SMART SENSOR BUSINESS

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Part no.: 50120166 CML720i-R10-1120.R/CV-M12 Light curtain receiver



Figure can vary

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Part no.: 50120166 – CML720i-R10-1120.R/CV-M12 – Light curtain receiver

Technical data

| Basic data | |
|-------------------------------|-----------------------------------------------------------------------------------------------------|
| Series | 720 |
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| Contains | Accessories for the use of the BT-2R1 |
| Application | Object measurement |
| | |
| Special design | |
| Special design | Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning |
| Optical data | |
| Operating range | Guaranteed operating range |
| Operating range | 0.3 7 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0.2 9 m |
| Measurement field length | 1,120 mm |
| Number of beams | 112 Piece(s) |
| Beam spacing | 10 mm |
| | |
| Measurement data | |
| Minimum object diameter | 20 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 | 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. |
| Outputs | |
| Number of analog outputs | 2 Piece(s) |
| Analog outputs | |
| Current | 0 24 mA |
| Voltage | 0 11 V |
| | |
| Analog output 1 | |
| Analog output 1 Type | Voltage |
| | Voltage |

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| Inputs/outputs selectable | 100 m 4 | | |
|-------------------------------------|-------------------------------------------|--|--|
| 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 | Тур. U _B / 0 V | | |
| Voltage type, inputs | DC | | |
| Switching voltage, inputs | high: ≥6V Iow: ≤4V | | |
| Input/output 1 | | | |
| Activation/disable delay | 1 ms | | |
| iming | | | |
| eadiness delay | 450 ms | | |
| ycle time | 3.76 ms | | |
| esponse time per beam | 30 µs | | |
| ervice interface | | | |
| ype | IO-Link | | |
| IO-Link | | | |
| Function | Configuration via software Service | | |
| х <i>и</i> | | | |
| connection umber of connections | 2 Pieco(s) | | |
| lug outlet | 2 Piece(s) Rear side | | |
| Connection 1 | | | |
| | Configuration interface | | |
| Function | 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 | | | |
| Function | Connection to transmitter | | |
| Type of connection | Connector | | |
| Thread size | M12 | | |
| Туре | Female | | |
| erial Metal | | | |
| No. of pins | 5 -pin | | |
| Encoding | A-coded | | |
| lashaniaal data | | | |
| lechanical data | Cubic | | |
| esign | Cubic 20 mm x 25.4 mm x 1.142 mm | | |
| imension (W x H x L) | 29 mm x 35.4 mm x 1,143 mm | | |
| ousing material | Metal, Aluminum | | |

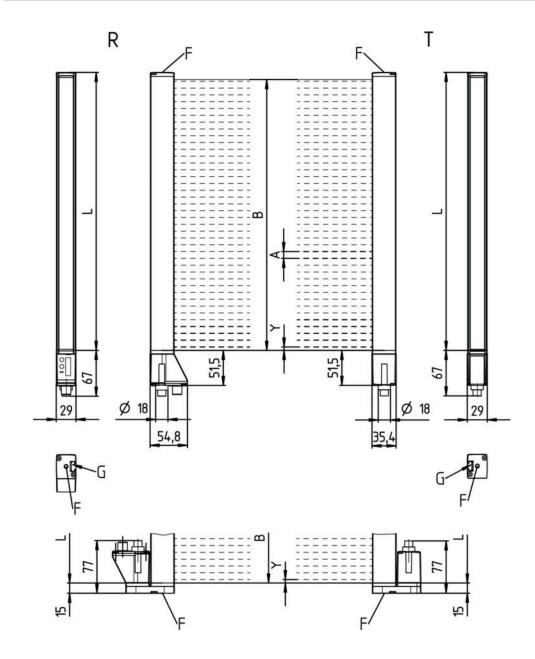
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| Lens cover material | Plastic |
|--------------------------------|-------------------------------------------------|
| Net weight | 1,350 g |
| Housing color | Silver |
| Type of fastening | Groove mounting Via optional mounting device |
| | |
| 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 |
| Certifications | |
| Degree of protection | IP 65 |
| Protection class | |
| Certifications | c CSA US |
| Standards applied | IEC 60947-5-2 |
| Classification | |
| Customs tariff number | 90314990 |
| eCl@ss 8.0 | 27270910 |
| eCl@ss 9.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| | |

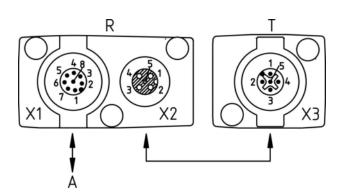
Dimensioned drawings

All dimensions in millimeters

Part no.: 50120166 – CML720i-R10-1120.R/CV-M12 – Light curtain receiver



- A Beam spacing 10 mm B Measurement field length 1120 mm
- F M6 thread
- G Fastening groove
- L Profile length 1128 mm
- T Transmitter
- R Receiver
- Y 5 mm



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A PWR / SW IN/OUT

Electrical connection

| Connection 1 | | | |
|--------------------|----------------------------------------------------------------------|--|--|
| Function | Configuration interface 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 | OUT V |
| 7 | OUT mA |
| 8 | AGND |



| 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- |



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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 |
|----------|----------------------------|------------------------------|---------------------------------------------------------------------------|
| 50119493 | CML720i- T10-1120.R-M12 | Light curtain transmitter | Operating range: 0.3 6 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 | | | |
| 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 | | | |
| 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 | | | |
| 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 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 |
|----------|------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50135128 | KD S-M12-8A- P1-050 | | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

Connection technology - Interconnection cables

| Part no. | Designation | Article | Description |
|----------|---------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | KDS DN-M12-5A- M12-5A-P3-050 | 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 |

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 |

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Mounting technology - Swivel mounts

| | Part no. | Designation | Article | Description |
|-----|----------|-------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ęł. | 429046 | BT-2R1 | Mounting bracket set | Contains: 2x BT-R swivel mount, 1 cylinder 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 |

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

Note

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