

Technical data sheet Light curtain receiver Part no.: 50119723 CML720i-R05-720.A/L-M12



1/8

Technical data

| Series | 720 |
|-------------------------------------|--|
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| Contains | 2x BT-NC sliding block |
| Application | Object measurement |
| Special version | |
| Special version | Crossed-beam scanning |
| | Diagonal-beam scanning |
| | Parallel-beam scanning |
| Optical data | |
| Operating range | 0.1 3.5 m |
| Operating range | Guaranteed operating range |
| Operating range limit | 0.1 4.5 m |
| Operating range limit | Typical operating range |
| Measurement field length | 720 mm |
| Number of beams | 144 Piece(s) |
| Beam spacing | 5 mm |
| | |
| Measurement data | |
| Minimum object diameter | 10 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 | 0 215 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 | DC |
| Switching voltage, outputs | Typ. U _B / 0 V |
| Voltage type, inputs | DC |
| Switching voltage, inputs | high: ≥6V |
| · e | $low: \leq 4 V$ |
| | |
| Input/output 1 | |
| Activation/disable delay | 0 1 ms |
| Time behavior | |
| Readiness delay | 400 ms |
| Cycle time | 4.72 ms |
| Response time per beam | 30 µs |
| Interface | |
| Туре | IO-Link |
| · / F - | |

| COM mode | COM2 | | | | | | |
|--|--|--|--|--|--|--|--|
| Min. cycle time | COM2 = 2.3 ms | | | | | | |
| Specification | V1.0.1 | | | | | | |
| | V1.1 | | | | | | |
| ervice interface | | | | | | | |
| уре | IO-Link | | | | | | |
| IO-Link | | | | | | | |
| Function | Configuration via software | | | | | | |
| | Service | | | | | | |
| connection | | | | | | | |
| umber of connections | 2 Piece(s) | | | | | | |
| lug outlet | Axial | | | | | | |
| | | | | | | | |
| Connection 1 | Configuration into f | | | | | | |
| 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 | | | | | | |
| lechanical data | | | | | | | |
| esign | Cubic | | | | | | |
| imension (W x H x L) | 29 mm x 35.4 mm x 795 mm | | | | | | |
| | | | | | | | |
| ousing material | Metal | | | | | | |
| letal housing | Aluminum | | | | | | |
| • | | | | | | | |
| letal housing | Aluminum | | | | | | |
| letal housing ens cover material | Aluminum Plastic | | | | | | |
| letal housing ens cover material et weight | Aluminum Plastic 950 g Silver Groove mounting | | | | | | |
| letal housing ens cover material et weight ousing color | Aluminum Plastic 950 g Silver | | | | | | |
| letal housing ens cover material et weight ousing color | Aluminum Plastic 950 g Silver Groove mounting | | | | | | |
| letal housing ens cover material let weight ousing color ype of fastening | Aluminum Plastic 950 g Silver Groove mounting | | | | | | |
| letal housing ens cover material et weight ousing color ype of fastening Operation and display | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device | | | | | | |
| letal housing ens cover material et weight ousing color ype of fastening Operation and display | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device | | | | | | |
| letal housing ens cover material et weight ousing color ype of fastening Operation and display | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device LED OLED display | | | | | | |
| letal housing ens cover material let weight lousing color ype of fastening Operation and display ype of display umber of LEDs | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) | | | | | | |
| letal housing ens cover material let weight lousing color ype of fastening Operation and display ype of display umber of LEDs | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software | | | | | | |
| letal housing ens cover material let weight lousing color ype of fastening Operation and display ype of display umber of LEDs ype of configuration | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in | | | | | | |
| letal housing ens cover material et weight lousing color ype of fastening Operation and display ype of display umber of LEDs ype of configuration | Aluminum Plastic 950 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in | | | | | | |

Technical data

Certifications

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

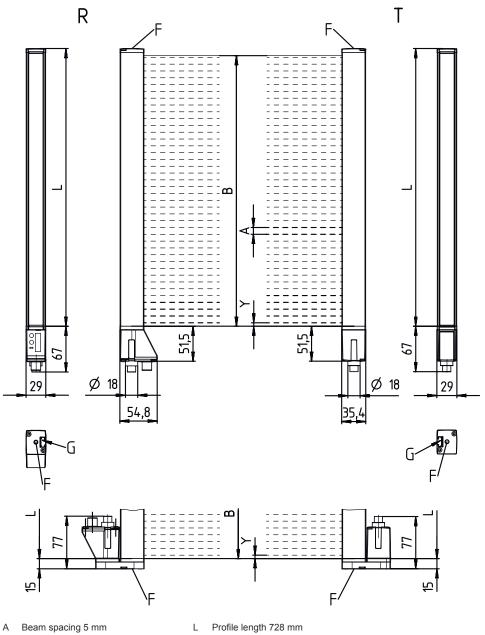
Classification

| 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



В Measurement field length 720 mm

Fastening groove

M6 thread

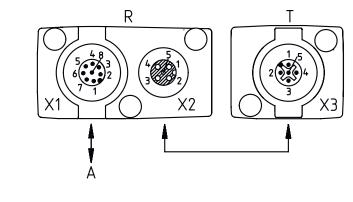
F

G

- Transmitter Т
 - Receiver
- R
- Υ 2.5 mm

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 IO1 3 GND 4 IO-Link 5 IO2 6 IO3 7 IO4 | | |
|--|---|---------|
| 3 GND 4 IO-Link 5 IO2 6 IO3 | 1 | V+ |
| 4 IO-Link 5 IO2 6 IO3 | 2 | IO1 |
| 5 IO2 6 IO3 | 3 | GND |
| 6 IO3 | 4 | IO-Link |
| | 5 | IO2 |
| 7 104 | 6 | IO3 |
| 1 104 | 7 | IO4 |
| 8 GND | 8 | GND |



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 | 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 |
|--------------|---------------------------|------------------------------|---|
| 50119376 | CML720i-T05-720.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 | | | | | |
| Y | 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 | | | | | |
| 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 wi | th all available device types can be found on the Leuze website at www.leuze.com. | | | | | |

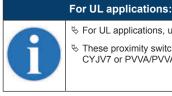
Notes

Observe intended use!

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

b The product may only be put into operation by competent persons.

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



| Ŀ, | For UL | appli | catior | ns, use | is only pe | rmitted in Cla | ass 2 circuits | in accordance | with the NEC (N | lational | 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 unit

| | Part no. | Designation | Article | Description |
|------------|----------|---------------------------|----------------|--|
| C. LEATING | 50144900 | MD 798i-11-82/L5- 2222 | IO-Link master | Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K |

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 |

Leuze

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 |

Configuration devices

Accessories

| 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

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