



Figure can vary

**Part no.: 50119378**  
**CML720i-T05-880.A-M12**  
**Light curtain transmitter**



## Contents

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## Technical data

| <b>Basic data</b>        |   |
|--------------------------|---|
| Series                   | 720   |
| Operating principle      | Throughbeam principle   |
| Device type              | Transmitter   |
| Contains                 | 2x BT-NC sliding block  |
| Application              | Object measurement  |
| <b>Optical data</b>      |   |
| Operating range          | Guaranteed operating range  |
| Operating range          | 0.1 ... 3.5 m   |
| Operating range limit    | Typical operating range   |
| Operating range limit    | 0.1 ... 4.5 m   |
| Measurement field length | 880 mm  |
| Number of beams          | 176 Piece(s)  |
| Beam spacing             | 5 mm  |
| Light source             | LED , Infrared  |
| LED light wavelength     | 940 nm  |
| <b>Measurement data</b>  |   |
| Minimum object diameter  | 10 mm   |
| <b>Electrical data</b>   |   |
| Protective circuit       | Polarity reversal protection<br>Short circuit protected<br>Transient protection                         |
| <b>Performance data</b>  |   |
| 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 transmitter and receiver. |
| <b>Timing</b>            |   |
| Readiness delay          | 450 ms  |
| Cycle time               | 5.68 ms   |
| <b>Connection</b>        |   |
| Number of connections    | 1 Piece(s)  |
| Plug outlet              | Axial   |
| <b>Connection 1</b>      |   |
| Function                 | Connection to receiver<br>Sync-input<br>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 955 mm                        |
| Housing material      | Metal , Aluminum                                |
| Lens cover material   | Plastic   |
| Net weight            | 1,050 g   |
| Housing color         | Silver  |
| Type of fastening     | Groove mounting<br>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 CSA US      |
| Standards applied    | IEC 60947-5-2 |

**Classification**

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

## Dimensioned drawings

All dimensions in millimeters



- A Beam spacing 5 mm
- B Measurement field length 880 mm
- F M6 thread
- G Fastening groove
- L Profile length 888 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



## Electrical connection

| Connection 1       |  |
|--------------------|--|
| Function           | Connection to receiver<br>Sync-input<br>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




### LEDs

| 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   |
|---|----------|--------------------------|------------------------|---|
|  | 50119616 | CML720i-R05-880.A/CN-M12 | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Interface: CANopen<br>Connection: Connector, M12, Axial, 8 -pin                           |
|  | 50119806 | CML720i-R05-880.A/CV-M12 | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Analog outputs: 2 Piece(s), Voltage, Current<br>Connection: Connector, M12, Axial, 8 -pin |
|  | 50123450 | CML720i-R05-880.A/D3-M12 | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Interface: RS 485<br>Connection: Connector, M12, Axial, 8 -pin                            |

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|   | Part no. | Designation              | Article                | Description   |
|---|----------|--------------------------|------------------------|---|
|  | 50119725 | CML720i-R05-880.A/L-M12  | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin     |
|  | 50122955 | CML720i-R05-880.A/PB-M12 | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Interface: PROFIBUS DP<br>Connection: Connector, M12, Axial, 8 -pin |
|  | 50131910 | CML720i-R05-880.A/PN-M12 | Light curtain receiver | Operating range: 0.1 ... 3.5 m<br>Interface: PROFINET<br>Connection: Connector, M12, Axial, 8 -pin    |

## Part number code

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

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

### Note

A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://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 - 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<br>Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR |

### Mounting technology - Mounting brackets

|   | Part no. | Designation    | Article             | Description   |
|---|----------|----------------|---------------------|---|
|  | 50142900 | BT 700M.5-2SET | Mounting device set | Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws<br>Design of mounting device: Bracket mounting<br>Fastening, at system: Through-hole mounting, T slotted hole<br>Mounting bracket, at device: Screw type, Sliding block<br>Type of mounting device: Rigid<br>Material: Steel |

### Mounting technology - Swivel mounts

|   | Part no. | Designation | Article              | Description   |
|---|----------|-------------|----------------------|---|
|  | 429046   | BT-2R1      | Mounting bracket set | Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

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|   | Part no. | Designation                     | Article         | Description  |
|---|----------|---------------------------------|-----------------|--|
|  | 50121098 | SET<br>MD12-US2-IL1.1<br>+ Zub. | Diagnostics set | Interface: USB<br>Connections: 2 Piece(s)<br>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.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.<br>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.<br>Conditions: Price not including travel costs and, if applicable, accommodation expenses.<br>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 electronic website in the Download tab of the article detailed page.