

## Technical data sheet

### Light curtain transmitter

Part no.: 50129012  
CSL710-T05-2960.A-M12

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For illustration purposes only



## Technical data

### Basic data

|                     |                          |
|---------------------|--------------------------|
| Series              | 710                      |
| Operating principle | Throughbeam principle    |
| Device type         | Transmitter              |
| Application         | Precise object detection |

### Special version

|                 |                        |
|-----------------|------------------------|
| Special version | Crossed-beam scanning  |
|                 | Diagonal-beam scanning |
|                 | Parallel-beam scanning |

### Characteristic parameters

#### Optical data

|                          |                                           |
|--------------------------|-------------------------------------------|
| Operating range          | 0.1 ... 3.5 m, Guaranteed operating range |
| Operating range limit    | 0.1 ... 4.5 m                             |
| Operating range limit    | Typical operating range                   |
| Measurement field length | 2,960 mm                                  |
| Number of beams          | 592 Piece(s)                              |
| Beam spacing             | 5 mm                                      |
| Light source             | LED, Infrared                             |
| Wavelength               | 940 nm                                    |
| Transmitted-signal shape | Pulsed                                    |

#### Measurement data

|                         |       |
|-------------------------|-------|
| Minimum object diameter | 10 mm |
|-------------------------|-------|

#### Electrical data

|                         |                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| Protective circuit      | Polarity reversal protection                                                                           |
|                         | Short circuit protected                                                                                |
|                         | Transient protection                                                                                   |
| <b>Performance data</b> |                                                                                                        |
| Supply voltage $U_B$    | 18 ... 30 V, DC                                                                                        |
| Residual ripple         | 0 ... 15 %, From $U_B$                                                                                 |
| Open-circuit current    | 0 ... 600 mA, The specified values refer to the entire package consisting of transmitter and receiver. |

#### Time behavior

|                 |          |
|-----------------|----------|
| Readiness delay | 400 ms   |
| Cycle time      | 18.16 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 3,033 mm   |
| Housing material      | Metal                        |
| Metal housing         | Aluminum                     |
| Lens cover material   | Plastic / PMMA               |
| Net weight            | 2,950 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 |

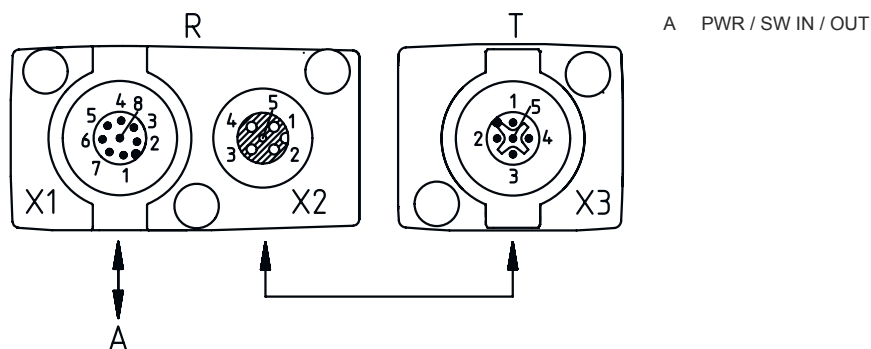
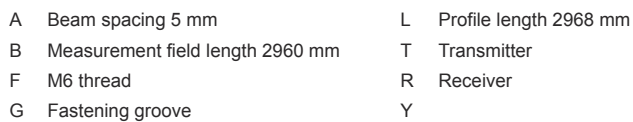
### Certifications

|                      |               |
|----------------------|---------------|
| Degree of protection | IP 65         |
| Protection class     | III           |
| Approvals            | c UL US       |
| Standards applied    | IEC 60947-5-2 |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 90314990 |
| ECLASS 5.1.4          | 27270910 |
| ECLASS 8.0            | 27270910 |
| ECLASS 9.0            | 27270910 |
| ECLASS 10.0           | 27270910 |
| ECLASS 11.0           | 27270910 |
| ECLASS 12.0           | 27270910 |
| ECLASS 13.0           | 27270910 |
| ECLASS 14.0           | 27270910 |
| ECLASS 15.0           | 27270910 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |
| ETIM 7.0              | EC002549 |
| ETIM 8.0              | EC002549 |
| ETIM 9.0              | EC002549 |
| ETIM 10.0             | EC002549 |

All dimensions in millimeters

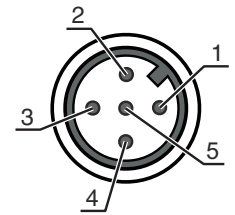


## Electrical connection

### 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                 | Operating range<br>Operating range<br>limit | Description                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------|----------|-----------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50128924 | CSL710-R05-2960.A/<br>L-M12 | 0.1 ... 3.5 m<br>0.1 ... 4.5 m              | Application: Precise object detection<br>Special version: Parallel-beam scanning, Crossed-beam scanning, Diagonal-beam scanning<br>Operating range: 0.1 ... 3.5 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-XYX-ZZZZ.A/B-CCC**

|               |                                                                                              |
|---------------|----------------------------------------------------------------------------------------------|
| <b>CSL710</b> | <b>Operating principle</b><br>CSL: switching light curtain of the 710 series                 |
| <b>X</b>      | <b>Function classes</b><br>T: transmitter<br>R: receiver                                     |
| <b>YY</b>     | <b>Beam spacing</b><br>05: 5 mm<br>10: 10 mm<br>20: 20 mm<br>40: 40 mm                       |
| <b>ZZZZ</b>   | <b>Measurement field length [mm], dependent on beam spacing</b><br>Value, see technical data |

## Part number code

|            |                                                    |
|------------|----------------------------------------------------|
| <b>A</b>   | <b>Equipment</b><br>A: Axial connector outlet      |
| <b>B</b>   | <b>Interface</b><br>L: IO-Link                     |
| <b>CCC</b> | <b>Electrical connection</b><br>M12: M12 connector |

### 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!



- 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.

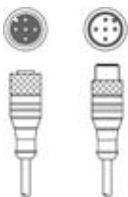
### For UL applications:



- 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: 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 - Mounting brackets

|                                                                                    | Part no. | Designation | Article              | Description                                                                                                                                                 |
|------------------------------------------------------------------------------------|----------|-------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 429393   | BT-2HF      | 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                                                                             |                                                                                                                                  |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|  | <p>A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.</p> |