# SMART SENSOR BUSINESS

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Part no.: 50118743 CML730i-R05-560.A/L-M12 Light curtain receiver



Figure can vary

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### Part no.: 50118743 – CML730i-R05-560.A/L-M12 – Light curtain receiver

#### **Technical data**

| Basic data                          |  |  |  |
|-------------------------------------|--|--|--|
| Series                              | 730  |  |  |
| Operating principle                 | Throughbeam principle  |  |  |
| Device type                         | Receiver   |  |  |
| Contains                            | 2x BT-NC sliding block   |  |  |
| Application                         | Detection of transparent objects<br>Object measurement   |  |  |
| 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            | 560 mm   |  |  |
| Number of beams                     | 112 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                | 0 165 mA , The specified values refer to the entire package con-<br>sisting of transmitter and receiver. |  |  |
| Inputs/outputs selectable           |  |  |  |
| Output current, max.                | 100 mA   |  |  |
| Input resistance                    | 6,000 Ω  |  |  |
| Number of inputs/outputs selectable | 4 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                      | 0  |  |  |
| Activation/disable delay            | 0 1 ms   |  |  |
| Timing                              |  |  |  |
| Readiness delay                     | 450 ms   |  |  |
| Cycle time 1.27 ms                  |  |  |  |
| Response time per beam              | 10 µs  |  |  |

Interface

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| Туре                  | IO-Link  |
|-----------------------|--|
| IO-Link               |  |
| COM mode              | COM2   |
| Specification         | V1.0.1<br>V1.1   |
| Min. cycle time       | COM2 = 2.3 ms  |
| Service interface     |  |
| Туре                  | IO-Link  |
| IO-Link               |  |
| Function              | Configuration via software<br>Service                                |
| Connection            |  |
| Number of connections | 2 Piece(s)   |
| Plug outlet           | Axial  |
| Connection 1          |  |
| Function              | Configuration interface<br>Signal IN<br>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              | Connection to transmitter  |
| 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 635 mm   |
| Housing material      | Metal , Aluminum   |
| Lens cover material   | Plastic  |
| Net weight            | 800 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   |

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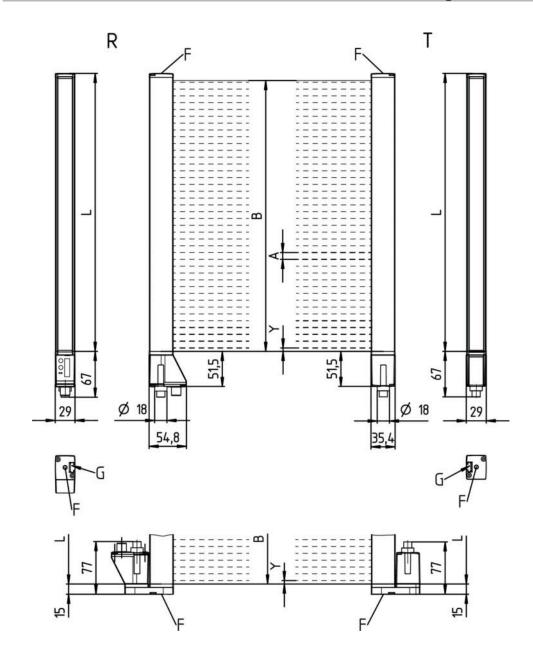
| Operational controls           | Membrane keyboard |  |  |
|--------------------------------|-------------------|--|--|
|                                |                   |  |  |
| Environmental data             |                   |  |  |
| Ambient temperature, operation | -30 60 °C         |  |  |
| 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     |  |  |
| Oleccification                 |                   |  |  |
| 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**

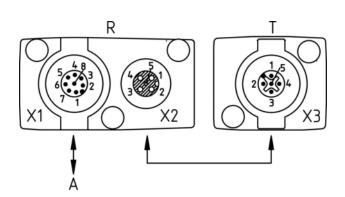
All dimensions in millimeters

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Part no.: 50118743 – CML730i-R05-560.A/L-M12 – Light curtain receiver



- A Beam spacing 5 mm B Measurement field length 560 mm
- F M6 thread
- G Fastening groove L Profile length 568 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199

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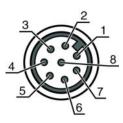
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A PWR / SW IN/OUT

### **Electrical connection**

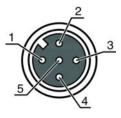
| Connection 1       |  |  |
|--------------------|--|--|
| Function           | Configuration interface<br>Signal IN<br>Signal OUT<br>Voltage supply |  |
| Type of connection | Connector  |  |
| Thread size        | M12  |  |
| Туре               | Male   |  |
| Material           | Metal  |  |
| No.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

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | 101            |
| 3   | GND            |
| 4   | IO-Link        |
| 5   | 102            |
| 6   | 103            |
| 7   | IO4            |
| 8   | GND            |



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



## Part no.: 50118743 – CML730i-R05-560.A/L-M12 – Light curtain receiver

#### 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   |
|----------|---------------------------|------------------------------|---|
| 50118582 | CML730i-<br>T05-560.A-M12 | Light curtain<br>transmitter | Operating range: 0.1 4 m<br>Connection: Connector, M12, Axial, 5 -pin |

#### Part number code

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

| CML  | Operating principle:<br>Measuring light curtain  |  |  |  |
|------|--|--|--|--|
| 7XXi | Series:<br>720i: 720i series<br>730i: 730i series  |  |  |  |
| Y    | Device type:<br>T: transmitter<br>R: receiver  |  |  |  |
| ZZ   | Beam spacing:<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   |  |  |  |
| В    | Equipment:<br>A: connector outlet, axial<br>R: rear connector outlet   |  |  |  |
| CCC  | Interface:<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  | Special equipment:<br>-PS: Power Setting   |  |  |  |
| EEE  | Electrical connection:<br>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.

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#### 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  |
|----|----------|------------------------|---------|--|
| 50 |          | KD S-M12-8A-<br>P1-050 |         | 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-<br>M12-5A-P3-050 | Interconnection<br>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<br>set | Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10<br>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 |

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# Mounting technology - Swivel mounts

|     | Part no. | Designation | Article | Description  |
|-----|----------|-------------|---------|--|
| ęł. | 429046   | BT-2R1      | set     | Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the<br>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. |         | 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:<br>max. 10 hours.<br>Conditions: Devices and connection cables are already<br>mounted, price not including travel costs and, if applicable,<br>accommodation expenses.<br>Restrictions: No mechanical (mounting) and electrical (wiring)<br>work performed, no changes (attachments, wiring,<br>programming) to third-party components in the nearby<br>environment. |
| S981005  | CS10-T-110  | Product training | Details: Location and content to be agreed upon, duration: max.<br>10 hours.<br>Conditions: Price not including travel costs and, if applicable,<br>accommodation expenses.<br>Restrictions: Travel costs and accommodation expenses<br>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.