

Technical data sheet Light curtain receiver

Part no.: 50119128

CML730i-R40-2210.R/CN-M12

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- Electrical connection
- Operation and display
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Figure can vary



Technical data

Basic data

| | |
|---------------------|--|
| 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 | 2,210 mm |
| Number of beams | 55 Piece(s) |
| Beam spacing | 40 mm |

Measurement data

| | |
|-------------------------|-------|
| Minimum object diameter | 50 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 |
| Open-circuit current | 0 ... 435 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) |
| Type | Inputs/outputs selectable |
| Voltage type, outputs | DC |
| Switching voltage, outputs | Typ. U_B / 0 V |
| Voltage type, inputs | DC |
| Switching voltage, inputs | high: $\geq 6V$ low: $\leq 4V$ |

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

| | |
|------|---------|
| Type | IO-Link |
|------|---------|

IO-Link

| | |
|----------|---------------------------------------|
| Function | Configuration via software Service |
|----------|---------------------------------------|

Connection

| | |
|-----------------------|------------|
| 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 |
|-------------|-----|

| | |
|------|------|
| Type | Male |
|------|------|

| | |
|----------|-------|
| Material | Metal |
|----------|-------|

| | |
|-------------|--------|
| No. of pins | 8 -pin |
|-------------|--------|

| | |
|----------|---------|
| Encoding | A-coded |
|----------|---------|

Connection 2

| | |
|----------|-------------------|
| Function | BUS IN BUS OUT |
|----------|-------------------|

| | |
|--------------------|-----------|
| 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 2,263 mm |
|-----------------------|----------------------------|

| | |
|------------------|-------|
| Housing material | Metal |
|------------------|-------|

| | |
|---------------|----------|
| Metal housing | Aluminum |
|---------------|----------|

| | |
|---------------------|---------|
| Lens cover material | Plastic |
|---------------------|---------|

| | |
|------------|---------|
| Net weight | 2,350 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 40 mm | L | Profile length 2248 mm |
| B | Measurement field length 2210 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | 5 mm |

Dimensioned drawings



Electrical connection

Connection 1

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

Pin Pin assignment

| 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 |
| Type | 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. | Designation | Article | Description |
|--|----------|------------------------|---------------------------|---|
|  | 50118990 | CML730i-T40-2210.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.BCCDDDD-EEEEFF**

| | |
|-------------|--|
| CML | Operating principle Measuring light curtain |
| 7XXi | Series 720i: 720i series 730i: 730i series |
| Y | 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 |
| B | 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.
- ⌘ 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 |
|--|----------|--------------------|------------------|---|
|  | 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 - 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 Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

Accessories

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 |
|  | 50118185 | K-YCN M12A-M12A-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 Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin 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 |
|--|----------|-------------|----------------------|---|
|  | 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 |

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. |

Accessories

| | Part no. | Designation | Article | Description |
|--|----------|-------------|------------------|--|
|  | S981005 | CS10-T-110 | Product training | <p>Details: Location and content to be agreed upon, duration: max. 10 hours.</p> <p>Conditions: Price not including travel costs and, if applicable, accommodation expenses.</p> <p>Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.</p> |

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