

Technical data sheet Light curtain receiver Part no.: 50119679 CML720i-R40-290.A/CN-M12



 Leuze electronic GmbH + Co. KG

 The Sensor People
 In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com In der Braike 1, 73277 Owen Phone: +49 7021 573-0 • Fax: +49 7021 573-199

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Technical data

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| Series | 720 |
|-------------------------------------|--|
| eries Operating principle | 720 Throughbeam principle |
| evice type | Receiver |
| Contains | 2x BT-NC sliding block |
| pplication | Object measurement |
| | |
| pecial version | |
| pecial version | Crossed-beam scanning |
| | Diagonal-beam scanning |
| | Parallel-beam scanning |
| ptical data | |
| perating range | Guaranteed operating range |
| perating range | 0.3 7 m |
| perating range limit | Typical operating range |
| perating range limit | 0.2 9 m |
| leasurement field length | 290 mm |
| lumber of beams | 7 Piece(s) |
| eam spacing | 40 mm |
| locouroment data | |
| leasurement data | 50 |
| inimum object diameter | 50 mm |
| lectrical data | |
| rotective 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 | 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. |
| | |
| Inputs/outputs selectable | 100 |
| Output current, max. | 100 mA |
| Input resistance | 6,000 Ω |
| Number of inputs/outputs selectable | Inputs/outputs selectable |
| Type Voltage type, outputs | DC |
| Switching voltage, outputs | Typ. U _B / 0 V |
| Voltage type, inputs | DC |
| Switching voltage, inputs | high: ≥6V |
| | $low: \leq 4 V$ |
| | |
| Input/output 1 | |
| Activation/disable delay | 1 ms |
| me behavior | |
| eadiness delay | 450 ms |
| ycle time | 1 ms |
| esponse time per beam | 30 µs |
| nterface | |
| | |
| vpe | CANopen |
| ире | CANopen |
| CANopen | |
| vpe CANopen Function | CANopen Process |

| Service interface | | | | |
|------------------------------|-------------------------------|------------------------------|--|--|
| Туре | | IO-Link | | |
| | IO-Link | | | |
| | Function | Configuration via software | | |
| | | Service | | |
| C | onnection | | | |
| Nı | umber of connections | 2 Piece(s) | | |
| PI | ug outlet | Axial | | |
| | Connection 1 | | | |
| | Function | Configuration interface | | |
| | | Connection to transmitter | | |
| | | 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 | BUS IN | | |
| | Function | BUS OUT | | |
| | Type of connection | Connector | | |
| | Thread size | M12 | | |
| | Туре | Female | | |
| | Material | Metal | | |
| | No. of pins | 5 -pin | | |
| | Encoding | A-coded | | |
| М | echanical data | | | |
| De | esign | Cubic | | |
| | mension (W x H x L) | 29 mm x 35.4 mm x 395 mm | | |
| | ousing material | Metal | | |
| M | etal housing | Aluminum | | |
| Le | ens cover material | Plastic | | |
| Ne | et weight | 550 g | | |
| | ousing color | Silver | | |
| Ту | pe of fastening | Groove mounting | | |
| | | Via optional mounting device | | |
| 0 | peration and display | | | |
| Ту | pe of display | LED | | |
| | | OLED display | | |
| | umber of LEDs | 2 Piece(s) | | |
| Ту | pe of configuration | Software | | |
| ~ | | Teach-in | | |
| 0 | perational controls | Membrane keyboard | | |
| E | nvironmental data | | | |
| A | nbient temperature, operation | -30 60 °C | | |
| Ambient temperature, storage | | -40 70 °C | | |
| | | | | |

Technical data

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Certifications

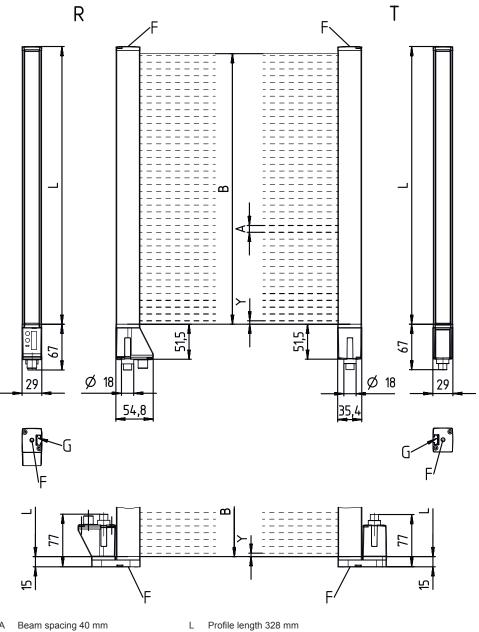
| Degree of protection | IP 65 |
|----------------------|---------------|
| Protection class | III |
| Certifications | c CSA US |
| Standards applied | IEC 60947-5-2 |

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 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters



Beam spacing 40 mm А

- В Measurement field length 290 mm
- F M6 thread G Fastening groove

R Receiver

Т

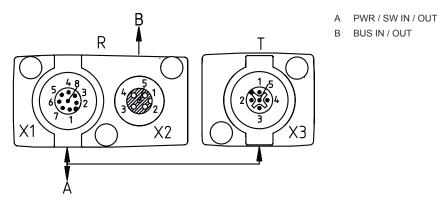
Υ 5 mm

Transmitter

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Dimensioned drawings





Electrical connection

Connection 1

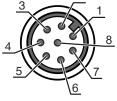
| Function | Configuration interface |
|--------------------|---------------------------|
| | Connection to transmitter |
| | Signal IN |
| | Signal OUT |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Туре | Male |
| Material | Metal |
| No. of pins | 8 -pin |
| Encoding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

Pin Pin assignment

| 1 | V+ | | |
|---|------------|--|--|
| 2 | I/O 1 | | |
| 3 | GND | | |
| 4 | IO-Link | | |
| 5 | I/O 2 | | |
| 6 | RS 485 Tx- | | |
| 7 | RS 485 Tx+ | | |
| 8 | FE/SHIELD | | |
| | | | |



| Function | BUS IN |
|--------------------|-----------|
| | BUS OUT |
| Type of connection | Connector |
| Thread size | M12 |
| Туре | Female |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | A-coded |



Electrical connection

| Pin | Pin assignment | |
|-----|----------------|----------|
| 1 | FE/SHIELD | 1 |
| 2 | n.c. | |
| 3 | CAN GND | |
| 4 | CAN H | |
| 5 | CAN L | <u> </u> |

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 |
|--------------|---------------------------|------------------------------|---|
| 50119441 | CML720i-T40-290.A- M12 | Light curtain transmitter | Operating range: 0.3 7 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 |
| 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 |

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Part number code



| DDD | Special equipment -PS: Power Setting |
|-----|--|
| EEE | Electrical connection M12: M12 connector |
| FFF | -EX: Explosion protection |
| | Note |
| A | ∜ 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:

b 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 |
|--------------|------------------------|------------------|---|
| 50132079 | KD U-M12-5A-V1- 050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC |

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 |

Accessories

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Connection technology - Y distribution cables

| | Part no. | Designation | Article | Description |
|--|----------|-----------------------------|-----------------------|---|
| | 50118183 | K-Y1 M12A-5m- M12A-S-PUR | Interconnection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Female, A-coded, 8 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 150 mm Sheathing material: PUR |
| | 50118185 | K-YCN M12A-M12A- S-PUR | Interconnection cable | Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR |

Connection technology - Terminating resistors

| Part no. | Designation | Article | Description |
|--------------|-------------|-----------------|---|
| 50040099 | TS 01-5-SA | Terminator plug | Suitable for: DeviceNet, CANopen Function: Bus termination Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin |

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 |

Services

| | Part no. | Designation | Article | Description |
|---------|----------|-------------|------------------|---|
| y; U | 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. |

Accessories





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