



## Safety light curtain SLCS90/35



- Resolution 90 mm
- Protection field height up to 2400 mm
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- SIL3 (IEC 61508)
- Sensing range up to 20 m
- Degree of protection IP67
- Temperature range -35 ... 60°C (-31 ... 140 °F)
- Slim design, mounting on three sides

### Safety light curtain



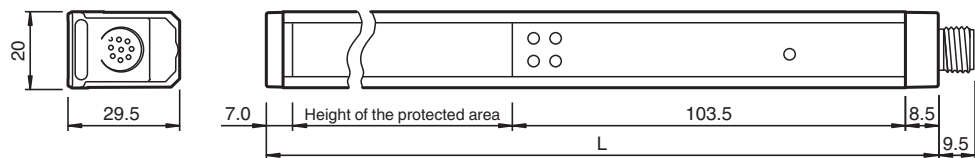
### Function

The safety light curtain consists of a transmitter and a receiver unit. The protected area is formed by infrared light beams transmitted from the transmitter unit to the receiver unit. The spacing between the individual light beams determines the minimum obstruction size (90 mm) that can be reliably detected within the entire protected area range.

### Application

- Active opto-electronic protective device (AOPD) for protection of people in danger zones and high risk areas
- Hand protection from 30 mm resolution
- Finger protection from 14 mm resolution

Dimensions



Technical Data

|                                             |                |                                                                                                                       |
|---------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>General specifications</b>               |                |                                                                                                                       |
| Effective detection range                   |                | 5 ... 20 m                                                                                                            |
| Light source                                |                | IREd                                                                                                                  |
| Light type                                  |                | modulated infrared light , 850 nm                                                                                     |
| Protection field height                     |                | see Table 1, max. 2400 mm                                                                                             |
| Operating mode                              |                | Startup/restart disable, deactivateable                                                                               |
| Optical resolution                          |                | 90 mm                                                                                                                 |
| Opening angle                               |                | < 5 °                                                                                                                 |
| Ambient light limit                         |                | Not sensitive to ambient light in accordance with IEC 61496-2                                                         |
| UL File Number                              |                | E215245                                                                                                               |
| <b>Functional safety related parameters</b> |                |                                                                                                                       |
| Safety Integrity Level (SIL)                |                | SIL 3                                                                                                                 |
| Performance level (PL)                      |                | PL e                                                                                                                  |
| Category                                    |                | Cat. 4                                                                                                                |
| Mission Time (T <sub>M</sub> )              |                | 20 a                                                                                                                  |
| PFH <sub>d</sub>                            |                | Depending on the protection field height; see Manual                                                                  |
| Type                                        |                | 4                                                                                                                     |
| <b>Indicators/operating means</b>           |                |                                                                                                                       |
| Operation indicator                         |                | green: Power on                                                                                                       |
| Function indicator                          |                | Green: OSSD ON , Red: OSSD OFF                                                                                        |
| Status indicator                            |                | Transmitter unit: LED yellow: Mode, test or error<br>Receiver: LED yellow: Start readiness, function reserve or error |
| <b>Electrical specifications</b>            |                |                                                                                                                       |
| Operating voltage                           | U <sub>B</sub> | 24 V DC (-20%, +30%) ; Power supply with safe isolation: 24 V DC                                                      |

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

## Technical Data

|                                   |       |                                                                              |
|-----------------------------------|-------|------------------------------------------------------------------------------|
| No-load supply current            | $I_0$ | Transmitter unit: $\leq 150$ mA<br>Receiver: $\leq 150$ mA (without outputs) |
| Protection class                  |       | III, IEC 61140                                                               |
| Power consumption                 | $P_0$ | Transmitter unit: 5 W<br>Receiver: 15 W                                      |
| <b>Input 1</b>                    |       |                                                                              |
| Input type                        |       | Transmitter unit test                                                        |
| Input format                      |       | Break contact                                                                |
| Switching voltage                 |       | 24 V DC                                                                      |
| Input current                     |       | 5 mA                                                                         |
| <b>Input 2</b>                    |       |                                                                              |
| Input type                        |       | Transmitter unit, mode A/B                                                   |
| Function                          |       | Beam Code A: open or 0 V<br>Beam Code B: 24 V DC, 5 mA                       |
| <b>Input 3</b>                    |       |                                                                              |
| Input type                        |       | Receiver unit relay monitor                                                  |
| Input format                      |       | Break contact                                                                |
| Switching voltage                 |       | 24 V DC                                                                      |
| Input current                     |       | 5 mA                                                                         |
| <b>Input 4</b>                    |       |                                                                              |
| Input type                        |       | Receiver unit, start release                                                 |
| Input format                      |       | Break contact                                                                |
| Input current                     |       | 5 mA                                                                         |
| <b>Input 5</b>                    |       |                                                                              |
| Input type                        |       | Receiver unit, mode A/B (see transmitter unit, mode A/B)                     |
| <b>Output</b>                     |       |                                                                              |
| Response time                     |       | see Table 1, max. 17 ms                                                      |
| <b>Output 1</b>                   |       |                                                                              |
| Output type                       |       | Receiver unit OSSD                                                           |
| Signal output                     |       | PNP semiconductor, monitored for short and cross circuits                    |
| Switching voltage                 |       | ON: $U_B - 2$ V; OFF: $< 1$ V                                                |
| Switching current                 |       | ON: max. 0.1 A; OFF: $< 5$ $\mu$ A                                           |
| <b>Output 2</b>                   |       |                                                                              |
| Output type                       |       | Receiver signal output start readiness                                       |
| Signal output                     |       | PNP-semiconductor, short-circuit protected, 0.1 A                            |
| <b>Conformity</b>                 |       |                                                                              |
| Functional safety                 |       | ISO 13849-1; EN 61508 part1-4                                                |
| Product standard                  |       | EN 61496-1; IEC 61496-2                                                      |
| Photobiological safety            |       | Risk group 0 according to IEC 62471                                          |
| <b>Approvals and certificates</b> |       |                                                                              |
| CE conformity                     |       | CE                                                                           |
| UKCA conformity                   |       | UKCA                                                                         |
| UL approval                       |       | cULus Listed                                                                 |
| TÜV approval                      |       | TÜV SÜD                                                                      |
| <b>Ambient conditions</b>         |       |                                                                              |
| Ambient temperature               |       | -35 ... 60 °C (-31 ... 140 °F)                                               |
| Storage temperature               |       | -35 ... 70 °C (-31 ... 158 °F)                                               |
| Relative humidity                 |       | max. 95 %, not condensing                                                    |
| Shock resistance                  |       | 10 g, 16 ms; stationary applications only                                    |
| Vibration resistance              |       | 0.35 mm, 10 ... 55 Hz; stationary applications only                          |
| <b>Mechanical specifications</b>  |       |                                                                              |
| Housing length L                  |       | see table 2                                                                  |
| Degree of protection              |       | IP67, For indoor use only                                                    |

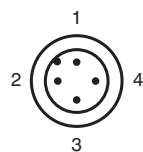
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Technical Data

|                           |                                                                                                                                                                                                                                                              |                                           |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Connection                | Transmitter unit: 4-pin, M12 x 1 connector<br>Receiver: 8-pin, M12 x 1 connector<br>Cable cross section min. 0.25 mm²<br>Max. cable length 50 m                                                                                                              |                                           |
| Material                  |                                                                                                                                                                                                                                                              |                                           |
| Housing                   |                                                                                                                                                                                                                                                              | extruded aluminum section , gold anodized |
| Optical face              |                                                                                                                                                                                                                                                              | Plastic pane , Transparent polycarbonate  |
| Mass                      |                                                                                                                                                                                                                                                              | see table 2                               |
| General information       |                                                                                                                                                                                                                                                              |                                           |
| Supplementary information | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> . |                                           |

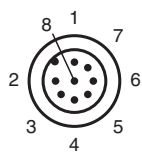
Connection

Transmitter unit:



| Pin | Transmitter unit |
|-----|------------------|
| 1   | 24 V DC          |
| 2   | Mode A/B         |
| 3   | 0 V DC           |
| 4   | Test             |

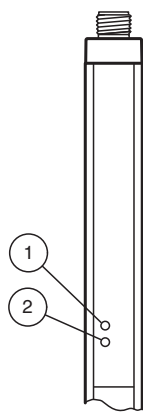
Receiver unit:



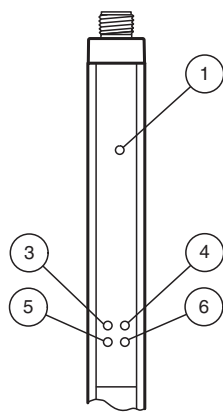
| Pin | Receiver unit          |
|-----|------------------------|
| 1   | Restart Interlock (RI) |
| 2   | 24 V DC                |
| 3   | Relay Monitor (RM)     |
| 4   | Status / Select RI-RM  |
| 5   | OSSD1                  |
| 6   | OSSD2                  |
| 7   | 0 V DC                 |
| 8   | Mode A/B               |

Assembly

Transmitter unit



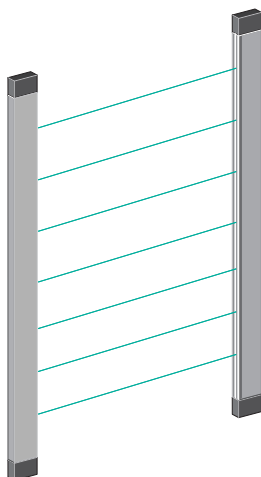
Receiver unit



|   |                  |        |
|---|------------------|--------|
| 1 | Power            | green  |
| 2 | Mode A/B, Status | yellow |
| 3 | OSSD OFF         | red    |
| 4 | OSSD ON          | green  |
| 5 | Restart/Status   | yellow |
| 6 | Mode A/B         | yellow |

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## Application



## Technical Features

Table 1: Response Time

| Protection field height [mm] | Response time [ms] |
|------------------------------|--------------------|
| 300                          | 8                  |
| 600                          | 10                 |
| 900                          | 11                 |
| 1200                         | 12                 |
| 1500                         | 14                 |
| 1800                         | 15                 |
| 2100                         | 16                 |
| 2400                         | 17                 |

Table 2: Total Length and Weight

| Protection field height [mm] | Total length of transmitter/receiver unit [mm] | Weight of transmitter/receiver unit [g] |
|------------------------------|------------------------------------------------|-----------------------------------------|
| 300                          | 419                                            | 250                                     |
| 600                          | 719                                            | 430                                     |
| 900                          | 1019                                           | 600                                     |
| 1200                         | 1319                                           | 760                                     |
| 1500                         | 1625                                           | 940                                     |
| 1800                         | 1925                                           | 1100                                    |
| 2100                         | 2225                                           | 1270                                    |
| 2400                         | 2525                                           | 1440                                    |

## Type Code

|          |          |          |     |     |     |   |     |     |     |     |   |     |   |     |     |
|----------|----------|----------|-----|-----|-----|---|-----|-----|-----|-----|---|-----|---|-----|-----|
| <b>S</b> | <b>L</b> | <b>C</b> | (1) | (2) | (2) | - | (3) | (3) | (3) | (3) | - | (4) | / | (5) | (5) |
|----------|----------|----------|-----|-----|-----|---|-----|-----|-----|-----|---|-----|---|-----|-----|

| SLC | Device               |
|-----|----------------------|
| SLC | Safety light curtain |

| (1) | Safety light curtain type |
|-----|---------------------------|
| S   | Self-monitoring, type 4   |
| T   | Testing, type 2           |

| (2) | Resolution |
|-----|------------|
| 14  | 14 mm      |
| 30  | 30 mm      |
| 60  | 60 mm      |
| 90  | 90 mm      |

| (3)  | Protection field height |
|------|-------------------------|
| 100  | 100 mm                  |
| 200  | 110 mm                  |
| 300  | 300 mm                  |
| ...  | ...                     |
| 2400 | 2400 mm                 |

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## Type Code

| (4) | Principle   |
|-----|-------------|
| T   | Transmitter |
| R   | Receiver    |

| (5) | Option                   |
|-----|--------------------------|
| 35  | Extended detection range |

## Accessories

|                                                                                     |                          |                                                                                        |
|-------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------|
|    | <b>TR 14/30/50/60</b>    | Test rod for safety light curtain SLCT                                                 |
|    | <b>AA SLCT-01</b>        | Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains |
|    | <b>OMH-SLCT-100-1200</b> | Mounting base for floor mounting and cover plate                                       |
|    | <b>OMH-SLCT-100-1500</b> | Mounting base for floor mounting and cover plate                                       |
|    | <b>OMH-SLCT-100-2100</b> | Mounting base for floor mounting and cover plate                                       |
|    | <b>OMH-SLCT-100-2500</b> | Mounting base for floor mounting and cover plate                                       |
|  | <b>OMH-SLCT-110-1200</b> | Mounting base for floor mounting with rear panel and cover plate                       |
|  | <b>OMH-SLCT-110-1500</b> | Mounting base for floor mounting with rear panel and cover plate                       |
|  | <b>OMH-SLCT-110-2100</b> | Mounting base for floor mounting with rear panel and cover plate                       |
|  | <b>OMH-SLCT-120-1200</b> | Side protection for mounting base                                                      |
|  | <b>OMH-SLCT-120-1500</b> | Side protection for mounting base                                                      |
|  | <b>OMH-SLCT-120-2100</b> | Side protection for mounting base                                                      |
|  | <b>OMH-SLCT-120-2500</b> | Side protection for mounting base                                                      |
|  | <b>OMH-SLCT-200</b>      | Floor mount                                                                            |
|  | <b>SLCT-M-01-1200</b>    | Inclined mirror for stable 90° deflection with cover plate                             |
|  | <b>SLCT-M-01-1500</b>    | Inclined mirror for stable 90° deflection with cover plate                             |
|  | <b>SLCT-M-01-2100</b>    | Inclined mirror for stable 90° deflection with cover plate                             |

## Accessories

|                                                                                   |                        |                                                               |
|-----------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------|
|  | <b>OMH-SLCT-10</b>     | Clamp mounting suitable for 6 mm ... 11.5 mm groove           |
|  | <b>OMH-SLCT-11</b>     | Reverse clamp mounting suitable for 8.5 mm ... 10.5 mm groove |
|  | <b>OMH-SLCT-12-500</b> | Mounting bracket, muting arm with round rod d=12 mm           |
|  | <b>OMH-SLCT-01</b>     | Quick clamp and adjustment system                             |
|  | <b>OMH-SLCT-02</b>     | Attachment aid for OMH-SLCT-01                                |
|  | <b>OMH-SLCT-03</b>     | Mounting bracket including adjustment                         |
|  | <b>OMH-SLCT-04</b>     | Mounting bracket including adjustment (with loose bearing)    |
|  | <b>OMH-SLCT-05</b>     | Mounting bracket including adjustment                         |
|  | <b>OMH-SLCT-06</b>     | Swivel Bracket                                                |