

# **Technical data sheet Light curtain transmitter**

Part no.: 50119442

CML720i-T40-610.A-M12



#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable receivers
- Part number code
- Notes
- Accessories





### **Technical data**



#### Basic data

| Series              | 720                    |
|---------------------|------------------------|
| Operating principle | Throughbeam principle  |
| Device type         | Transmitter            |
| 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 | 610 mm                     |
| Number of beams          | 16 Piece(s)                |
| Beam spacing             | 40 mm                      |
| Light source             | LED, Infrared              |
| Wavelength               | 940 nm                     |

#### Measurement data

| winimum object diameter 50 mil | Minimum | object diameter | 50 mm |
|--------------------------------|---------|-----------------|-------|
|--------------------------------|---------|-----------------|-------|

# Electrical data Protective circuit

|                               | Short circuit protected  |
|-------------------------------|--|
|                               | Transient protection   |
| Performance data              |  |
| Supply voltage U <sub>B</sub> | 18 30 V, DC  |
| Residual ripple               | 0 15 %, From U <sub>B</sub>  |
| Open-circuit current          | <ol> <li>165 mA, The specified values refer<br/>to the entire package consisting of trans-<br/>mitter and receiver.</li> </ol> |

Polarity reversal protection

#### Time behavior

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

#### Connection

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

### Connection 1

| Connection 1       |                        |
|--------------------|------------------------|
| Function           | Connection to receiver |
|                    | Sync-input             |
|                    | Voltage supply         |
| Type of connection | Connector              |
| Thread size        | M12                    |
| Туре               | 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 715 mm     |
| Housing material      | Metal                        |
| Metal housing         | Aluminum                     |
| Lens cover material   | Plastic                      |
| Net weight            | 800 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 CSA US      |
| Standards applied    | IEC 60947-5-2 |

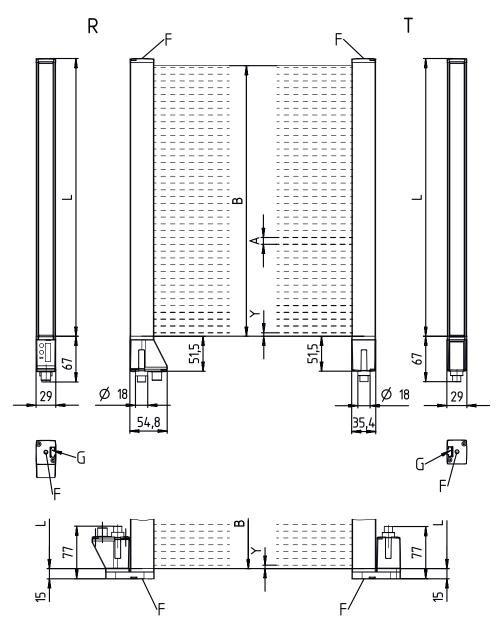
#### Classification

| ECLASS 5.1.4     27270910       ECLASS 8.0     27270910       ECLASS 9.0     27270910       ECLASS 10.0     27270910 |
|--|
| ECLASS 9.0 27270910  |
|  |
| ECLASS 10.0 27270910   |
|  |
| ECLASS 11.0 27270910   |
| ECLASS 12.0 27270910   |
| ECLASS 13.0 27270910   |
| ETIM 5.0 EC002549  |
| ETIM 6.0 EC002549  |
| ETIM 7.0 EC002549  |
| ETIM 8.0 EC002549  |

# **Dimensioned drawings**



All dimensions in millimeters



- A Beam spacing 40 mm
- B Measurement field length 610 mm
- F M6 thread
- G Fastening groove
- L Profile length 648 mm
- T Transmitter
- R Receiver
- Y 5 mm



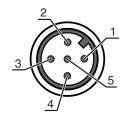
# **Electrical connection**



#### **Connection 1**

| Function           | Connection to receiver |
|--------------------|------------------------|
|                    | Sync-input             |
|                    | Voltage supply         |
| Type of connection | Connector              |
| Thread size        | M12                    |
| Туре               | 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   |
|----------|------------------------------|------------------------|---|
| 50119680 | CML720i-R40-610.A/<br>CN-M12 | Light curtain receiver | Operating range: 0.3 7 m<br>Interface: CANopen<br>Connection: Connector, M12, Axial, 8 -pin                     |
| 50119870 | CML720i-R40-610.A/<br>CV-M12 | Light curtain receiver | Operating range: 0.3 7 m Analog outputs: 2 Piece(s), Voltage, Current Connection: Connector, M12, Axial, 8 -pin |
| 50123568 | CML720i-R40-610.A/<br>D3-M12 | Light curtain receiver | Operating range: 0.3 7 m<br>Interface: RS 485 Modbus<br>Connection: Connector, M12, Axial, 8 -pin               |
| 50119789 | CML720i-R40-610.A/<br>L-M12  | Light curtain receiver | Operating range: 0.3 7 m Interface: IO-Link Connection: Connector, M12, Axial, 8 -pin                           |

### Suitable receivers



| Part no. | Designation                  | Article                | Description   |
|----------|------------------------------|------------------------|---|
| 50123056 | CML720i-R40-610.A/<br>PB-M12 | Light curtain receiver | Operating range: 0.3 7 m<br>Interface: PROFIBUS DP<br>Connection: Connector, M12, Axial, 8 -pin |
| 50132000 | CML720i-R40-610.A/<br>PN-M12 | Light curtain receiver | Operating range: 0.3 7 m<br>Interface: PROFINET<br>Connection: Connector, M12, Axial, 8 -pin    |

### Part number code

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

| CML  | Operating principle Measuring light curtain   |  |  |  |  |  |
|------|---|--|--|--|--|--|
| 7XXi | <b>Series</b> 720i: 720i series 730i: 730i series   |  |  |  |  |  |
| Υ    | 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 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 - Interconnection cables

|  | Part no. | Designation                     | Article               | Description   |
|--|----------|---------------------------------|-----------------------|---|
|  | 50129781 | KDS DN-M12-5A-<br>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 |

# Configuration devices

|     | Part no. | Designation                  | Article         | Description  |
|-----|----------|------------------------------|-----------------|--|
| 165 | 50121098 | SET MD12-US2-IL1.1<br>+ Zub. | Diagnostics set | Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20 |

### **Accessories**



## 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.