# Technical data sheet
# Light curtain transmitter
Part no.: 50129040
CSL710-T20-1590.A-M12



Figure can vary

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# Technical data

## Basic data

| | |
|---|---|
| **Series** | 710 |
| **Operating principle** | Throughbeam principle |
| **Device type** | Transmitter |
| **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** | 1,590 mm |
| **Number of beams** | 80 Piece(s) |
| **Beam spacing** | 20 mm |
| **Light source** | LED, Infrared |
| **LED light wavelength** | 940 nm |

## Measurement data

| | |
|---|---|
| **Minimum object diameter** | 30 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 ... 350 mA, The specified values refer to the entire package consisting of transmitter and receiver. |

## Timing

| | |
|---|---|
| **Readiness delay** | 400 ms |
| **Cycle time** | 2.8 ms |

## Connection

| | |
|---|---|
| **Number of connections** | 1 Piece(s) |
| **Plug outlet** | Axial |

### Connection 1

| | |
|---|---|
| **Function** | Connection to receiver |
| | Sync-input |
| | Voltage supply |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Male |
| **Material** | Metal |
| **No. of pins** | 5 -pin |
| **Encoding** | A-coded |

## Mechanical data

| | |
|---|---|
| **Design** | Cubic |
| **Dimension (W x H x L)** | 29 mm x 35.4 mm x 1,673 mm |
| **Housing material** | Metal, Aluminum |
| **Lens cover material** | Plastic / PMMA |
| **Net weight** | 1,700 g |
| **Housing color** | Red |
| **Type of fastening** | Groove mounting |
| | Via optional mounting device |

## Operation and display

| | |
|---|---|
| **Type of display** | LED |
| **Number of LEDs** | 1 Piece(s) |

## Environmental data

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

## Certifications

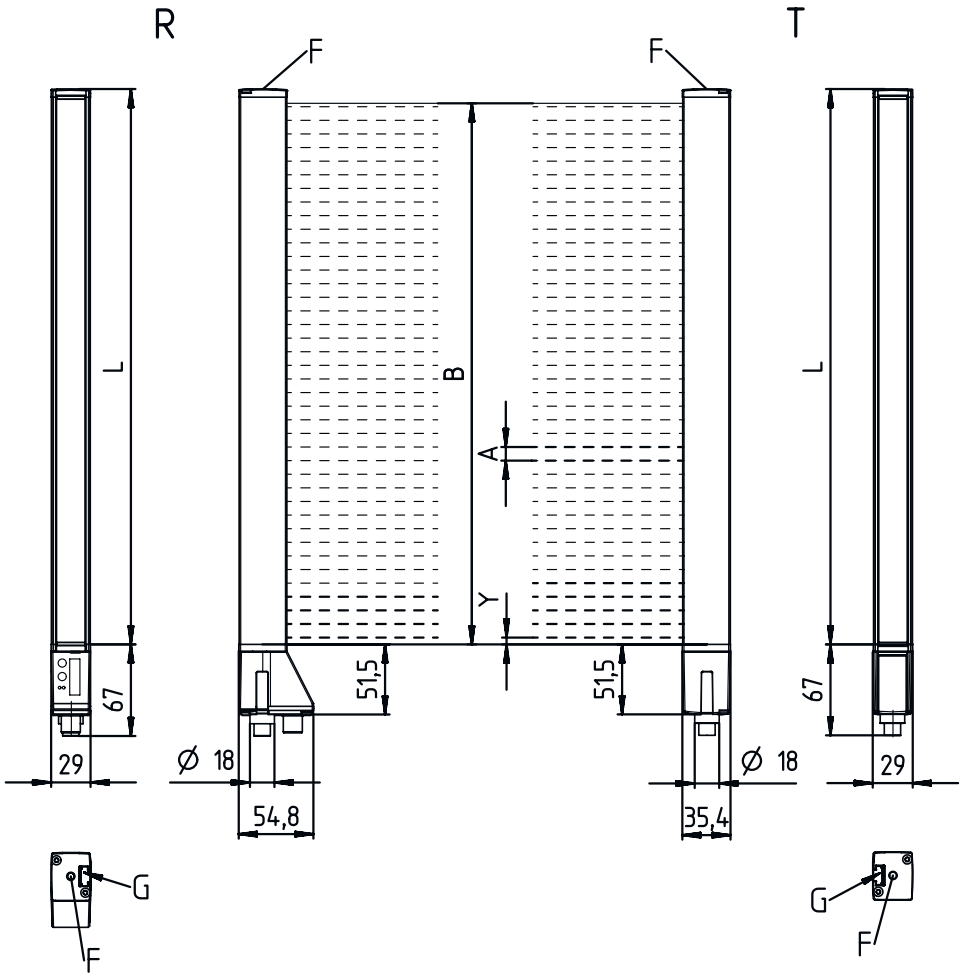
| | |
|---|---|
| **Degree of protection** | IP 65 |
| **Protection class** | III |
| **Certifications** | c CSA US |
| **Standards applied** | IEC 60947-5-2 |

## Classification

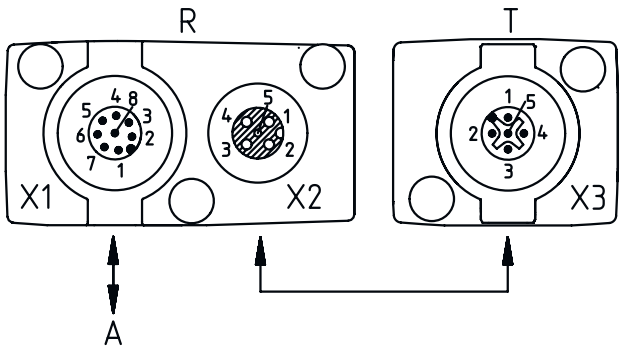
| | |
|---|---|
| **Customs tariff number** | 90314990 |
| **eCl@ss 8.0** | 27270910 |
| **eCl@ss 9.0** | 27270910 |
| **ETIM 5.0** | EC002549 |
| **ETIM 6.0** | EC002549 |

# Dimensioned drawings

All dimensions in millimeters




| | | | |
|---|---|---|---|
| A | Beam spacing 20 mm | L | Profile length 1608 mm |
| B | Measurement field length 1590 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | |



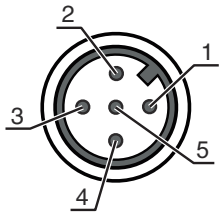

A PWR / SW IN/OUT

# Electrical connection

## Connection 1

| | |
|---|---|
| **Function** | Connection to receiver |
| | Sync-input |
| | Voltage supply |
| **Type of connection** | Connector |
| **Thread size** | M12 |
| **Type** | Male |
| **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 | Continuous mode |
| | Off | No communication with the receiver / waiting for trigger |
| | green, flashing in sync with the measurement | Measurement frequency display |

# Suitable receivers

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
|  | 50128957 | CSL710-R20-1590.A/L-M12 | Light curtain receiver | Application: Precise object detection<br>Special design: Parallel-beam scanning, Crossed-beam scanning, Diagonal-beam scanning<br>Operating range: 0.3 ... 7 m<br>Selectable inputs/outputs: 4 Piece(s)<br>Service interface: IO-Link<br>Connection: Connector, M12, 8 -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 |

# Part number code

| | |
|---|---|
| **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!**

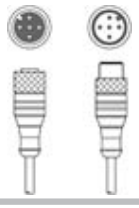
- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

**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 - 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 |

# Accessories

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