

Technical data sheet Light curtain receiver Part no.: 50122889 CML720i-R05-1360.R/PB-M12



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 changes

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Technical data

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| 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 | 0.1 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 | 1,360 mm |
| Number of beams | 272 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 | 0 270 mA, The specified values refer to the entire package consisting of trans mitter and receiver. |
| | |
| Inputs/outputs selectable | 100 mA |
| Output current, max. | |
| 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 |
| | low: ≤ 4 V |
| | |
| | |
| Input/output 1 | 4 |
| Input/output 1 Activation/disable delay | 1 ms |
| Activation/disable delay | 1 ms |
| Activation/disable delay | 1 ms 8.56 ms |
| Activation/disable delay Time behavior Cycle time | |
| Activation/disable delay Time behavior Cycle time Response time per beam | 8.56 ms |
| Activation/disable delay Time behavior | 8.56 ms |
| Activation/disable delay Time behavior Cycle time Response time per beam Interface | 8.56 ms 30 μs |
| Activation/disable delay Time behavior Cycle time Response time per beam Interface Type PROFIBUS DP | 8.56 ms 30 μs PROFIBUS DP |
| Activation/disable delay Time behavior Cycle time Response time per beam Interface Type | 8.56 ms 30 μs |

| Type IO-Link Function Connection Number of connections Plug outlet Connection 1 | IO-Link Configuration via software Service 2 Piece(s) Rear side Configuration interface |
|---|--|
| Function Connection Number of connections Plug outlet | Service 2 Piece(s) Rear side |
| Function Connection Number of connections Plug outlet | Service 2 Piece(s) Rear side |
| Number of connections Plug outlet | 2 Piece(s) Rear side |
| Number of connections Plug outlet | Rear side |
| Plug outlet | Rear side |
| 0 | Rear side |
| Connection 1 | Configuration interface |
| Connection 1 | Configuration interface |
| | Configuration interface |
| Function | • · · · · · · · · |
| | Connection to transmitter |
| | Signal IN |
| | Signal OUT |
| Type of connection | Voltage supply Connector |
| Type of connection Thread size | M12 |
| Туре | Male |
| Material | Metal |
| No. of pins | 8 -pin |
| Encoding | A-coded |
| | |
| Connection 2 | |
| Function | BUS IN |
| | BUS OUT |
| Type of connection | Connector |
| Thread size | M12 |
| Туре | Female |
| Material | Metal |
| No. of pins | 5 -pin B-coded |
| Encoding | B-coded |
| Mechanical data | |
| Design | Cubic |
| Dimension (W x H x L) | 29 mm x 35.4 mm x 1,383 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 1,550 g |
| Housing color Type of fastening | Silver |
| Type of fastering | Groove mounting Via optional mounting device |
| | 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 |
| Environmental data | |
| Ambient temperature, operation | -30 60 °C |
| Ambient 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 |

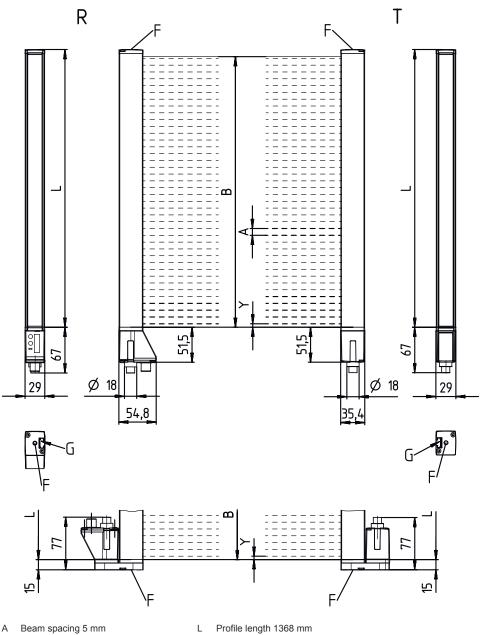
Classification

| 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

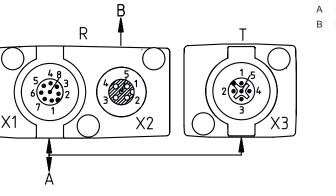


- Beam spacing 5 mm А
- В Measurement field length 1360 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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Dimensioned drawings





A PWR / SW IN / OUTB BUS IN / OUT

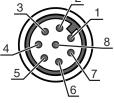
Electrical connection

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 | B-coded |

Electrical connection

PinPin assignment1V+2Tx-3PB GND4Tx+5FE/SHIELD

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 |
|--------------|----------------------------|------------------------------|---|
| 50119465 | CML720i-T05- 1360.R-M12 | Light curtain transmitter | Operating range: 0.1 3.5 m 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 |



Part number code



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

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Accessories

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 |

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