



# Safety light curtain

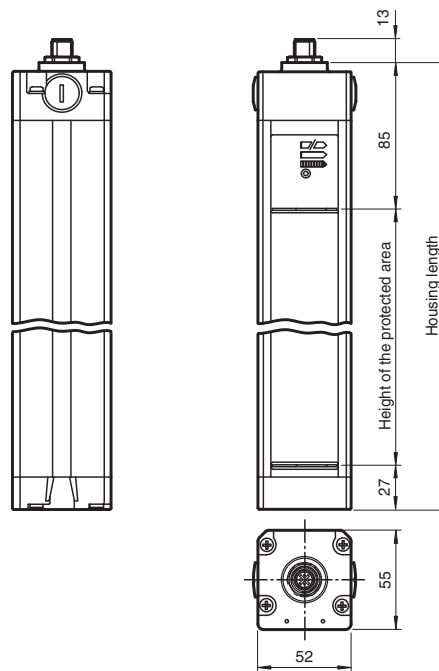
## SLC14-1800/129/130/151



- Sensing range up to 5 m
- Resolution 14 mm (finger protection)
- Protective field height up to 1800 mm
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Master/Slave detection, Plug and Play
- Very short response time
- Degree of protection IP67
- Integrated function display
- Pre-fault indication
- Connection via appliance socket M12 x b1
- Safety outputs OSSD in potential-separated semiconductor version
- Start/Restart disable preset by Option /129



## Dimensions



## Technical Data

### System components

|          |                          |
|----------|--------------------------|
| Emitter  | SLC14-1800-T/130         |
| Receiver | SLC14-1800-R/129/130/151 |

### General specifications

|                           |                          |
|---------------------------|--------------------------|
| Effective detection range | 0.2 ... 5 m              |
| Light source              | IRED                     |
| Light type                | modulated infrared light |
| LED risk group labelling  | exempt group             |

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

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## Technical Data

|                                             |                |                                                                                                                |
|---------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------|
| Tests                                       |                | IEC/EN 61496                                                                                                   |
| Safety type according to IEC/EN 61496       |                | 4                                                                                                              |
| Width of protected area                     |                | 0.2 ... 5 m                                                                                                    |
| Protection field height                     |                | 1800 mm                                                                                                        |
| Number of beams                             |                | 192                                                                                                            |
| Operating mode                              |                | can be selected with or without start/restart disable                                                          |
| Optical resolution                          |                | 14 mm                                                                                                          |
| Angle of divergence                         |                | < 5 °                                                                                                          |
| <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>                            |                | 2.42 E-8                                                                                                       |
| Type                                        |                | 4                                                                                                              |
| <b>Indicators/operating means</b>           |                |                                                                                                                |
| Operation indicator                         |                | 7-segment display in emitter                                                                                   |
| Diagnostics indicator                       |                | 7-segment display in receiver                                                                                  |
| Function indicator                          |                | in receiver:<br>LED red: OSSD off<br>LED green: OSSD on<br>LED yellow: Protected area free, system start-ready |
| Pre-fault indicator                         |                | LED orange                                                                                                     |
| Control elements                            |                | switch for start/restart disable, transmission coding                                                          |
| <b>Electrical specifications</b>            |                |                                                                                                                |
| Operating voltage                           | U <sub>B</sub> | 24 V DC (-30 %/+25 %)                                                                                          |
| No-load supply current                      | I <sub>0</sub> | Emitter: ≤ 100 mA receiver: ≤ 150 mA                                                                           |
| Protection class                            |                | III                                                                                                            |
| <b>Input</b>                                |                |                                                                                                                |
| Activation current                          |                | approx. 10 mA                                                                                                  |
| Activation time                             |                | 0.03 ... 1 s                                                                                                   |
| Test input                                  |                | Reset-input for system test (not for option /129)                                                              |
| Function input                              |                | Start release                                                                                                  |
| <b>Output</b>                               |                |                                                                                                                |
| Safety output                               |                | 2 separated fail safe semiconductor outputs                                                                    |
| Signal output                               |                | 1 PNP, max. 100 mA for start readiness                                                                         |
| Switching voltage                           |                | Operating voltage -2 V                                                                                         |
| Switching current                           |                | max. 0.5 A                                                                                                     |
| Response time                               |                | 36 ms                                                                                                          |
| <b>Conformity</b>                           |                |                                                                                                                |
| Functional safety                           |                | ISO 13849-1                                                                                                    |
| Product standard                            |                | EN 61496-1 ; IEC 61496-2                                                                                       |
| <b>Approvals and certificates</b>           |                |                                                                                                                |
| CE conformity                               |                | CE                                                                                                             |
| UL approval                                 |                | cULus Listed                                                                                                   |
| CCC approval                                |                | CCC approval / marking not required for products rated ≤36 V                                                   |
| TÜV approval                                |                | TÜV                                                                                                            |
| <b>Ambient conditions</b>                   |                |                                                                                                                |
| Ambient temperature                         |                | 0 ... 55 °C (32 ... 131 °F)                                                                                    |
| Storage temperature                         |                | -25 ... 70 °C (-13 ... 158 °F)                                                                                 |
| Relative humidity                           |                | max. 95 %, not condensing                                                                                      |
| <b>Mechanical specifications</b>            |                |                                                                                                                |
| Housing length L                            |                | 1910 mm                                                                                                        |
| Degree of protection                        |                | IP67                                                                                                           |

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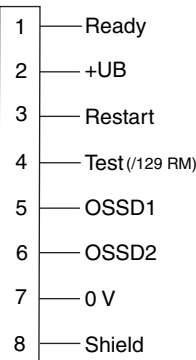
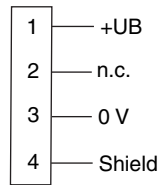
Technical Data

|              |                                                              |  |
|--------------|--------------------------------------------------------------|--|
| Connection   | Emitter: M12 connector, 4-pin Receiver: M12 connector, 8-pin |  |
| Material     |                                                              |  |
| Housing      | extruded aluminum profile, RAL 1021 (yellow) coated          |  |
| Optical face | Plastic pane                                                 |  |
| Mass         | Per 5700 g                                                   |  |

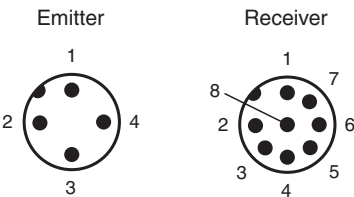
Connection Assignment

Emitter

Receiver



Connection Assignment

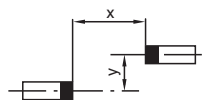
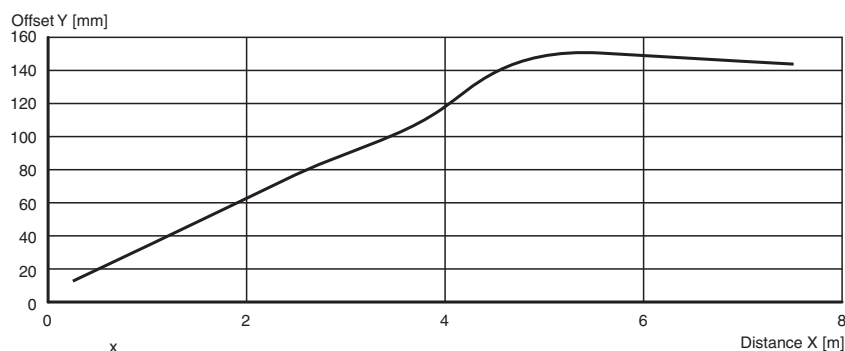


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## Characteristic Curve

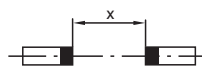
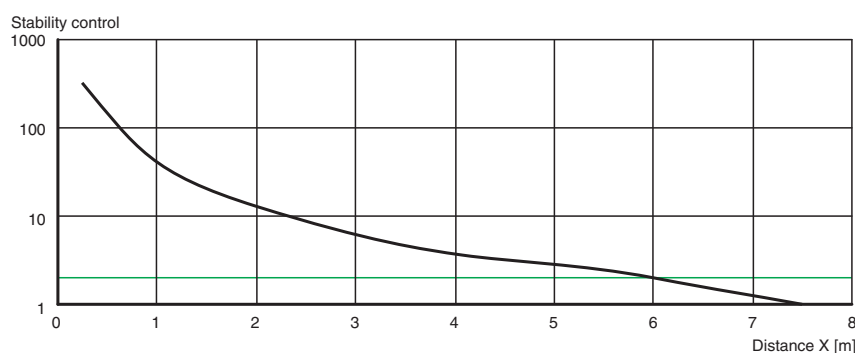
### Characteristic response curve

SLC14



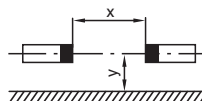
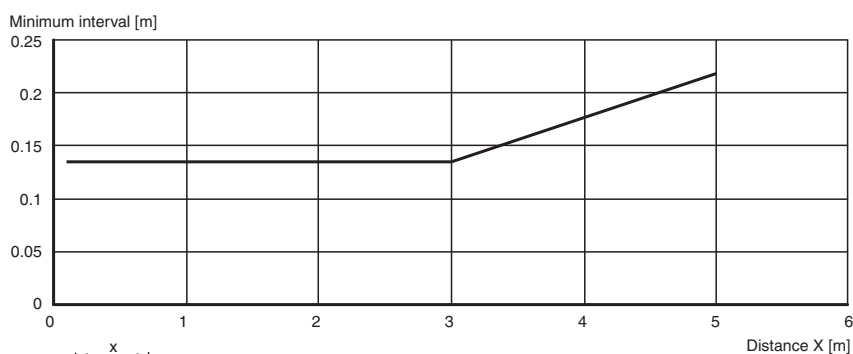
### Relative received light strength

SLC14



### Lateral interval to mirroring surfaces

SLC14



## Matching system components

**SB4-OR-4XP-B-4159**

Safety control unit

**SB4-OR-4XP**

Safety control unit

**SB4-OR-4XP-B**

SB4 series safety control unit with 1 optional module slot for functional enhancement

## Matching system components

|                                                                                     |                             |                                                                                      |
|-------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------|
|    | <b>SB4-OR-4XP-B-B</b>       | SB4 series safety control unit with optional module slots for functional enhancement |
|    | <b>SB4-OR-4XP-B-B-B</b>     | SB4 series safety control unit with optional module slots for functional enhancement |
|    | <b>SB4-OR-4XP-B-B-B-B</b>   | SB4 series safety control unit with optional module slots for functional enhancement |
|    | <b>SB4-OR-4XP-B-B-B-B-B</b> | SB4 series safety control unit with optional module slots for functional enhancement |
|    | <b>SB4-OR-4XP-B-4158</b>    | Safety control unit                                                                  |
|    | <b>SB4-OR-4XP-3819</b>      | Safety control unit                                                                  |
|    | <b>SB4-OR-4XP-4M</b>        | Safety control unit                                                                  |
|    | <b>SB4-OR-4XP-4MD</b>       | Safety control unit                                                                  |
|   | <b>SB4-OR-4XP-4M-4136</b>   | Safety control unit of series SB4                                                    |
|  | <b>SB4-OR-4XP-4X</b>        | Safety control unit                                                                  |
|  | <b>SB4-OR-4XP-4X-3819</b>   | Safety control unit                                                                  |
|  | <b>SB4-OR-4XP-4136</b>      | Safety control unit of series SB4                                                    |

## Accessories

|                                                                                     |                    |                                       |
|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|
|  | <b>PG SLC-1800</b> | Protective glass panes for SLC series |
|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|

## Note

### Master-Slave operation

Master: SLC...-... (semiconductor)  
or SLC...-.../31 (relay)

Slave: SLC...-...-S

The use of slaves allows both the protection fields to be extended and protection fields to be created that do not all exist at a single level. When deciding which slaves to connect, remember that the total maximum of 96 beams must not be exceeded. Up to 192 beams are possible if the /130 option is selected.

Slaves exist for the transmitter and the receiver. These simply need to be connected to the master light curtain. Up to two slaves can be connected to both the transmitter and receiving units. Only one slave can be connected if the /130 option is selected.

Installation:

1. The end cap (no cable gland) on the light curtain is unscrewed and removed.
2. The plug-in jumper on the connectors of the now visible PCB is removed.
3. The slave is designed in such a way that the cap and PCB on the connecting cable plug directly onto the open end of the light curtain.
4. Once the end cap has been screwed on, the system is complete.

## System accessories

- Mounting set SLC
- Test rods SLC14/SLC30/SLC60
- Protection glass for SLC (to protect the optical surface)
- Side cable gland SLC
- Profile alignment tool
- Beam alignment tool SLC
- Mirror for SLC (to protect danger areas on more than one side)
- Stands UC SLP/SLC
- Enclosure for stands  
Enclosure UC SLP/SLC
- Start protection  
Damping UC SLP/SLC