

Technical data sheet Light curtain receiver

Part no.: 50119832

CML720i-R05-2960.A/CV-M12



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Technical data



Basic data

| Series | 720 |
|---------------------|------------------------|
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| Contains | 2x BT-NC sliding block |
| Application | Object measurement |
| | |
| Special version | |

| | Crossed-beam scanning |
|--|------------------------|
| | Diagonal-beam scanning |
| | Parallel-beam scanning |

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 | 2,960 mm |
| Number of beams | 592 Piece(s) |
| Beam spacing | 5 mm |

Measurement data

| Minimum obje | ect diameter | 10 mm |
|--------------|--------------|-------|
|--------------|--------------|-------|

Electrical data Protective circuit

| | Short circuit protected |
|-----|-------------------------|
| | Transient protection |
| B 6 | |

Polarity reversal protection

Performance data

| Supply voltage U _B | 18 30 V, DC |
|-------------------------------|--|
| Residual ripple | 0 15 %, From U _B |
| Open-circuit current | 600 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. |

Outputs

Analog outputs

| Current | 0 24 mA |
|---------|---------|
| Voltage | 0 11 V |

Analog output 1

| туре | voitage |
|------|---------|
| | |

Analog output 2

| Type | Current |
|------|---------|
| | |

| Inputs/outputs selectable | |
|-------------------------------------|---------------------------|
| Output current, max. | 100 mA |
| Input resistance | 6,000 Ω |
| Number of inputs/outputs selectable | 2 Piece(s) |
| 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: ≤4V

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

Timing

| Readiness delay | 450 ms |
|------------------------|----------|
| Cycle time | 18.16 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 | Axial |

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

| 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 3,035 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 3,000 g |
| Housing color | Silver |
| 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 |

Technical data



Environmental data

| Ziivii oiiii oiitai aata | |
|--------------------------------|---------------|
| 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 5.1.4 | 27270910 | |
| eCl@ss 8.0 | 27270910 | |
| eCl@ss 9.0 | 27270910 | |
| eCl@ss 10.0 | 27270910 | |
| eCl@ss 11.0 | 27270910 | |
| ETIM 5.0 | EC002549 | |
| ETIM 6.0 | EC002549 | |
| ETIM 7.0 | EC002549 | |

Dimensioned drawings

Leuze

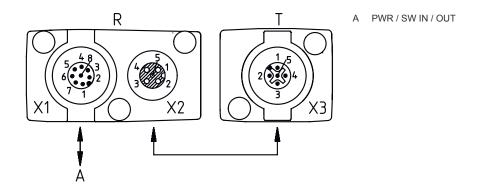
All dimensions in millimeters



- A Beam spacing 5 mm
- B Measurement field length 2960 mm
- F M6 thread
- G Fastening groove
- L Profile length 2968 mm
- T Transmitter
- R Receiver
- Y 2.5 mm

Dimensioned drawings



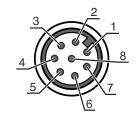


Electrical connection

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 |

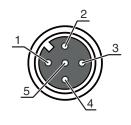
| Pin | Pin assignment |
|-----|----------------|
| 1 | V+ |
| 2 | I/O 1 |
| 3 | GND |
| 4 | IO-Link |
| 5 | I/O 2 |
| 6 | OUT V |
| 7 | OUT mA |
| 8 | AGND |



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- |







| 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 |
|----------|----------------------------|------------------------------|---|
| 50119404 | CML720i-T05- 2960.A-M12 | Light curtain transmitter | Operating range: 0.1 3.5 m Connection: Connector, M12, Axial, 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: connector outlet, axial 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



☼ 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 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 |

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 |
|----|----------|-------------|----------------------|---|
| R. | 429046 | BT-2R1 | 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 |
|-----|----------|------------------------------|-----------------|--|
| 165 | 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. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment. |
| 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. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure. |

Note



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