

# **Technical data sheet Light curtain receiver** Part no.: 50123612 CML720i-R10-160.R/D3-M12



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## **Technical data**

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#### **Basic data** Series 720 Throughbeam principle **Operating principle** Device type Receiver Contains Accessories for the use of the BT-2R1 Application 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 ... 7 m Operating range limit Typical operating range **Operating range limit** 0.2 ... 9 m Measurement field length 160 mm Number of beams 16 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<sub>R</sub> 18 ... 30 V, DC 0 ... 15 %, From U<sub>B</sub> **Residual ripple** 0 ... 135 mA, The specified values refer **Open-circuit current** to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 100 mA Output current, max. Input resistance 6,000 Ω Number of inputs/outputs selectable 2 Piece(s) Туре Inputs/outputs selectable DC Voltage type, outputs Typ. U<sub>B</sub> / 0 V Switching voltage, outputs Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Activation/disable delay 1 ms Timing Cycle time 1 ms Response time per beam 30 µs Interface Туре RS 485 Modbus RS 485 Process Function

Service interface			
Туре	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		
i uncuon	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			
Function	BUS IN		
<b>T</b>	BUS OUT		
Type of connection Thread size	Connector M12		
	M12 Female		
Type Material	Metal		
No. of pins	5 -pin		
Encoding	B-coded		
	5 0000		
Mechanical data			
Design	Cubic		
Dimension (W x H x L)	29 mm x 35.4 mm x 183 mm Metal		
Housing material Metal housing	Aluminum		
Lens cover material	Plastic		
Net weight	400 g		
Housing color	Silver		
Type of fastening	Groove mounting		
	Via optional mounting device		
Operation and display			
Type of display	LED		
Type of display	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		
	-40 70 °C		

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We reserve the right to make technical changes eng • 2020-12-23

# **Technical data**

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#### Certifications

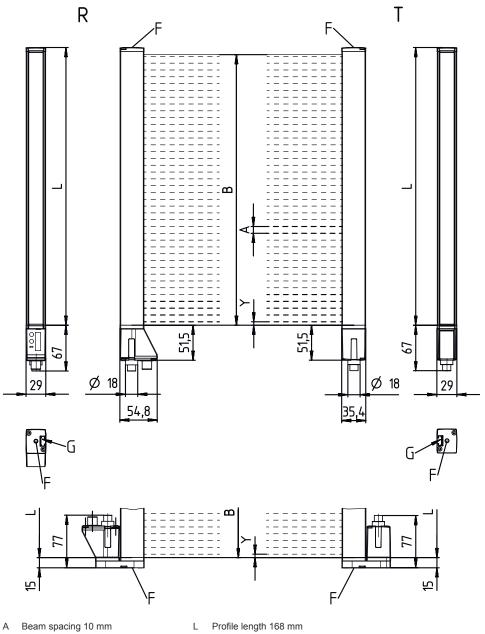
I
CSAUS
EC 60947-5-2

#### Classification

90314990
27270910
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EC002549
EC002549
EC002549

## **Dimensioned drawings**

All dimensions in millimeters



В

- Measurement field length 160 mm
- F M6 thread G Fastening groove

R Receiver

Т

Υ 5 mm

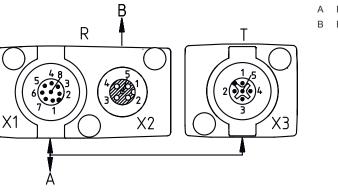
Transmitter





### **Dimensioned drawings**





A PWR / SW IN / OUTB BUS IN / OUT

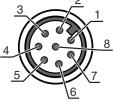
# Electrical connection

#### **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



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
50119486	CML720i-T10-160.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
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 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



7/8

DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF -EX: Explosion protection	
	Note
A	✤ A list with all available device types can be found on the Leuze website at www.leuze.com.

#### Notes

Observe intended use!
<ul> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>



#### 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 - 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

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	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
1 + 1 + 1 + 1 + 1	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
ęę.	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
y, U	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

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