

Technical data sheet Light curtain receiver

Part no.: 50119153

CML730i-R05-1920.R/L-M12



For illustration purposes only

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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

| | |
|--------------------------|--------------|
| Measurement field length | 1,920 mm |
| Number of beams | 384 Piece(s) |
| Beam spacing | 5 mm |

Measurement data

| | |
|-------------------------|-------|
| Minimum object diameter | 10 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 | 4 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: ≥ 6 V low: ≤ 4 V |

Input/output 1

| | |
|--------------------------|------------|
| Activation/disable delay | 0 ... 1 ms |
|--------------------------|------------|

Time behavior

| | |
|------------------------|------------|
| Readiness delay | 450 ms |
| Cycle time | 3.99 ms |
| Response time per beam | 10 μ s |

Interface

| | |
|-----------------|----------------|
| Type | IO-Link |
| IO-Link | |
| COM mode | COM2 |
| Min. cycle time | COM2 = 2.3 ms |
| Specification | V1.0.1 V1.1 |

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 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 | Connection to transmitter |
| 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 1,943 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 2,100 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 |

Certifications

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

Technical data

| | |
|-----------------------|----------|
| Customs tariff number | 90314990 |
| ECLASS 5.1.4 | 27270910 |
| ECLASS 8.0 | 27270910 |
| ECLASS 9.0 | 27270910 |
| ECLASS 10.0 | 27270910 |
| ECLASS 11.0 | 27270910 |
| ECLASS 12.0 | 27270910 |
| ECLASS 13.0 | 27270910 |
| ECLASS 14.0 | 27270910 |
| ECLASS 15.0 | 27270910 |
| ECLASS 16.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| ETIM 9.0 | EC002549 |
| ETIM 10.0 | EC002549 |
| UNSPSC 26.08 | 39121528 |

Dimensioned drawings

All dimensions in millimeters



- | | | | |
|---|----------------------------------|---|------------------------|
| A | Beam spacing 5 mm | L | Profile length 1928 mm |
| B | Measurement field length 1920 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | 2.5 mm |

Dimensioned drawings



Electrical connection

Connection 1

| | |
|--------------------|-------------------------|
| Function | Configuration interface |
| | 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 |
|-----|----------------|
|-----|----------------|

| | |
|---|---------|
| 1 | V+ |
| 2 | IO1 |
| 3 | GND |
| 4 | IO-Link |
| 5 | IO2 |
| 6 | IO3 |
| 7 | IO4 |
| 8 | GND |



Connection 2

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



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 | Operating range Operating range limit | Description |
|---|----------|------------------------|---|---|
|  | 50118935 | CML730i-T05-1920.R-M12 | 0.1 ... 4 m 0.1 ... 6 m | Operating range: 0.1 ... 4 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: Axial connector outlet 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 |
| 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 unit

| | Part no. | Designation | Article | Description |
|--|----------|-----------------------|----------------|---|
| | 50144900 | MD 798i-11-82/L5-2222 | IO-Link master | Current consumption, max.: 11,000 mA Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Degree of protection: IP 67, IP 65, IP 69K |

Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|--|----------|--------------------|------------------|--|
| | 50135128 | KD S-M12-8A-P1-050 | Connection cable | Application: Oil and lubricant resistant Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

Connection technology - Interconnection cables

| | Part no. | Designation | Article | Description |
|--|----------|-----------------------------|-----------------------|--|
| | 50129781 | KDS DN-M12-5A-M12-5A-P3-050 | Interconnection cable | Application: Oil and lubricant resistant Suitable for interface: 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

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|--|----------|----------------|---------------------|---|
|  | 50142900 | BT 700M.5-2SET | Mounting device set | Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws 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 |
|--|----------|-------------|----------------------|--|
|  | 429029 | BT-2RG | Mounting bracket set | Contains: 2x BT-R swivel mount, 2 cylinders for mounting on the light curtain 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 |
|--|----------|------------------------------|-----------------|--|
|  | 50121098 | SET MD12-US2-IL1.1 + Zub. | Diagnostics set | Supply voltage: DC 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. |
|  | 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. |

Note



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