# **Technical data sheet Light curtain transmitter** Part no.: 50118976 CML730i-T20-1750.R-M12





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# **Technical data**

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| Basic data          |                                       |
|---------------------|---------------------------------------|
| Series              | 730                                   |
| Operating principle | Throughbeam principle                 |
| Device type         | Transmitter                           |
| Contains            | Accessories for the use of the BT-2R1 |
| 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           | 1,750 mm   |  |
| Number of beams                    | 88 Piece(s)  |  |
| Beam spacing                       | 20 mm  |  |
| Light source                       | LED, Infrared  |  |
| LED light wavelength               | 940 nm   |  |
| Measurement data                   |  |  |
| Minimum object diameter            | 30 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>  |  |
| Open-circuit current               | 0 350 mA, The specified values refer<br>to the entire package consisting of trans-<br>mitter and receiver. |  |
| Timing                             |  |  |
| Readiness delay                    | 450 ms   |  |
| Cycle time                         | 1.08 ms  |  |
|                                    |  |  |

### Cycle time

Connection

Number of connections 1 Piece(s) Plug outlet Rear side

| Connection 1       |                        |
|--------------------|------------------------|
| Function           | Connection to receiver |
| 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 1,783 mm   |
| Housing material      | Metal                        |
| Metal housing         | Aluminum                     |
| Lens cover material   | Plastic                      |
| Net weight            | 1,900 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

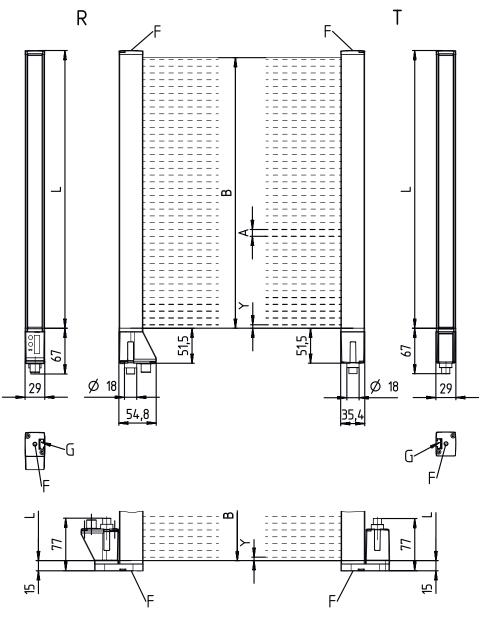
| Degree of protection | IP 65         |
|----------------------|---------------|
| Protection class     | III           |
| Certifications       | c CSA US      |
| Standards applied    | IEC 60947-5-2 |

### Classification

| 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



- Beam spacing 20 mm А
- В Measurement field length 1750 mm
- F M6 thread
- G Fastening groove
- Profile length 1768 mm L Т
  - Transmitter
- R Receiver
- 5 mm Υ





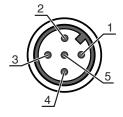
# **Electrical connection**

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### **Connection 1**

| Function           | Connection to receiver |
|--------------------|------------------------|
| 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   |
|----------|-------------------------------|------------------------|---|
| 50119114 | CML730i-R20-<br>1750.R/CN-M12 | Light curtain receiver | Operating range: 0.3 9.5 m<br>Interface: CANopen<br>Connection: Connector, M12, Rear side, 8 -pin                           |
| 50119275 | CML730i-R20-<br>1750.R/CV-M12 | Light curtain receiver | Operating range: 0.3 9.5 m<br>Analog outputs: 2 Piece(s), Voltage, Current<br>Connection: Connector, M12, Rear side, 8 -pin |
| 50123418 | CML730i-R20-<br>1750.R/D3-M12 | Light curtain receiver | Operating range: 0.3 9.5 m<br>Interface: RS 485 Modbus<br>Connection: Connector, M12, Rear side, 8 -pin                     |
| 50119194 | CML730i-R20-<br>1750.R/L-M12  | Light curtain receiver | Operating range: 0.3 9.5 m<br>Interface: IO-Link<br>Connection: Connector, M12, Rear side, 8 -pin                           |

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### Suitable receivers

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| <br>Part no. | Designation                   | Article                | Description   |
|--------------|-------------------------------|------------------------|---|
| 50123195     | CML730i-R20-<br>1750.R/PB-M12 | Light curtain receiver | Operating range: 0.3 9.5 m<br>Interface: PROFIBUS DP<br>Connection: Connector, M12, Rear side, 8 -pin |
| 50131799     | CML730i-R20-<br>1750.R/PN-M12 | Light curtain receiver | Operating range: 0.3 9.5 m<br>Interface: PROFINET<br>Connection: Connector, M12, Rear side, 8 -pin    |

### Part number code

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

| CML      | Operating principle<br>Measuring light curtain  |
|----------|---|
| 7XXi     | Series           720i: 720i series           730i: 730i series  |
| Y        | Device type<br>T: transmitter<br>R: receiver  |
| 22       | 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<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 w | ith 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.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$  The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$  Only use the product in accordance with its intended use.

|   | For UL applications:  |
|---|---|
| A | <ul> <li>For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</li> <li>These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/<br/>CYJV7 or PVVA/PVVA7)</li> </ul> |

### 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: 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   |
|------|----------|----------------|---------------------|---|
| 1.1. | 50142900 | BT 700M.5-2SET | Mounting device set | 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 |

# Mounting technology - Swivel mounts

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

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### Accessories

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# Configuration devices

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

### Services

| <br>Part no. | Designation | Article          | Description   |
|--------------|-------------|------------------|---|
| S981001      | CS10-S-110  | Start-up support | Details: Performed at location of customer's choosing, duration: max. 10<br>hours.<br>Conditions: Devices and connection cables are already mounted, price not<br>including travel costs and, if applicable, accommodation expenses.<br>Restrictions: No mechanical (mounting) and electrical (wiring) work<br>performed, no changes (attachments, wiring, programming) to third-party<br>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<br>expenses.<br>Restrictions: Travel costs and accommodation expenses charged separately<br>and according to expenditure.   |

|   | Note   |
|---|--|
| 6 | Solution A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page. |