



Figure can vary

**Part no.: 50119142**  
**CML730i-R05-1040.R/L-M12**  
**Light curtain receiver**



 IO-Link

## Contents

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

## Technical data

| <b>Basic data</b>   |  |
|---------------------|--|
| Series              | 730  |
| Operating principle | Throughbeam principle                                  |
| Device type         | Receiver   |
| Contains            | Accessories for the use of the BT-2R1                  |
| Application         | Detection of transparent objects<br>Object measurement |

| <b>Optical data</b>                |                            |
|------------------------------------|----------------------------|
| 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           | 1,040 mm                   |
| Number of beams                    | 208 Piece(s)               |
| Beam spacing                       | 5 mm                       |

| <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 ... 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. |

| <b>Inputs/outputs selectable</b>    |                                     |
|-------------------------------------|-------------------------------------|
| Output current, max.                | 100 mA                              |
| Input resistance                    | 6,000 $\Omega$                      |
| Number of inputs/outputs selectable | 4 Piece(s)                          |
| Type                                | Inputs/outputs selectable           |
| Voltage type, outputs               | DC                                  |
| Switching voltage, outputs          | Typ. $U_B / 0$ V                    |
| Voltage type, inputs                | DC                                  |
| Switching voltage, inputs           | high: $\geq 6$ V<br>low: $\leq 4$ V |

| <b>Input/output 1</b>    |            |
|--------------------------|------------|
| Activation/disable delay | 0 ... 1 ms |

| <b>Timing</b>          |            |
|------------------------|------------|
| Readiness delay        | 450 ms     |
| Cycle time             | 2.23 ms    |
| Response time per beam | 10 $\mu$ s |

| <b>Interface</b> |  |
|------------------|--|
|------------------|--|

**Part no.: 50119142 – CML730i-R05-1040.R/L-M12 – Light curtain receiver**

| Type            | IO-Link        |
|-----------------|----------------|
| <b>IO-Link</b>  |                |
| COM mode        | COM2           |
| Specification   | V1.0.1<br>V1.1 |
| Min. cycle time | COM2 = 2.3 ms  |

**Service interface**

| Type           | IO-Link                               |
|----------------|---------------------------------------|
| <b>IO-Link</b> |                                       |
| Function       | Configuration via software<br>Service |

**Connection**

|                       |            |
|-----------------------|------------|
| Number of connections | 2 Piece(s) |
| Plug outlet           | Rear side  |

**Connection 1**

|                    |  |
|--------------------|--|
| Function           | Configuration interface<br>Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection | Connector  |
| Thread size        | M12  |
| Type               | Male   |
| Material           | Metal  |
| No. of pins        | 8 -pin   |
| Encoding           | A-coded  |

**Connection 2**

|                    |                           |
|--------------------|---------------------------|
| Function           | Connection to transmitter |
| Type of connection | Connector                 |
| Thread size        | M12                       |
| Type               | 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 1,063 mm                      |
| Housing material      | Metal , Aluminum                                |
| Lens cover material   | Plastic   |
| Net weight            | 1,300 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)           |
| Type of configuration | Software<br>Teach-in |

Part no.: 50119142 – CML730i-R05-1040.R/L-M12 – Light curtain receiver

|                      |                   |
|----------------------|-------------------|
| 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           |
| 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 1040 mm
- F M6 thread
- G Fastening groove
- L Profile length 1048 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



A PWR / SW IN/OUT

## Electrical connection

| Connection 1       |  |
|--------------------|--|
| Function           | Configuration interface<br>Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection | Connector  |
| Thread size        | M12  |
| Type               | Male   |
| Material           | Metal  |
| No. of pins        | 8 -pin   |
| Encoding           | A-coded  |

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | IO1            |
| 3   | GND            |
| 4   | IO-Link        |
| 5   | IO2            |
| 6   | IO3            |
| 7   | IO4            |
| 8   | GND            |



| Connection 2       |                           |
|--------------------|---------------------------|
| Function           | Connection to transmitter |
| Type of connection | Connector                 |
| Thread size        | M12                       |
| Type               | 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

### 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   |
|---|----------|------------------------|---------------------------|---|
|  | 50118924 | CML730i-T05-1040.R-M12 | Light curtain transmitter | Operating range: 0.1 ... 4 m<br>Connection: Connector, M12, Rear side, 5 -pin |

## Part number code

Part designation: **CML7XXi-YZZ-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 - 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<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5,000 mm<br>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<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 |



Part no.: 50119142 – CML730i-R05-1040.R/L-M12 – Light curtain receiver

## 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 |

|   | 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.