

Technical data sheet Light curtain receiver Part no.: 50120199 CML720i-R40-1250.R/CV-M12



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 changes

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 eng • 2024-06-21

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Technical data

Basic data

| Basic data | | |
|-------------------------------------|--|--|
| 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 | 1,250 mm | |
| Number of beams | 31 Piece(s) | |
| Beam spacing | 40 mm | |
| Beam spacing | | |
| Measurement data | | |
| Minimum object diameter | 50 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 trans- mitter and receiver. | |
| | | |
| Outputs | | |
| Number of analog outputs | 2 Piece(s) | |
| Analog outputs | | |
| Туре | Analog output | |
| Current | 0 24 mA | |
| Voltage | 0 11 V | |
| | | |
| Analog output 1 | | |
| Туре | Voltage | |
| | | |
| Analog output 2 | | |
| Туре | Current | |
| | | |
| Inputs/outputs selectable | 400 | |
| Output current, max. | 100 mA | |
| Input resistance | 6,000 Ω | |
| Number of inputs/outputs selectable | | |
| Туре | Inputs/outputs selectable | |
| Voltage type, outputs | DC | |
| Switching voltage, outputs | Typ. U _B / 0 V | |
| Voltage type, inputs | DC | |
| Switching voltage, inputs | high: ≥6V | |
| | $low: \le 4 V$ | |
| | | |

| | Input/output 1 | |
|-----------------|--------------------------------------|------------------------------------|
| | Activation/disable delay | 1 ms |
| | | |
| Tir | me behavior | |
| Readiness delay | | 450 ms |
| - | cle time | 1.33 ms |
| Re | sponse time per beam | 30 µs |
| Se | ervice interface | |
| Ту | pe | IO-Link |
| | IO-Link | |
| | Function | Configuration via software |
| | | Service |
| Co | onnection | |
| Nu | mber of connections | 2 Piece(s) |
| Plu | ug outlet | Rear side |
| | | |
| | 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 |
| | 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 |
| Me | echanical data | |
| _ | sign | Cubic |
| | mension (W x H x L) | 29 mm x 35.4 mm x 1,303 mm |
| | ousing material | Metal |
| | etal housing | Aluminum |
| | ns cover material | Plastic |
| | t weight | 1,500 g |
| | ousing color | Silver |
| | pe of fastening | Groove mounting |
| . , , | , | Via optional mounting device |
| Op | peration and display | |
| Tvi | pe of display | LED |
| | | OLED display |
| | | |
| Nu | mber of LEDs | Z Plece(S) |
| | Imber of LEDs | 2 Piece(s) Software |
| | imber of LEDs pe of configuration | 2 Piece(s) Software Teach-in |

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Technical data

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Environmental data

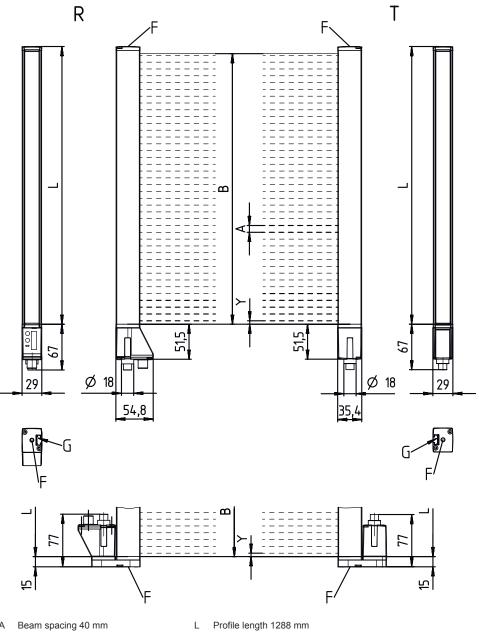
| Ambient temperature, operation | -30 60 °C |
|--------------------------------|-----------|
| Ambient temperature, storage | -40 70 °C |
| Certifications | |

| Degree of protection | IP 65 |
|----------------------|---------------|
| Protection class | III |
| Certifications | c 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 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| ETIM 9.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters



- Beam spacing 40 mm А
- В Measurement field length 1250 mm
- F M6 thread G Fastening groove
- Т R Receiver
 - 5 mm Υ

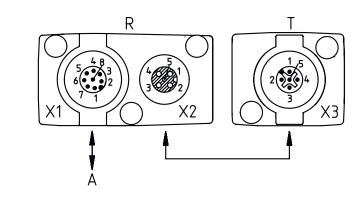
Transmitter

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Dimensioned drawings





A PWR / SW IN / OUT

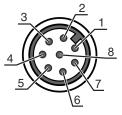
Electrical connection

Connection 1

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



Operation and display

LED 1

2

| urtain receiver • Part no.: 50120199 • CML720i-R40-1250.R/CV-M12 | | Leuze |
|--|--------------------------|--|
| | Display | Meaning |
| | Green, continuous light | Operational readiness |
| | Green, flashing | Teach / error |
| | Yellow, continuous light | Light path free, with function reserve |
| | Yellow, flashing | No function reserve |
| | Off | Object detected |
| | | |

Suitable transmitters

| Part no | o. Designation | Article | Description |
|---------|-----------------|---------------|---|
| 5011952 | 26 CML720i-T40- | Light curtain | Operating range: 0.3 7 m |
| | 1250.R-M12 | transmitter | 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 | |
| Y | Device type T: transmitter R: receiver | |
| 22 | 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 | |
| ccc | 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 | |
| Note | | |
| | | |

Notes

Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ Only use the product in accordance with its intended use.

| | For UL applications: |
|---|--|
| 6 | 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 |
|---|----------|--------------------|------------------|--|
| Ŭ | 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 |
|---|----------|----------------|---------------------|---|
| 1 + 1 + + + + + + + + + + + + + + + + + | 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 |

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Accessories

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Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|-----|----------|-------------|----------------------|---|
| ęę. | 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 |
|--------------|------------------------------|-----------------|--|
| 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 |
|---|--------|
| 6 | ଓ A li |

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