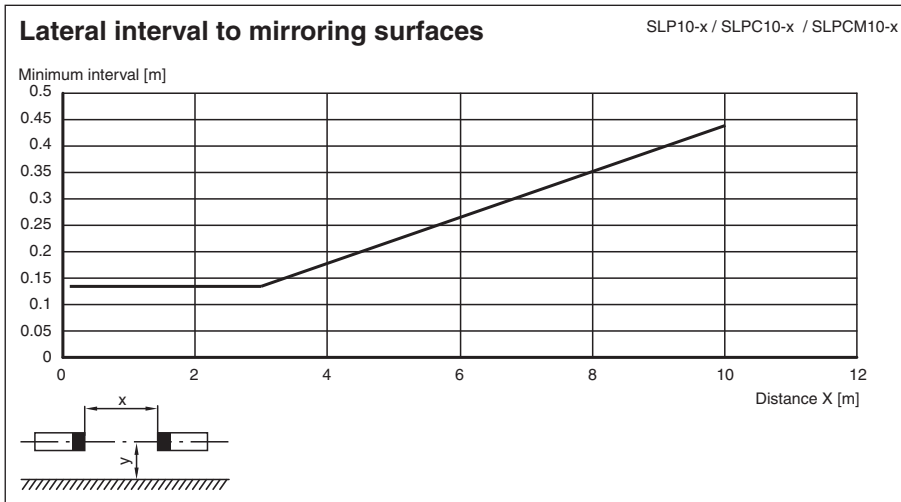
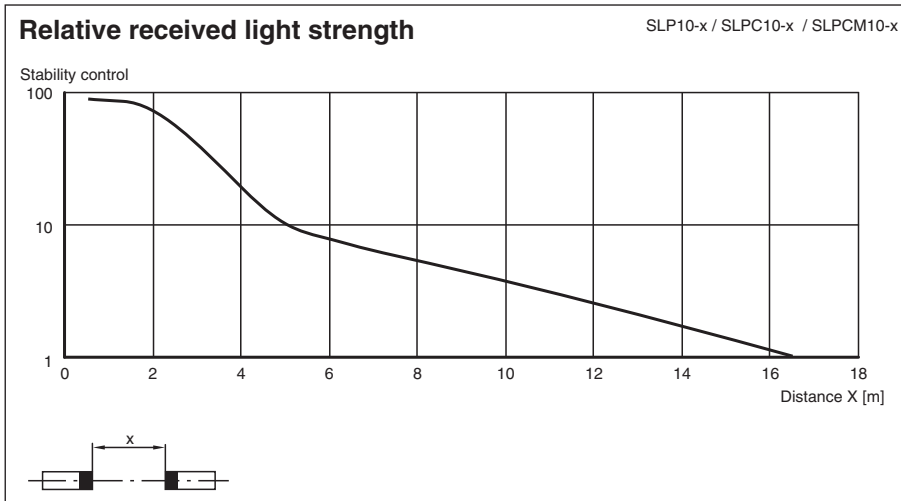
Characteristic response curve

SLP10-x / SLPC10-x / SLPCM10-x



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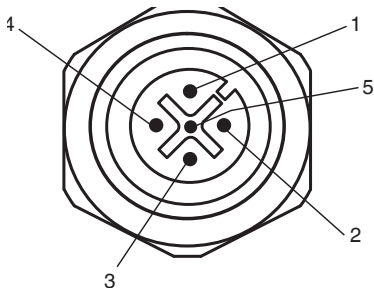
Accessories


| | | |
|--|-----------------|---------------------------------------|
| | 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