

Technical data sheet

Light curtain transmitter

Part no.: 50119506
CML720i-T20-310.R-M12



For illustration purposes only

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Technical data

Basic data

| | |
|---------------------|---------------------------------------|
| Series | 720 |
| Operating principle | Throughbeam principle |
| Device type | Transmitter |
| 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 | 0.3 ... 7 m |
| Operating range | Guaranteed operating range |
| Operating range limit | 0.2 ... 9 m |
| Operating range limit | Typical operating range |
| Measurement field length | 310 mm |
| Number of beams | 16 Piece(s) |
| Beam spacing | 20 mm |
| Light source | LED, Infrared |
| Wavelength | 940 nm |

Measurement data

| | |
|-------------------------|-------|
| Minimum object diameter | 30 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 ... 135 mA, The specified values refer to the entire package consisting of transmitter and receiver. |

Time behavior

| | |
|-----------------|--------|
| Readiness delay | 450 ms |
| Cycle time | 1 ms |

Connection

| | |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
| Plug outlet | Rear side |

Connection 1

| | |
|--------------------|------------------------|
| Function | Connection to receiver |
| | Sync-input |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| 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 343 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 550 g |
| Housing color | Silver |
| Type of fastening | Groove mounting |
| | Via optional mounting device |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 1 Piece(s) |

Environmental data

| | |
|--------------------------------|---------------|
| Ambient temperature, operation | -30 ... 60 °C |
| Ambient temperature, storage | -40 ... 70 °C |

Certifications

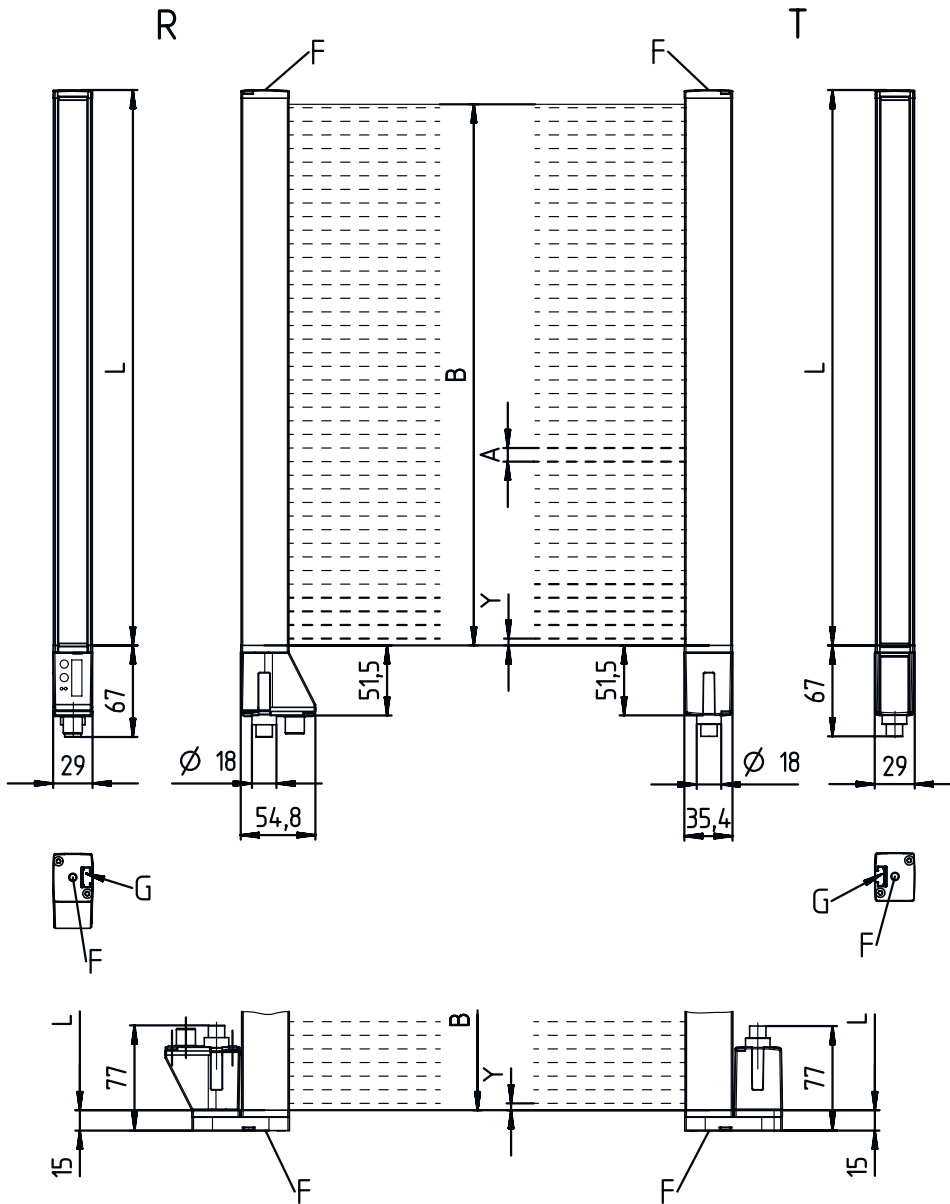
| | |
|----------------------|---------------|
| Degree of protection | IP 65 |
| Protection class | III |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

Classification

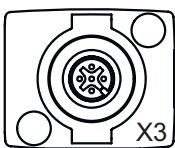
| | |
|-----------------------|----------|
| Customs tariff number | 90314990 |
| ECLASS 5.1.4 | 27270910 |
| ECLASS 8.0 | 27270910 |
| ECLASS 9.0 | 27270910 |
| ECLASS 10.0 | 27270910 |
| ECLASS 11.0 | 27270910 |
| ECLASS 12.0 | 27270910 |
| ECLASS 13.0 | 27270910 |
| ECLASS 14.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| ETIM 9.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters



- | | | | |
|---|---------------------------------|---|-----------------------|
| A | Beam spacing 20 mm | L | Profile length 328 mm |
| B | Measurement field length 310 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | 5 mm |

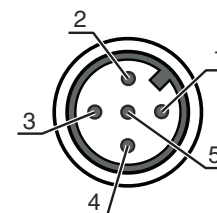


Electrical connection

Connection 1

| | |
|--------------------|--|
| Function | Connection to receiver Sync-input Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| 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 | Continuous mode |
| | Off | No communication with the receiver / waiting for trigger |
| | green, flashing in sync with the measurement | Measurement frequency display |

Suitable receivers

| | Part no. | Designation | Article | Description |
|--|----------|------------------------------|------------------------|---|
| | 50119960 | CML720i-R20-310.R/ CN-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Interface: CANopen Connection: Connector, M12, Rear side, 8 -pin |
| | 50120179 | CML720i-R20-310.R/ CV-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Analog outputs: 2 Piece(s), Voltage, Current Connection: Connector, M12, Rear side, 8 -pin |
| | 50123631 | CML720i-R20-310.R/ D3-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Interface: RS 485 Modbus Connection: Connector, M12, Rear side, 8 -pin |
| | 50120095 | CML720i-R20-310.R/ L-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Interface: IO-Link Connection: Connector, M12, Rear side, 8 -pin |

Suitable receivers

| | Part no. | Designation | Article | Description |
|--|----------|------------------------------|------------------------|---|
| | 50123034 | CML720i-R20-310.R/ PB-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Interface: PROFIBUS DP Connection: Connector, M12, Rear side, 8 -pin |
| | 50131977 | CML720i-R20-310.R/ PN-M12 | Light curtain receiver | Operating range: 0.3 ... 7 m Interface: PROFINET Connection: Connector, M12, Rear side, 8 -pin |

Part number code

Part designation: CML7XXi-YYZ-AAAA.BCCDDDD-EEEEFF

| | |
|-------------|--|
| 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 |
| B | 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 with all available device types can be found on the Leuze website at www.leuze.com.

Notes

| | |
|------------------------------|---|
| Observe intended use! | |
| | <ul style="list-style-type: none"> ⌘ 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: | |
| | <ul style="list-style-type: none"> ⌘ 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 - 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 |

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 |
|--|----------|-------------|----------------------|---|
| | 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 |

Accessories

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 |
|--|----------|-------------|------------------|--|
|  | 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



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