

Technical data sheet Light curtain receiver

Part no.: 50123194

CML730i-R20-1590.R/PB-M12



Contents

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





Technical data



| | lata |
|--|------|
| | |
| | |

| Series | 730 |
|---------------------|---------------------------------------|
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| 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 | 1,590 mm |
| Number of beams | 80 Piece(s) |
| Beam spacing | 20 mm |
| | |

Measurement data

| Minimum o | bject diameter | 30 mm |
|-----------|----------------|-------|
|-----------|----------------|-------|

Electrical data

| Protective circuit | Polarity reversal protection |
|--------------------|------------------------------|
| | Short circuit protected |
| | Transient protection |
| | |

Performance data

| Supply voltage U _B | 18 30 V, DC |
|-------------------------------|-----------------------------|
| Residual ripple | 0 15 %, From U _B |
| 0 | 0 050 A The |

Open-circuit current 0 ... 350 mA, The specified values refer to the entire package consisting of transmitter and receiver.

Inputs/outputs selectable

| inputo, outputo coloctubio | |
|-------------------------------------|---------------------------|
| 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 _B / 0 V |
| Voltage type, inputs | DC |
| Switching voltage, inputs | high: ≥6V |
| | low: ≤4V |
| | |

Input/output 1

| Activation/disable | delay | 1 ms |
|--------------------|-------|------|
| | | |

Timing

| Cycle time | 1 ms |
|------------------------|-------|
| Response time per beam | 10 µs |

Interface

| Type | PROFIBUS DP |
|------|-------------|

| PROFIBUS DP | |
|-------------|--|
| Function | |

| Service interface | |
|-------------------|--|
|-------------------|--|

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

Process

IO-Link

Connection

Type

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

| 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 | B-coded |

Mechanical data

| Design | Cubic |
|-----------------------|------------------------------|
| Dimension (W x H x L) | 29 mm x 35.4 mm x 1,623 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 1,800 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



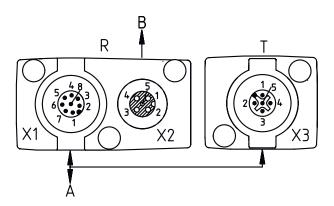
All dimensions in millimeters



- A Beam spacing 20 mm
- B Measurement field length 1590 mm
- F M6 thread
- G Fastening groove
- L Profile length 1608 mm
- T Transmitter
- R Receiver
- Y 5 mm

Dimensioned drawings





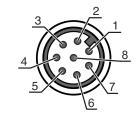
- A PWR/SWIN/OUT
- B BUS IN / OUT

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 |
| | |



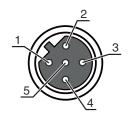
Connection 2

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

Electrical connection



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



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. | Designation | Article | Description |
|----------|----------------------------|------------------------------|---|
| 50118975 | CML730i-T20- 1590.R-M12 | Light curtain transmitter | Operating range: 0.3 9.5 m 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 |
| 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!



- This product is not a safety sensor and is not intended as personnel protection.
- 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).
- 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

| | 0, | | |
|----------|------------------------|------------------|---|
| Part no. | Designation | Article | Description |
| 50132079 | KD U-M12-5A-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 |

Connection technology - Y distribution cables

| | Part no. | Designation | Article | Description |
|--|----------|-----------------------------|-----------------------|--|
| | 50118183 | K-Y1 M12A-5m- 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 |

Accessories



| | Part no. | Designation | Article | Description |
|--|----------|------------------------------|-----------------------|---|
| | 50123265 | K-YPB M12A-5m- M12A-S-PUR | Interconnection cable | Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connection 2: Cable with connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Cable with connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Sheathing material: PUR |

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 |
|-----|----------|-------------|----------------------|---|
| gg. | 429046 | BT-2R1 | Mounting bracket set | Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic |

Configuration devices

| | Part no. | Designation | Article | Description |
|----|----------|------------------------------|-----------------|--|
| IG | 50121098 | SET MD12-US2-IL1.1 + 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. |
| 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. |

Accessories



Note



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