

## Technical data sheet

### Safety light curtain receiver

Part no.: 72101109  
ELC150R17-900



For illustration purposes only

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Technical data

Basic data

|             |                   |
|-------------|-------------------|
| Series      | ELC150            |
| Device type | Receiver          |
| Contains    | 2x sliding block  |
| Application | Finger protection |

Functions

|           |                         |
|-----------|-------------------------|
| Functions | Automatic start/restart |
|-----------|-------------------------|

Characteristic parameters

|                             |                          |
|-----------------------------|--------------------------|
| Type                        | 4, IEC/EN 61496          |
| SIL                         | 3, IEC 61508             |
| SILCL                       | 3, IEC/EN 62061          |
| Performance Level (PL)      | e, EN ISO 13849-1        |
| PFH <sub>D</sub>            | 8E-09 per hour           |
| Mission time T <sub>M</sub> | 20 years, EN ISO 13849-1 |
| Category                    | 4, EN ISO 13849          |

Protective field data

|                         |        |
|-------------------------|--------|
| Resolution              | 17 mm  |
| Protective field height | 900 mm |

Optical data

|                 |                                          |
|-----------------|------------------------------------------|
| Synchronization | Optical between transmitter and receiver |
|-----------------|------------------------------------------|

Electrical data

|                    |                                                   |
|--------------------|---------------------------------------------------|
| Protective circuit | Overvoltage protection<br>Short circuit protected |
|--------------------|---------------------------------------------------|

Performance data

|                               |                        |
|-------------------------------|------------------------|
| Supply voltage U <sub>B</sub> | 24 V, DC, -20 ... 20 % |
| Current consumption, max.     | 100 mA                 |

Outputs

|                                                    |            |
|----------------------------------------------------|------------|
| Number of safety-related switching outputs (OSSDs) | 2 Piece(s) |
|----------------------------------------------------|------------|

Safety-related switching outputs

|                              |                                      |
|------------------------------|--------------------------------------|
| Type                         | Safety-related switching output OSSD |
| Switching voltage high, min. | 18 V                                 |
| Switching voltage low, max.  | 2.5 V                                |
| Switching voltage, type.     | 22.5 V                               |
| Voltage type                 | DC                                   |
| Current load, max.           | 50 mA                                |
| Load inductivity             | 500,000 µH                           |
| Load capacity                | 0.03 µF                              |
| Residual current, max.       | 0.5 mA                               |
| Voltage drop                 | 1.5 V                                |

Safety-related switching output 1

|                   |                     |
|-------------------|---------------------|
| Assignment        | Connection 1, pin 2 |
| Switching element | Transistor, PNP     |

Safety-related switching output 2

|                   |                     |
|-------------------|---------------------|
| Assignment        | Connection 1, pin 4 |
| Switching element | Transistor, PNP     |

Time behavior

|                    |         |
|--------------------|---------|
| Response time      | 13.2 ms |
| Restart delay time | 100 ms  |

Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

Connection 1

|                      |                      |
|----------------------|----------------------|
| Function             | Machine interface    |
| Type of connection   | Cable with connector |
| Cable length         | 300 mm               |
| Sheathing material   | PUR                  |
| Number of conductors | 4 -wire              |
| Thread size          | M12                  |
| Material             | Metal                |
| No. of pins          | 4 -pin               |

Cable properties

|                                            |          |
|--------------------------------------------|----------|
| Permissible conductor cross section, type. | 0.25 mm² |
| Length of connection cable, max.           | 25 m     |
| Permissible cable resistance to load, max. | 20 Ω     |

Mechanical data

|                       |                                      |
|-----------------------|--------------------------------------|
| Dimension (W x H x L) | 34.7 mm x 915 mm x 39.3 mm           |
| Housing material      | Metal                                |
| Metal housing         | Aluminum                             |
| Lens cover material   | Plastic / PMMA                       |
| Material of end caps  | Diecast zinc                         |
| Net weight            | 1,330 g                              |
| Housing color         | Yellow, RAL 1021                     |
| Type of fastening     | Groove mounting<br>Mounting brackets |

Operation and display

|                 |            |
|-----------------|------------|
| Type of display | LED        |
| Number of LEDs  | 6 Piece(s) |

Environmental data

|                                    |               |
|------------------------------------|---------------|
| Ambient temperature, operation     | 0 ... 50 °C   |
| Ambient temperature, storage       | -30 ... 70 °C |
| Relative humidity (non-condensing) | 0 ... 95 %    |

Certifications

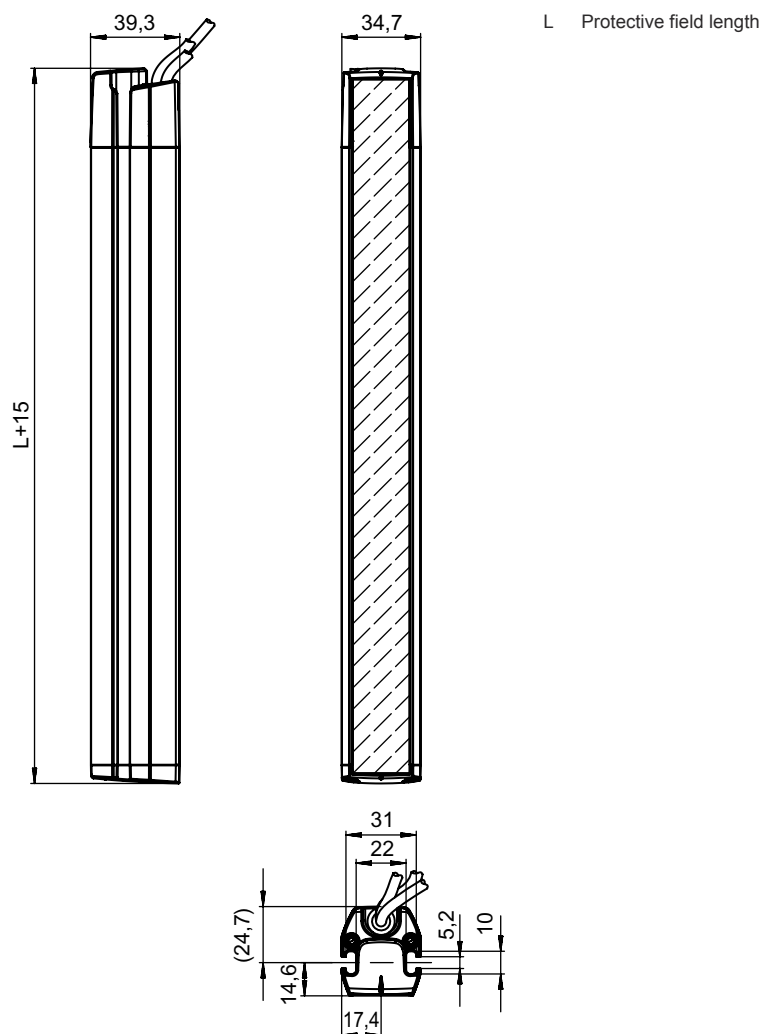
|                      |                           |
|----------------------|---------------------------|
| Degree of protection | IP 65                     |
| Protection class     | III                       |
| Approvals            | c UL US<br>KCs<br>TÜV Süd |
| Vibration resistance | 50 m/s²                   |
| US patents           | US 6,418,546 B            |

## Technical data

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4          | 27272704 |
| ECLASS 8.0            | 27272704 |
| ECLASS 9.0            | 27272704 |
| ECLASS 10.0           | 27272704 |
| ECLASS 11.0           | 27272704 |
| ECLASS 12.0           | 27272704 |
| ECLASS 13.0           | 27272704 |
| ECLASS 14.0           | 27272704 |
| ECLASS 15.0           | 27272704 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |
| ETIM 7.0              | EC002549 |
| ETIM 8.0              | EC002549 |
| ETIM 9.0              | EC002549 |
| ETIM 10.0             | EC002549 |

## Dimensioned drawings

All dimensions in millimeters

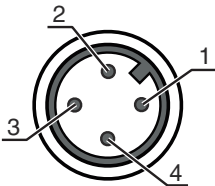


Electrical connection

Connection 1

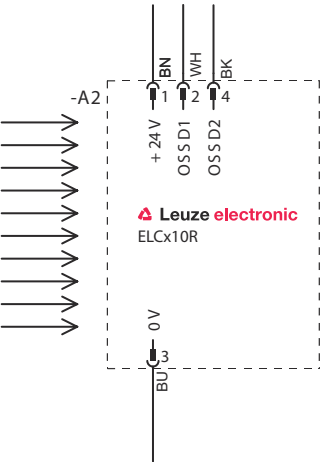
|                      |                      |
|----------------------|----------------------|
| Function             | Machine interface    |
| Type of connection   | Cable with connector |
| Cable length         | 300 mm               |
| Sheathing material   | PUR                  |
| Cable color          | Black                |
| Number of conductors | 4 -wire              |
| Wire cross section   | 0.2 mm²              |
| Thread size          | M12                  |
| Type                 | Male                 |
| Material             | Metal                |
| No. of pins          | 4 -pin               |
| Encoding             | A-coded              |

| Pin | Pin assignment | Conductor color |
|-----|----------------|-----------------|
| 1   | +24 V          | Brown           |
| 2   | OSSD1          | White           |
| 3   | 0 V            | Blue            |
| 4   | OSSD2          | Black           |

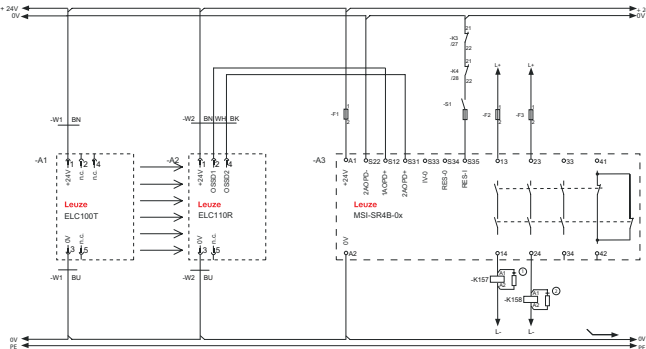


Circuit diagrams

Connection diagram receiver



Circuit diagram example with downstream MSI-SR4B safety relay



1.2 Spark extinction circuit, suitable spark extinction provided

## Operation and display

| LED | Display                                       | Meaning                                       |
|-----|-----------------------------------------------|-----------------------------------------------|
| 1   | Red, continuous light                         | OSSD off                                      |
|     | red, slowly flashing (0.5 Hz)                 | External error                                |
|     | red, flashing fast (10 Hz)                    | Internal error                                |
|     | Flash sequence 2x ON/OFF, followed by a pause | Connection error                              |
| 2   | Green, continuous light                       | OSSD on                                       |
| 3   | Blue, flashing                                | Light reception strength 1                    |
|     | Blue, continuous light                        | Light reception strength 2                    |
| 4   | Blue, flashing                                | Light reception strength 3                    |
|     | Blue, continuous light                        | Light reception strength 4, OSSD switches on  |
| 5   | Blue, flashing                                | Light reception strength 5                    |
|     | Blue, continuous light                        | Light reception strength 6                    |
| 6   | Blue, flashing                                | Light reception strength 7                    |
|     | Blue, continuous light                        | Light reception strength 8, optimum alignment |
|     | Blue, very quickly flashing                   | Fault in light reception                      |

## Suitable transmitters

|                                                                                    | Part no. | Designation   | Article                          | Description                                                                                                                                               |
|------------------------------------------------------------------------------------|----------|---------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 72100109 | ELC105T17-900 | Safety light curtain transmitter | Resolution: 17 mm<br>Protective field height: 900 mm<br>Operating range: 0.5 ... 3 m<br>Connection: Cable with connector, M12, Metal, 4 -pin, 200 mm, PUR |

## Part number code

Part designation: **ELC1yyzaa-hhhh**

| ELC  | Safety light curtain                                                           |
|------|--------------------------------------------------------------------------------|
| 1    | <b>Series</b><br>1: ELC150                                                     |
| yy   | <b>Function classes</b><br>00: transmitter<br>50: Receiver – automatic restart |
| z    | <b>Device type</b><br>T: transmitter<br>R: receiver                            |
| a    | <b>Resolution</b><br>14: 14 mm<br>17: 17 mm<br>30: 30 mm                       |
| hhhh | <b>Protective field height</b><br>300 ... 1500: from 300 mm to 1500 mm         |

### Note



A list with all available device types can be found on the Leuze website at [www.leuze.com](http://www.leuze.com).

## Notes



### Observe intended use!



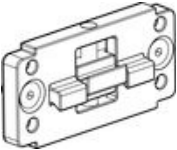
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with its intended use.

## Accessories

### Connection technology - Connection cables

|                                                                                   | Part no. | Designation        | Article          | Description                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|----------|--------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50133860 | KD S-M12-5A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5.000 mm<br>Sheathing material: PUR |

### Mounting technology - Other

|                                                                                    | Part no. | Designation | Article          | Description                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------|----------|-------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 424439   | BT-2P45     | Mounting bracket | Bore hole 1: M6<br>Bore hole 2: M6<br>Design of mounting device: Mounting clamp<br>Fastening, at system: Groove mounting<br>Mounting bracket, at device: Groove mounting<br>Type of mounting device: Clampable, Suitable for mounting in UDC-S2, DC-S2 device columns<br>Material: Metal |

## Services

|                                                                                    | Part no. | Designation | Article           | Description                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|----------|-------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | S981050  | CS40-I-140  | Safety inspection | Details: Checking of a safety light barrier application in accordance with current standards and guidelines. Inclusion of the device and machine data in a database, production of a test log per application.<br>Conditions: It must be possible to stop the machine, support provided by customer's employees and access to the machine for Leuze employees must be ensured. |
|  | S981046  | CS40-S-140  | Start-up support  | Details: For safety devices including stopping time measurement and initial inspection.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.                                                                                                                                         |

### Note



- ⚠ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.