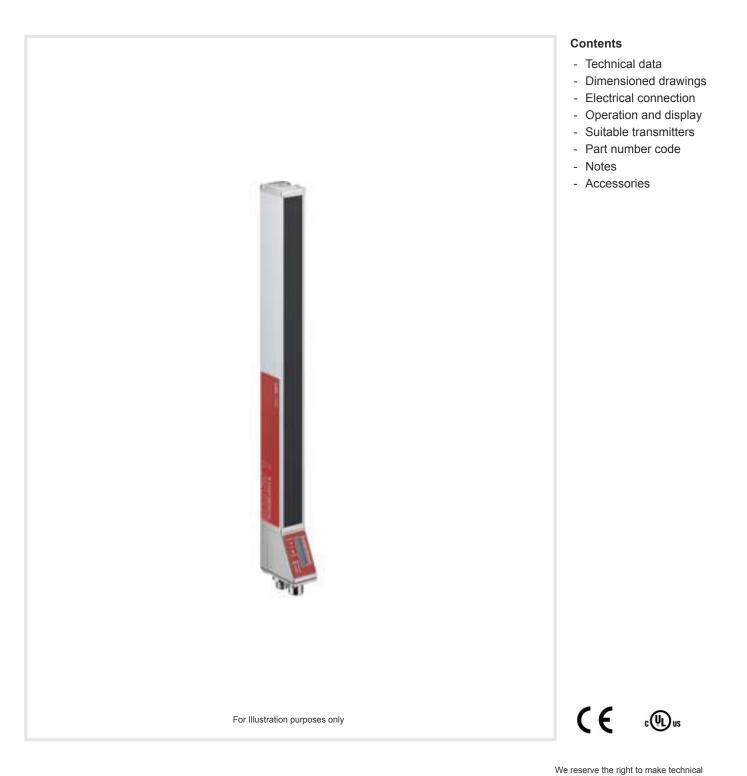


Technical data sheet Light curtain receiver Part no.: 50119647 CML720i-R10-800.A/CN-M12



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 changes

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 eng • 2025-04-04

Technical data

Leuze

| Series | 720 |
|----------------------------------------------------|--------------------------------------------------------------------|
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| Contains | 2x BT-NC sliding block |
| pplication | Object measurement |
| pecial version | |
| pecial version | Crossed-beam scanning |
| | Diagonal-beam scanning |
| | Parallel-beam scanning |
| optical data | |
| perating range | 0.3 7 m |
| perating range | Guaranteed operating range |
| perating range limit | 0.2 9 m |
| perating range limit | Typical operating range |
| leasurement field length | 800 mm |
| lumber of beams | 80 Piece(s) |
| Beam spacing | 10 mm |
| | |
| leasurement data | |
| linimum object diameter | 20 mm |
| lectrical data | |
| 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 | 0 215 mA, The specified values refer |
| | to the entire package consisting of trans- mitter and receiver. |
| | |
| Inputs/outputs selectable | |
| Output current, max. | 100 mA |
| Input resistance | 6,000 Ω |
| Number of inputs/outputs selectable | |
| Type | Inputs/outputs selectable |
| Voltage type, outputs | |
| Switching voltage, outputs Voltage type, inputs | Typ. U _B / 0 V DC |
| Switching voltage, inputs | high: ≥6V |
| | low: ≤ 4 V |
| | |
| Input/output 1 | 1 |
| Activation/disable delay | 1 ms |
| ime behavior | |
| eadiness delay | 450 ms |
| ycle time | 2.8 ms |
| esponse time per beam | 30 µs |
| nterface | |
| | |
| /pe | CANopen |
| rpe | CANopen |
| /pe CANopen Function | CANopen Process |

| S | ervice interface | |
|------|----------------------------------|------------------------------|
| Туре | | IO-Link |
| | IO-Link | |
| | Function | Configuration via software |
| | | Service |
| С | onnection | |
| N | umber of connections | 2 Piece(s) |
| Ρ | lug 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 |
| | | BUSOUT |
| | Type of connection | Connector |
| | Thread size | M12 |
| | Туре | Female |
| | Material | Metal |
| | No. of pins | 5 -pin A-coded |
| | Encoding | A-coded |
| N | lechanical data | |
| D | esign | Cubic |
| | imension (W x H x L) | 29 mm x 35.4 mm x 875 mm |
| | ousing material | Metal |
| | etal housing | Aluminum |
| | ens cover material | Plastic |
| | et weight | 1,000 g |
| | ousing color ype of fastening | Silver Groove mounting |
| 13 | ype of fastering | Via optional mounting device |
| | ware the second attended | via optional mounting device |
| 0 | peration and display | |
| Ty | ype of display | LED |
| | | OLED display |
| | umber of LEDs | 2 Piece(s) |
| Ty | ype of configuration | Software |
| | | Teach-in |
| 0 | perational controls | Membrane keyboard |
| E | nvironmental data | |
| Α | mbient temperature, operation | -30 60 °C |
| | mbient temperature, storage | -40 70 °C |
| | - | |

Technical data

Certifications

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

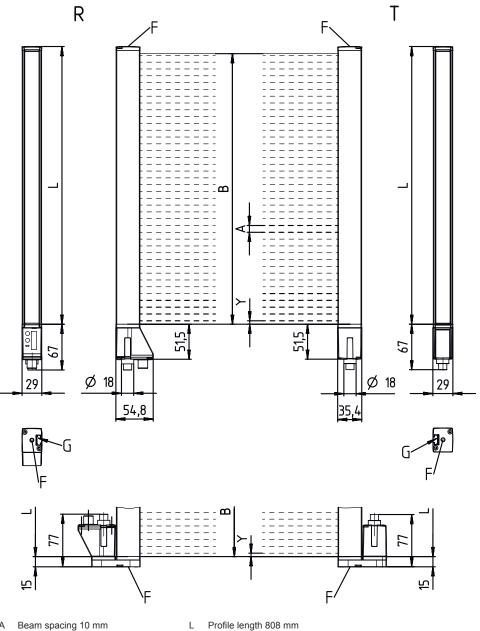
Classification

| 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 |
| 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 10 mm А

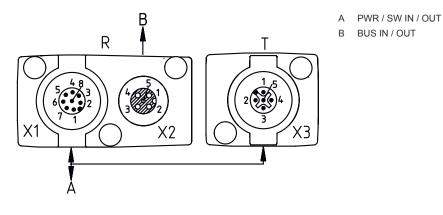
- В Measurement field length 800 mm
- F M6 thread G Fastening groove
- Transmitter Т R Receiver
- Υ 5 mm

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Dimensioned drawings





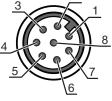
Electrical connection

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 | | |
| | | | |



Connection 2

| 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 | $-\sqrt{\frac{2}{2}}$ |
|-----|----------------|-----------------------|
| 1 | FE/SHIELD | 1 |
| 2 | n.c. | |
| 3 | CAN GND | |
| 4 | CAN H | |
| 5 | CAN L | |

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 |
|--------------|---------------------------|------------------------------|-----------------------------------------------------------------------|
| 50119409 | CML720i-T10-800.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 |



Part number code



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

Leuze

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 |
|---------|----------|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ц. С | 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. |

Accessories





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