

# **Technical data sheet** Light curtain receiver

Part no.: 50118695

CML730i-R10-320.A/CN-M12



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- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
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### **Technical data**



#### Basic data

| Series              | 730                              |
|---------------------|----------------------------------|
| Operating principle | Throughbeam principle            |
| Device type         | Receiver                         |
| Contains            | 2x BT-NC sliding block           |
| Application         | Detection of transparent objects |
|                     | 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 9.5 m                  |
| Operating range, transparent media | 0.3 3.5 m                  |
| Operating range limit              | Typical operating range    |
| Operating range limit              | 0.2 12 m                   |
| Measurement field length           | 320 mm                     |
| Number of beams                    | 32 Piece(s)                |
| Beam spacing                       | 10 mm                      |
|                                    |                            |

#### Measurement data

| Minimum o | biect diameter | 20 mm |
|-----------|----------------|-------|
|           |                |       |

#### **Electrical data**

| Protective circuit | Polarity reversal protection |
|--------------------|------------------------------|
|                    | 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> |
| Onen sirevit surrent          | 0 165 mA The ener           |

Open-circuit current 0 ... 165 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**

| Readiness delay        | 450 ms |
|------------------------|--------|
| Cycle time             | 1 ms   |
| Response time per beam | 10 μs  |

### Interface

| Type | CANopen |
|------|---------|

| CANopen  |         |
|----------|---------|
| Function | Process |

### Service interface

| IO-Link  |                            |
|----------|----------------------------|
| Function | Configuration via software |
|          | Service                    |

IO-Link

#### Connection

Type

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

| 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                   |

#### Connection 2

| Connection 2       |           |
|--------------------|-----------|
| Function           | BUS IN    |
|                    | BUS OUT   |
| 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 395 mm     |
| Housing material      | Metal                        |
| Metal housing         | Aluminum                     |
| Lens cover material   | Plastic                      |
| Net weight            | 550 g                        |
| Housing color         | Silver                       |
| Type of fastening     | Groove mounting              |
|                       | Via optional mounting device |

### **Operation and display**

| Type of display       | LED               |
|-----------------------|-------------------|
|                       | OLED display      |
| Number of LEDs        | 2 Piece(s)        |
| Type of configuration | Software          |
|                       | Teach-in          |
| Operational controls  | Membrane keyboard |

#### **Environmental data**

| Ambient temperature, operation | -30 60 °C |
|--------------------------------|-----------|
| Ambient temperature, storage   | -40 70 °C |

## **Technical data**



### Certifications

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

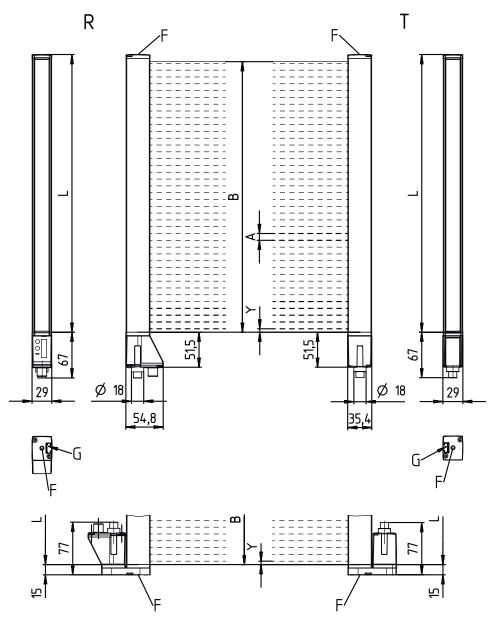
### Classification

| 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**



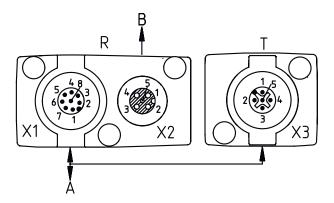
All dimensions in millimeters



- A Beam spacing 10 mm
- B Measurement field length 320 mm
- F M6 thread
- G Fastening groove
- L Profile length 328 mm
- T Transmitter
- R Receiver
- Y 5 mm

## **Dimensioned drawings**





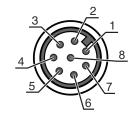
- A PWR/SWIN/OUT
- B BUS IN / OUT

## **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      |
|     |                |



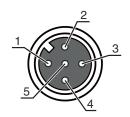
### **Connection 2**

| Function           | BUS IN    |
|--------------------|-----------|
|                    | BUS OUT   |
| Type of connection | Connector |
| Thread size        | M12       |
| Туре               | Female    |
| Material           | Metal     |
| No. of pins        | 5 -pin    |
| Encoding           | A-coded   |

## **Electrical connection**



| Pin | Pin assignment |  |
|-----|----------------|--|
| 1   | FE/SHIELD      |  |
| 2   | n.c.           |  |
| 3   | CAN GND        |  |
| 4   | CAN H          |  |
| 5   | CAN L          |  |



## **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 | o. Designation        | Article       | Description                               |
|---------|-----------------------|---------------|---|
| 5011861 | 14 CML730i-T10-320.A- | Light curtain | Operating range: 0.3 9.5 m                |
|         | M12                   | transmitter   | Connection: Connector, M12, Axial, 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  |
| 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: 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 |

### Part number code



| 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!



- by 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).
- \$\text{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-V1-<br>050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PVC |

## Connection technology - Interconnection cables

|            | Part no. | Designation                     | Article               | Description   |
|------------|----------|---------------------------------|-----------------------|---|
| <b>(1)</b> | 50129781 | KDS DN-M12-5A-<br>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 |

## **Accessories**



## 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<br>Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin<br>Connection 3: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Shielded: Yes<br>Cable length fork 1: 5,000 mm<br>Cable length fork 2: 150 mm<br>Sheathing material: PUR           |
|  | 50118185 | K-YCN M12A-M12A-<br>S-PUR   | Interconnection cable | Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR |

## Connection technology - Terminating resistors

| Part no. | Designation | Article         | Description   |
|----------|-------------|-----------------|---|
| 50040099 | TS 01-5-SA  | Terminator plug | Suitable for: DeviceNet, CANopen<br>Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin<br>Function: Bus termination |

## 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 |

## Mounting technology - Swivel mounts

|     | Part no. | Designation | Article              | Description   |
|-----|----------|-------------|----------------------|---|
| EE. | 429046   | BT-2R1      | Mounting bracket set | Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Turning, 360°<br>Material: Metal, Plastic |

### Services

| Sel vices |          |             |                  |   |
|-----------|----------|-------------|------------------|---|
|           | 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. |

## **Accessories**



| Part no. | Designation | Article          | Description  |
|----------|-------------|------------------|--|
| 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. |

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