# Technical data sheet
# Light curtain receiver
Part no.: 50128934
CSL710-R10-960.A/L-M12



Figure can vary

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# Technical data

## Basic data

| | |
|---|---|
| **Series** | 710 |
| **Operating principle** | Throughbeam principle |
| **Device type** | Receiver |
| **Contains** | 2x BT-NC sliding block |
| **Application** | Precise object detection |

## Special design

| | |
|---|---|
| **Special design** | Crossed-beam scanning |
| | Diagonal-beam scanning |
| | Parallel-beam scanning |

## Optical data

| | |
|---|---|
| **Operating range** | Guaranteed operating range |
| **Operating range** | 0.3 ... 7 m |
| **Operating range limit** | Typical operating range |
| **Operating range limit** | 0.2 ... 9 m |
| **Measurement field length** | 960 mm |
| **Number of beams** | 96 Piece(s) |
| **Beam spacing** | 10 mm |

## Measurement data

| | |
|---|---|
| **Minimum object diameter** | 20 mm |

## Electrical data

| | |
|---|---|
| **Protective circuit** | Polarity reversal protection |
| | Short circuit protected |
| | Transient protection |

### Performance data

| | |
|---|---|
| **Supply voltage $U_B$** | 18 ... 30 V, DC |
| **Residual ripple** | 0 ... 15 %, From $U_B$ |
| **Open-circuit current** | 0 ... 270 mA, The specified values refer to the entire package consisting of transmitter and receiver. |

### Inputs/outputs selectable

| | |
|---|---|
| **Output current, max.** | 100 mA |
| **Input resistance** | 6,000 Ω |
| **Number of inputs/outputs selectable** | 4 Piece(s) |
| **Voltage type, outputs** | DC |
| **Switching voltage, outputs** | Typ. $U_B$ / 0 V |
| **Voltage type, inputs** | DC |
| **Switching voltage, inputs** | high: ≥6V |
| | low: ≤4V |

#### Input/output 1

| | |
|---|---|
| **Activation/disable delay** | 0 ... 1 ms |

## Timing

| | |
|---|---|
| **Readiness delay** | 400 ms |
| **Cycle time** | 3.28 ms |
| **Response time per beam** | 30 µs |

## Interface

| | |
|---|---|
| **Type** | IO-Link |

### IO-Link

| | |
|---|---|
| **COM mode** | COM2 |
| | COM3 |
| **Specification** | V1.0.1 |
| | V1.1 |
| **Min. cycle time** | COM2 = 2.3 ms |

## Service interface

| | |
|---|---|
| **Type** | IO-Link |

### IO-Link

| | |
|---|---|
| **Function** | Configuration via software |
| | Service |

## Connection

| | |
|---|---|
| **Number of connections** | 2 Piece(s) |
| **Plug outlet** | Axial |

### Connection 1

| | |
|---|---|
| **Function** | Configuration interface |
| | Signal IN |
| | Signal OUT |
| | Voltage supply |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Male |
| **Material** | Metal |
| **No. of pins** | 8 -pin |
| **Encoding** | A-coded |

### Connection 2

| | |
|---|---|
| **Function** | Connection to transmitter |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Female |
| **Material** | Metal |
| **No. of pins** | 5 -pin |
| **Encoding** | A-coded |

## Mechanical data

| | |
|---|---|
| **Design** | Cubic |
| **Dimension (W x H x L)** | 29 mm x 54.8 mm x 1,033 mm |
| **Housing material** | Metal, Aluminum |
| **Lens cover material** | Plastic / PMMA |
| **Net weight** | 1,100 g |
| **Housing color** | Red |
| **Type of fastening** | Groove mounting |
| | Via optional mounting device |

## Operation and display

| | |
|---|---|
| **Type of display** | LED |
| | OLED display |
| **Number of LEDs** | 2 Piece(s) |
| **Type of configuration** | Software |
| | Teach-in |
| **Operational controls** | Membrane keyboard |

## Environmental data

| | |
|---|---|
| **Ambient temperature, operation** | -30 ... 60 °C |
| **Ambient temperature, storage** | -40 ... 70 °C |

# Technical data

## Certifications

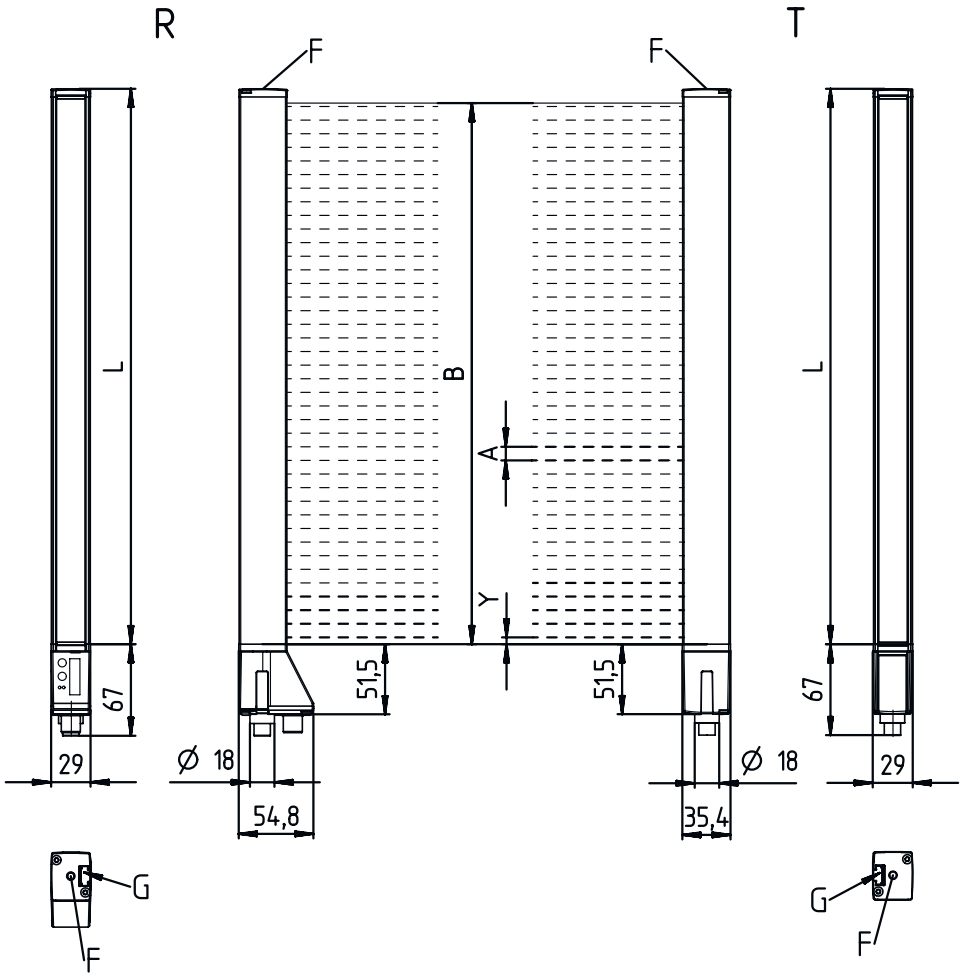
| | |
|---|---|
| **Degree of protection** | IP 65 |
| **Protection class** | III |
| **Certifications** | c CSA US |
| **Standards applied** | IEC 60947-5-2 |

## Classification

| | |
|---|---|
| **Customs tariff number** | 90314990 |
| **eCl@ss 8.0** | 27270910 |
| **eCl@ss 9.0** | 27270910 |
| **ETIM 5.0** | EC002549 |
| **ETIM 6.0** | EC002549 |

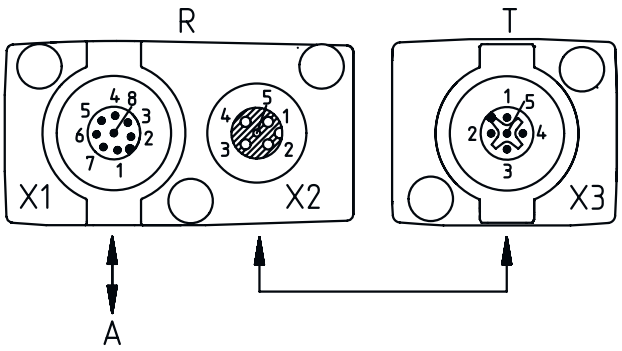
# Dimensioned drawings

All dimensions in millimeters




| | | | |
|---|---|---|---|
| A | Beam spacing 10 mm | L | Profile length 968 mm |
| B | Measurement field length 960 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | |

# Dimensioned drawings



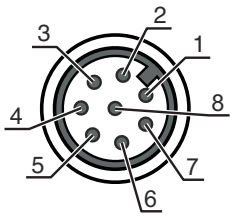

A PWR / SW IN/OUT

# Electrical connection

## Connection 1

| | |
|---|---|
| **Function** | Configuration interface |
| | Signal IN |
| | Signal OUT |
| | Voltage supply |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Male |
| **Material** | Metal |
| **No. of pins** | 8 -pin |
| **Encoding** | A-coded |

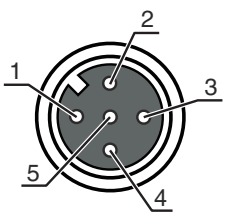
| Pin | Pin assignment |
|---|---|
| **1** | V+ |
| **2** | IO1 |
| **3** | GND |
| **4** | IO-Link |
| **5** | IO2 |
| **6** | IO3 |
| **7** | IO4 |
| **8** | GND |




## Connection 2

| | |
|---|---|
| **Function** | Connection to transmitter |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Female |
| **Material** | Metal |
| **No. of pins** | 5 -pin |
| **Encoding** | A-coded |

| Pin | Pin assignment |
|---|---|
| **1** | FE/SHIELD |
| **2** | V+ |
| **3** | GND |
| **4** | RS 485 Tx+ |
| **5** | RS 485 Tx- |



# Operation and display

| LED | Display | Meaning |
|---|---|---|
| 1 | Green, continuous light | Operational readiness |
| | Green, flashing | Teach / error |
| 2 | Yellow, continuous light | Light path free, with function reserve |
| | Yellow, flashing | No function reserve |
| | Off | Object detected |

# Suitable transmitters

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | 50129018 | CSL710-T10-960.A-M12 | Light curtain transmitter | Application: Precise object detection<br>Special design: Parallel-beam scanning, Crossed-beam scanning, Diagonal-beam scanning<br>Operating range: 0.3 ... 7 m<br>Connection: Connector, M12, 5 -pin |

# Part number code

Part designation: **CSL710-XYY-ZZZZ.A/B-CCC**

| | |
|---|---|
| **CSL710** | **Operating principle**<br>CSL: switching light curtain of the 710 series |
| **X** | **Function classes**<br>T: transmitter<br>R: receiver |
| **YY** | **Beam spacing**<br>05: 5 mm<br>10: 10 mm<br>20: 20 mm<br>40: 40 mm |
| **ZZZZ** | **Measurement field length [mm], dependent on beam spacing**<br>Value, see technical data |
| **A** | **Equipment**<br>A: connector outlet, axial |
| **B** | **Interface**<br>L: IO-Link |
| **CCC** | **Electrical connection**<br>M12: M12 connector |

**Note**

- A list with all available device types can be found on the Leuze website at www.leuze.com.

# Notes

**Observe intended use!**

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

# Notes

**For UL applications:**

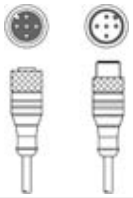
- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

# Accessories

## Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | 50135128 | KD S-M12-8A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR |

## Connection technology - Interconnection cables

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | 50129781 | KDS DN-M12-5A-M12-5A-P3-050 | Interconnection cable | Suitable for interface: IO-Link, DeviceNet, CANopen<br>Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR |

## Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | 429046 | BT-2R1 | Mounting bracket set | Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

**Note**

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