



the sensor people





Figure can vary

Part no.: 50123103 CML730i-R05-2480.R/PB-M12 Light curtain receiver





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### **Technical data**

| Basic data                          |   |
|-------------------------------------|---|
| Series Series                       | 730   |
| Operating principle                 | Throughbeam principle   |
| Device type                         | Receiver  |
| Contains                            | Accessories for the use of the BT-2R1   |
| Application                         | Detection of transparent objects  |
| Дрисацоп                            | Object measurement  |
| Special design                      |   |
| Special design                      | Crossed-beam scanning<br>Diagonal-beam scanning<br>Parallel-beam scanning                           |
| Optical data                        |   |
| Operating range                     | Guaranteed operating range  |
| Operating range                     | 0.1 4.5 m   |
| Operating range, transparent media  | 0.1 1.75 m  |
| Operating range limit               | Typical operating range   |
| Operating range limit               | 0.1 6 m   |
| Measurement field length            | 2,480 mm  |
| Number of beams                     | 496 Piece(s)  |
| Beam spacing                        | 5 mm  |
|                                     |   |
| Measurement data                    |   |
| Minimum object diameter             | 10 mm   |
|                                     |   |
| Electrical data                     |   |
| Protective circuit                  | Polarity reversal protection<br>Short circuit protected<br>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                | 0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver. |
| Inputs/outputs selectable           | ·   |
| Output current, max.                | 100 mA  |
| Input resistance                    | 6,000 Ω   |
| Number of inputs/outputs selectable | 2 Piece(s)  |
| Туре                                | Inputs/outputs selectable   |
| Voltage type, outputs               | DC  |
| Switching voltage, outputs          | Typ. U <sub>B</sub> / 0 V   |
| Voltage type, inputs                | DC  |
| Switching voltage, inputs           | high: ≥6V   |
|                                     | low: ≤4V  |
| Input/output 1                      |   |
| Activation/disable delay            | 1 ms  |
|                                     |   |
| Timing                              |   |
|                                     |   |

5.11 ms

Cycle time



| Response time per beam | 10 μs   |  |
|------------------------|---|--|
|                        |   |  |
| Interface              |   |  |
| Туре                   | PROFIBUS DP                                       |  |
| PROFIBUS DP            |   |  |
| Function               | Process   |  |
|                        |   |  |
| Service interface      |   |  |
| Туре                   | IO-Link   |  |
| IO-Link                |   |  |
| Function               | Configuration via software                        |  |
|                        | Service   |  |
|                        |   |  |
| Connection             |   |  |
| Number of connections  | 2 Piece(s)  |  |
| Plug outlet            | Rear side   |  |
| Connection 1           |   |  |
| Function               | Configuration interface Connection to transmitter |  |
|                        | Signal IN   |  |
|                        | Signal OUT<br>Voltage supply                      |  |
| Type of connection     | Connector   |  |
| Thread size            | M12   |  |
| Туре                   | Male  |  |
| Material               | Metal   |  |
| No. of pins            | 8 -pin  |  |
| Encoding               | A-coded   |  |
| Connection 2           |   |  |
| Function               | BUS IN<br>BUS OUT                                 |  |
| Type of connection     | Connector   |  |
| Thread size            | M12   |  |
| Type                   | Female  |  |
| Material               | Metal   |  |
| No. of pins            | 5 -pin  |  |
| Encoding               | B-coded   |  |
|                        | 2 00000   |  |
| Mechanical data        |   |  |
| Design                 | Cubic   |  |
| Dimension (W x H x L)  | 29 mm × 35.4 mm × 2,503 mm                        |  |
| Housing material       | Metal , Aluminum                                  |  |
| Lens cover material    | Plastic   |  |
| Net weight             | 2,600 g   |  |
| Housing color          | Silver  |  |
| Type of fastening      | Groove mounting                                   |  |
| -<br>-                 | Via optional mounting device                      |  |
|                        |   |  |
| Operation and display  |   |  |
| Type of display        | LED<br>OLED display                               |  |
| Number of LEDs         | 2 Piece(s)  |  |
| Transport of ELDO      | 21 1000(0)  |  |

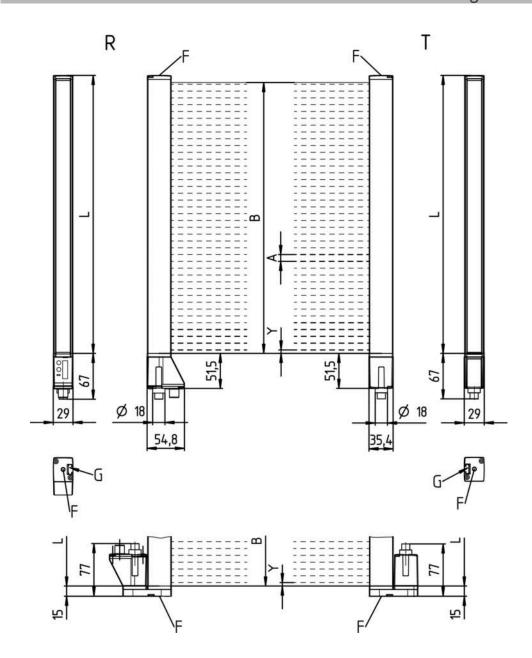


| Type of configuration          | Software<br>Teach-in |               |  |  |
|--------------------------------|----------------------|---------------|--|--|
|                                |                      |               |  |  |
| Operational controls           | Membrane keyboard    |               |  |  |
|                                |                      |               |  |  |
| Environmental data             |                      |               |  |  |
| Ambient temperature, operation | -30 60 °C            |               |  |  |
| Ambient temperature, storage   | -40 70 °C            |               |  |  |
|                                |                      |               |  |  |
| Certifications                 |                      |               |  |  |
| Degree of protection           | IP 65                |               |  |  |
| Protection class               | III                  | III           |  |  |
| Certifications                 | c CSA US             | c CSA US      |  |  |
| Standards applied              | IEC 60947-5-2        | IEC 60947-5-2 |  |  |
|                                |                      |               |  |  |
| Classification                 |                      |               |  |  |
| Customs tariff number          | 90314990             | 90314990      |  |  |
| eCl@ss 8.0                     | 27270910             |               |  |  |
| eCl@ss 9.0                     | 27270910             | 27270910      |  |  |
| ETIM 5.0                       | EC002549             |               |  |  |
| ETIM 6.0                       | EC002549             |               |  |  |

### **Dimensioned drawings**

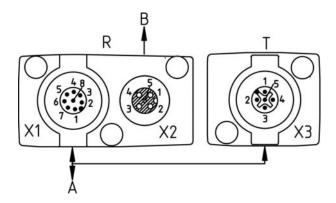
All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 2480 mm
- F M6 thread
- G Fastening groove L Profile length 2488 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



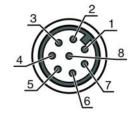


A PWR / SW IN/OUT B BUS IN / OUT

### **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   |  |

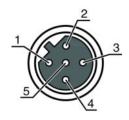
| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | I/O 1          |
| 3   | GND            |
| 4   | IO-Link        |
| 5   | I/O 2          |
| 6   | RS 485 Tx+     |
| 7   | RS 485 Tx+     |
| 8   | FE/SHIELD      |



| Connection 2       |                   |
|--------------------|-------------------|
| Function           | BUS IN<br>BUS OUT |
| Type of connection | Connector         |
| Thread size        | M12               |
| Туре               | Female            |
| Material           | Metal             |
| No. of pins        | 5 -pin            |
| Encoding           | B-coded           |



| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | Tx-            |
| 3   | PB GND         |
| 4   | Tx+            |
| 5   | FE/SHIELD      |



### **Operation and display**

### **LEDs**

| LED | Display                  | Meaning                                |
|-----|--------------------------|--|
| 1   | Green, continuous light  | Operational readiness                  |
|     | Green, flashing          | Teach / error                          |
|     |                          | Measurement frequency display          |
| 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   |
|----------|----------------------------|------------------------------|---|
| 50118942 | CML730i-<br>T05-2480.R-M12 | Light curtain<br>transmitter | Operating range: 0.1 4 m<br>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                        |
| 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: connector outlet, axial 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 electronic 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-<br>V1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |

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## Connection technology - Y distribution cables

|  | Part no. | Designation                  | Article               | Description  |
|--|----------|------------------------------|-----------------------|--|
|  | 50118183 | K-Y1 M12A-5m-<br>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                                   |
|  | 50123265 | K-YPB M12A-5m-<br>M12A-S-PUR | Interconnection cable | Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 250 mm 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 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   |
|-----|----------|-------------|----------------------|---|
| EE. | 429046   | BT-2R1      | Mounting bracket set | Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic |

| Part no. | Designation                     | Article         | Description  |
|----------|---------------------------------|-----------------|--|
| 50121098 | SET<br>MD12-US2-IL1.1<br>+ 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. |

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| Part no. | Designation | Article          | Description   |
|----------|-------------|------------------|---|
| \$981005 | 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 electronic website in the Download tab of the article detailed page.