

Technical data sheet Light curtain receiver Part no.: 50119773 CML720i-R20-630.A/L-M12



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Technical data

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| 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 | Guaranteed operating range | |
| Operating range | 0.3 7 m | |
| Operating range limit | Typical operating range | |
| Operating range limit | 0.2 9 m | |
| Measurement field length | 630 mm | |
| Number of beams | 32 Piece(s) | |
| Beam spacing | 20 mm | |
| Measurement data | | |
| Measurement data Minimum object diameter | 30 mm | |
| winning object grameter | JU IIIII | |
| Electrical data | | |
| Protective circuit | Polarity reversal protection | |
| | Short circuit protected | |
| | Transient protection | |
| Deuferman et d | | |
| Performance data | 18 30 V DC | |
| Supply voltage U _B | 18 30 V, DC | |
| Residual ripple Open-circuit current | 0 15 %, From U_B 0 165 mA, The specified values refer | |
| open-circuit current | to the entire package consisting of trans mitter and receiver. | |
| | | |
| Innuts/outnuts selectable | | |
| Inputs/outputs selectable Output current, max. | 100 mA | |
| Output current, max. | 100 mA 6.000 Ω | |
| Output current, max. Input resistance | 6,000 Ω | |
| Output current, max. Input resistance Number of inputs/outputs selectable | 6,000 Ω 4 Piece(s) | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type | 6,000 Ω | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_{\rm B}$ / 0 V DC | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs | $6,000 \Omega$ 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤4V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤4V | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Timing Readiness delay | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms 400 ms | |
| Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Timing Readiness delay Cycle time | 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms 400 ms 1.36 ms | |

| IO-Link | |
|---|------------------------------|
| COM mode | COM2 |
| Specification | V1.0.1 |
| | V1.1 |
| Min. cycle time | COM2 = 2.3 ms |
| Service interface | |
| Гуре | IO-Link |
| | |
| IO-Link Function | Configuration via software |
| Function | Service |
| Connection | |
| Number of connections | 2 Piece(s) |
| Plug outlet | Axial |
| | 7000 |
| 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 |
| 5 | |
| 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 |
| Mechanical data | |
| Design | Cubic |
| Dimension (W x H x L) | 29 mm x 35.4 mm x 715 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 850 g |
| Housing color | Silver |
| Type of fastening | Groove mounting |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Via optional mounting device |
| Operation and display | |
| | LED |
| Type of display | OLED display |
| Number of LEDs | 2 Piece(s) |
| Type of configuration | Software |
| | Teach-in |
| Operational controls | Membrane keyboard |
| Environmental data | |
| | 20 60 °C |
| Ambient temperature, operation | -30 60 °C -40 70 °C |
| Ambient temperature, storage | |

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Technical data

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Certifications

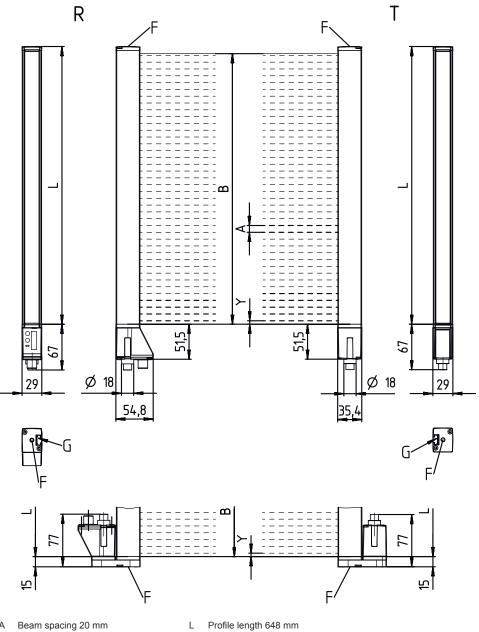
| Degree of protection | IP 65 |
|----------------------|---------------|
| Protection class | III |
| Certifications | c CSA US |
| Standards applied | IEC 60947-5-2 |

Classification

| Customs tariff number | 90314990 |
|-----------------------|----------|
| eCl@ss 5.1.4 | 27270910 |
| eCl@ss 8.0 | 27270910 |
| eCl@ss 9.0 | 27270910 |
| eCl@ss 10.0 | 27270910 |
| eCl@ss 11.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters



Beam spacing 20 mm А

- В Measurement field length 630 mm
- F M6 thread G Fastening groove
- R Receiver

Transmitter

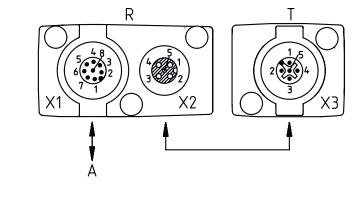
Т

Υ 5 mm



Dimensioned drawings





A PWR / SW IN / OUT

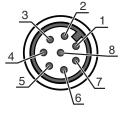
Electrical connection

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 | 102 | | |
| 6 | IO3 | | |
| 7 | IO4 | | |
| 8 | GND | | |
| | | | |

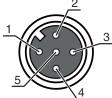


Connection 2

| 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 |
|--------------|---------------------------|------------------------------|---|
| 50119426 | CML720i-T20-630.A- M12 | Light curtain transmitter | Operating range: 0.3 6 m Connection: Connector, M12, Axial, 5 -pin |

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

| 1 | Note |
|------|---|
| FFF | -EX: Explosion protection |
| EEE | Electrical connection M12: M12 connector |
| DDD | Special equipment -PS: Power Setting |
| CCC | Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus |
| В | Equipment A: connector outlet, axial R: rear connector outlet |
| AAAA | Measurement field length [mm], dependent on beam spacing |
| ZZ | Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm |
| Y | Device type T: transmitter R: receiver |
| 7XXi | Series 720i: 720i series 730i: 730i series |
| CML | Operating principle Measuring light curtain |

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Notes

Observe intended use!

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

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ The product may only be put into operation by competent persons.

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

| | For UL applications: |
|---|---|
| A | 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 |
|--|----------|--------------------|------------------|--|
| | 50135128 | KD S-M12-8A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin 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: IO-Link, 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 |
|---|----------|----------------|---------------------|---|
| 1 + 1 + + + + + + + + + + + + + + + + + | 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 |

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Accessories



Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|-----|----------|-------------|----------------------|---|
| ęę. | 429046 | BT-2R1 | 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 |
|--------------|-------------|------------------|---|
| 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. |

Note

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