



Figure can vary

Part no.: 50128895
CSL710-R05-640.A/L-M12
Light curtain receiver



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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 |

| Optical data | |
|--------------------------|----------------------------|
| Operating range | Guaranteed operating range |
| Operating range | 0.1 ... 3.5 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0.1 ... 4.5 m |
| Measurement field length | 640 mm |
| Number of beams | 128 Piece(s) |
| Beam spacing | 5 mm |

| Measurement data | |
|-------------------------|-------|
| Minimum object diameter | 10 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 ... 215 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: ≥ 6 V low: ≤ 4 V |

| Input/output 1 | |
|--------------------------|------------|
| Activation/disable delay | 0 ... 1 ms |

| Timing | |
|------------------------|------------|
| Readiness delay | 400 ms |
| Cycle time | 4.24 ms |
| Response time per beam | 30 μ s |

| Interface | |
|------------------|---------|
| Type | IO-Link |

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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

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

Connection 2

| | |
|--------------------|---------------------------|
| Type of connection | Connector |
| Function | Connection to transmitter |
| 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 713 mm |
| Housing material | Metal , Aluminum |
| Lens cover material | Plastic / PMMA |
| Net weight | 800 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 |

Certifications

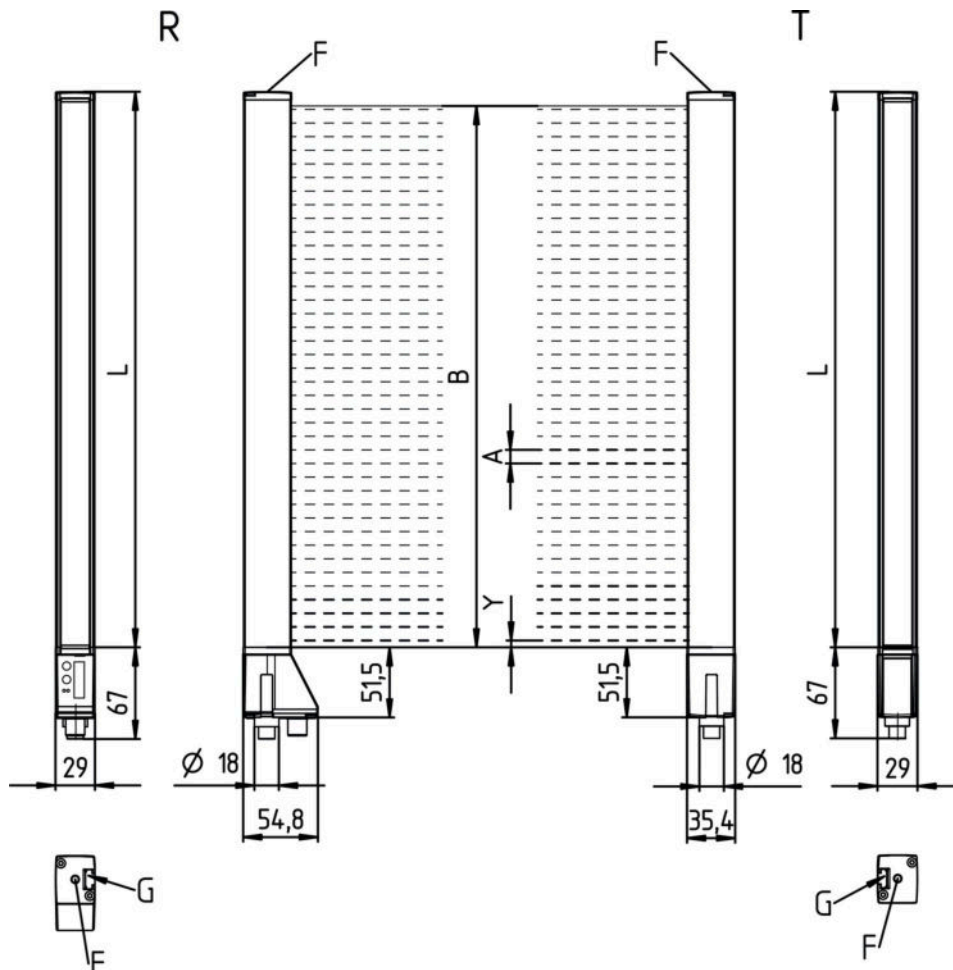
| | |
|----------------------|---------------|
| Degree of protection | IP 65 |
| Protection class | III |
| Certifications | c CSA US |
| Standards applied | IEC 60947-5-2 |

Classification

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

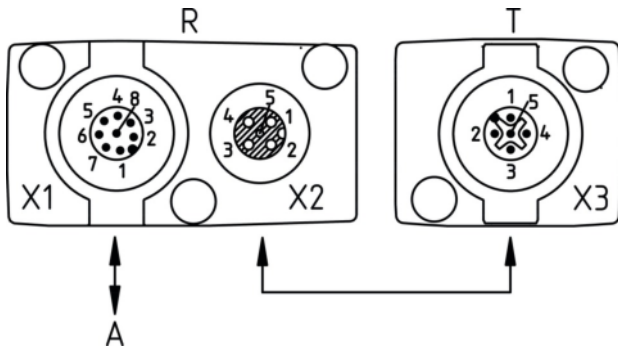
Dimensioned drawings

All dimensions in millimeters



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- A Beam spacing 5 mm
- B Measurement field length 640 mm
- F M6 thread
- G Fastening groove
- L Profile length 648 mm
- T Transmitter
- R Receiver
- Y

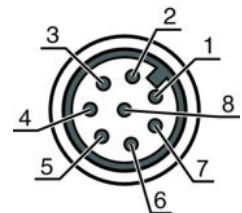


A PWR / SW IN/OUT

Electrical connection

| Connection 1 | |
|--------------------|--|
| Type of connection | Connector |
| Function | Configuration interface Signal IN Signal OUT Voltage supply |
| 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 |

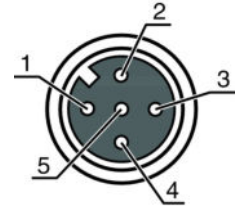


| Connection 2 | |
|--------------------|---------------------------|
| Type of connection | Connector |
| Function | Connection to transmitter |
| Thread size | M12 |
| Type | Female |

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| Connection 2 | |
|--------------|---------|
| 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

LEDs

| 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 |
|---|----------|----------------------|---------------------------|---|
|  | 50128983 | CSL710-T05-640.A-M12 | Light curtain transmitter | Application: Precise object detection Operating range: 0.1 ... 3.5 m Connection: Connector, M12, 5 -pin |

Part number code

Part designation: CSL710-XYX-ZZZZ.A/B-CCC

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

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| | |
|-----|---|
| A | Equipment: A: connector outlet, axial |
| B | Interface: L: IO-Link |
| CCC | Electrical connection: M12: M12 connector |

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


Notes

| |
|---|
| Observe intended use! |
| <ul style="list-style-type: none"> 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: |
| <ul style="list-style-type: none"> 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 Connection 2: Open end Shielded: Yes Cable length: 5,000 mm 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 Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

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Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|---|----------|-------------|----------------------|---|
|  | 429046 | BT-2R1 | Mounting bracket set | Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic |

Note

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