

Technical data sheet Light curtain receiver

Part no.: 50120195

CML720i-R20-2870.R/CV-M12



Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Accessories





Technical data



| as | | |
|----|--|--|
| | | |
| | | |

| Series | 720 | |
|---------------------|---------------------------------------|--|
| Operating principle | Throughbeam principle | |
| Device type | Receiver | |
| Contains | Accessories for the use of the BT-2R1 | |
| Application | Object measurement | |
| | | |

Special version

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

Optical data

| Operating range | 0.3 7 m |
|--------------------------|----------------------------|
| Operating range | Guaranteed operating range |
| Operating range limit | 0.2 9 m |
| Operating range limit | Typical operating range |
| Measurement field length | 2,870 mm |
| Number of beams | 144 Piece(s) |
| Beam spacing | 20 mm |
| | |

Measurement data

| Minimum | object | diameter | 30 mr |
|---------|--------|----------|-------|
|---------|--------|----------|-------|

Electrical data Protective circuit

Polarity reversal protection

Performance data

| Supply voltage U _B | 18 30 V, DC |
|-------------------------------|--|
| Residual ripple | 0 15 %, From U _B |
| Open-circuit current | 0 435 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. |

Outputs

| ı | Number of analog outputs | 2 Piece(s) | |
|---|--------------------------|------------|--|
| | | | |

Analog outputs

| Туре | Analog output |
|---------|---------------|
| Current | 0 24 mA |
| Voltage | 0 11 V |

Analog output 1

| Type | Voltage |
|------|---------|
| | |

Analog output 2

Type Current

Inputs/outputs selectable

| iliputs/outputs selectable | |
|-------------------------------------|---------------------------|
| Output current, max. | 100 mA |
| Input resistance | 6,000 Ω |
| Number of inputs/outputs selectable | 2 Piece(s) |
| Type | Inputs/outputs selectable |
| Voltage type, outputs | DC |
| Switching voltage, outputs | Typ. U _B / 0 V |
| Voltage type, inputs | DC |
| Switching voltage, inputs | high: ≥6V |
| | low: ≤ 4 V |

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

Time behavior

| Readiness delay | 450 ms |
|------------------------|---------|
| Cycle time | 4.72 ms |
| Response time per beam | 30 μs |

Service interface

| Туре | IO-Link |
|----------|----------------------------|
| IO-Link | |
| Function | Configuration via software |
| | Service |

Connection

| Number of connections | 2 Piece(s) |
|-----------------------|------------|
| Plug outlet | Rear side |

Connection 1

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

Connection 2

| Connection 2 | |
|--------------------|---------------------------|
| Function | Connection to transmitter |
| Type of connection | Connector |
| Thread size | M12 |
| Туре | Female |
| 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 2,903 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 2,950 g |
| Housing color | Silver |
| Type of fastening | Groove mounting |
| | Via optional mounting device |

Operation and display

info@leuze.com • www.leuze.com

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

Technical data



Environmental data

| Ambient temperature, operation | -30 60 °C | |
|---------------------------------------|--------------|--|
| Ambient temperature, storage | -40 70 °C | |
| | | |
| Certifications | | |
| | | |
| Degree of protection | IP 65 | |
| Degree of protection Protection class | IP 65 III | |
| | 00 | |
| Protection class | III | |

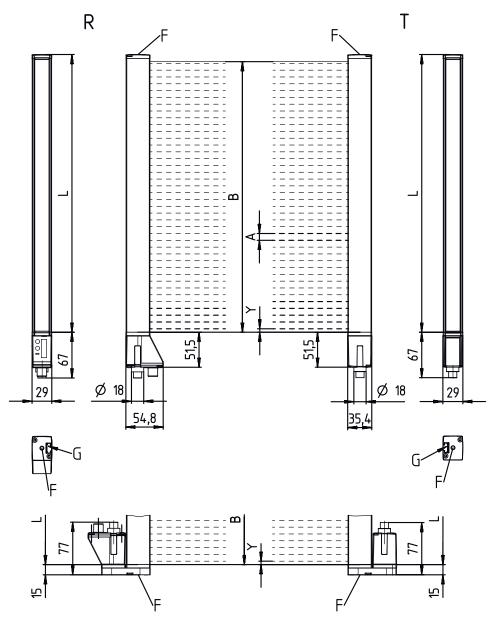
Classification

| 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 |
| | |

Dimensioned drawings



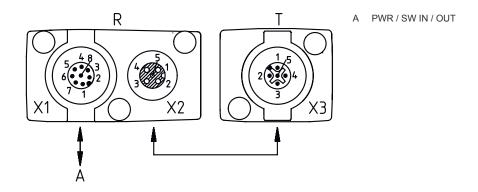
All dimensions in millimeters



- Beam spacing 20 mm
- В Measurement field length 2870 mm
- M6 thread
- Fastening groove
- Profile length 2888 mm
- Transmitter
- Receiver
- 5 mm

Dimensioned drawings



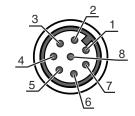


Electrical connection

Connection 1

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

| Pin | Pin assignment |
|-----|----------------|
| 1 | V+ |
| 2 | I/O 1 |
| 3 | GND |
| 4 | IO-Link |
| 5 | I/O 2 |
| 6 | OUT V |
| 7 | OUT mA |
| 8 | AGND |
| | |



Connection 2

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



Leuze electronic GmbH + Co. KG

info@leuze.com • www.leuze.com

We reserve the right to make technical

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 |
|----------|----------------------------|------------------------------|--|
| 50119522 | CML720i-T20- 2870.R-M12 | Light curtain transmitter | Operating range: 0.3 7 m Connection: Connector, M12, Rear side, 5 -pin |

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

| CML | Operating principle Measuring light curtain | | | | | |
|------|---|--|--|--|--|--|
| 7XXi | Series 720i: 720i series 730i: 730i series | | | | | |
| Υ | Device type T: transmitter R: receiver | | | | | |
| ZZ | Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm | | | | | |
| AAAA | Measurement field length [mm], dependent on beam spacing | | | | | |
| В | Equipment A: Axial connector outlet R: Rear connector outlet | | | | | |
| ссс | Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus | | | | | |
| DDD | Special equipment -PS: Power Setting | | | | | |
| EEE | Electrical connection M12: M12 connector | | | | | |
| FFF | -EX: Explosion protection | | | | | |
| | | | | | | |



🕏 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 - 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 Connector, LED: No 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: 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 |

Mounting technology - Mounting brackets

| Part no. | Designation | Article | Description |
|----------|----------------|---------------------|---|
| 50142900 | BT 700M.5-2SET | Mounting device set | Design of mounting device: Bracket mounting Fastening, at system: Through-hole mounting, T slotted hole Mounting bracket, at device: Screw type, Sliding block Type of mounting device: Rigid Material: Steel |

Accessories



Mounting technology - Swivel mounts

| Part no. | Designation | Article | Description |
|----------|-------------|----------------------|---|
| 429029 | BT-2RG | Mounting bracket set | Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic |

Configuration devices

| | Part no. | Designation | Article | Description |
|----|----------|------------------------------|-----------------|--|
| IS | 50121098 | SET MD12-US2-IL1.1 + Zub. | Diagnostics set | Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20 |

Services

| Part no. | Designation | Article | Description |
|----------|-------------|------------------|--|
| S981001 | CS10-S-110 | Start-up support | Details: Performed at location of customer's choosing, duration: max. 10 hours. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses. |
| S981005 | CS10-T-110 | Product training | Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: 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.