# Leuze

# **Technical data sheet Light curtain receiver** Part no.: 50120077 CML720i-R10-320.R/L-M12



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 changes

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## **Technical data**

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720
Throughbeam principle
Receiver
Accessories for the use of the BT-2R1
Object measurement
Crossed-beam scanning
Diagonal-beam scanning
Parallel-beam scanning
0.3 7 m
Guaranteed operating range
0.2 9 m
Typical operating range
320 mm
32 Piece(s)
10 mm
20 mm
Polarity reversal protection
Short circuit protected
Transient protection
18 30 V, DC
0 15 %, From U <sub>B</sub>
0 165 mA, The specified values refer
to the entire package consisting of trans mitter and receiver.
100 mA
6,000 Ω
4 Piece(s)
Inputs/outputs selectable
DC
Typ. U <sub>B</sub> / 0 V
DC
high: ≥6V
low: $\leq 4 \text{ V}$
0 1 ms
400 ms
400 ms
1.36 ms
1.36 ms

	COM2
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1
	V1.1
ervice interface	
уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
umber of connections	2 Piece(s)
lug outlet	Rear side
-	
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
Connection 2	
Connection 2 Function	Connection to transmitter
	Connection to transmitter
Type of connection Thread size	M12
	Female
Type Material	Metal
No. of pins	
Encoding	5 -pin A-coded
Litoung	
lechanical data	
lesign	Cubic
esign imension (W x H x L)	29 mm x 35.4 mm x 343 mm
esign limension (W x H x L) lousing material	29 mm x 35.4 mm x 343 mm Metal
esign imension (W x H x L) lousing material letal housing	29 mm x 35.4 mm x 343 mm Metal Aluminum
lesign himension (W x H x L) lousing material letal housing ens cover material	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic
lesign himension (W x H x L) lousing material letal housing ens cover material let weight	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g
lesign himension (W x H x L) lousing material letal housing ens cover material let weight lousing color	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver
lesign himension (W x H x L) lousing material letal housing ens cover material let weight	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting
lesign himension (W x H x L) lousing material letal housing ens cover material let weight lousing color	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver
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lesign himension (W x H x L) lousing material letal housing ens cover material let weight lousing color ype of fastening	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting
Vesign Vimension (W x H x L) Iousing material Vetal housing ens cover material Vet weight Versign color Version and display	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device
Vesign Vimension (W x H x L) Iousing material Vetal housing ens cover material Vet weight Versign color Version and display	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED
lesign limension (W x H x L) lousing material letal housing ens cover material let weight lousing color ype of fastening Operation and display ype of display	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED OLED display
Vesign Vesign Vesign (W x H x L) Vesign Material Vesign Material Vesi	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s)
Vesign Vesign Vesign (W x H x L) Vesign Material Vesign Material Vesi	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software
Version (W x H x L) Version (	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in
lesign limension (W x H x L) lousing material letal housing ens cover material let weight lousing color ype of fastening Operation and display ype of display lumber of LEDs ype of configuration	29 mm x 35.4 mm x 343 mm Metal Aluminum Plastic 600 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in

2/8

### **Technical data**

#### Certifications

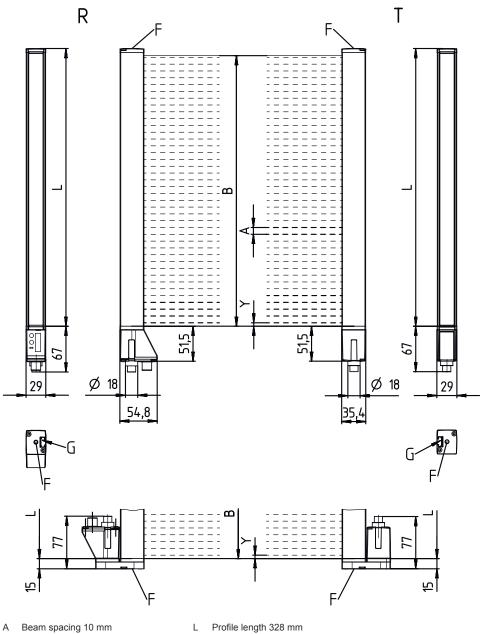
Degree of protection	IP 65
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

#### Classification

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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

### **Dimensioned drawings**

All dimensions in millimeters



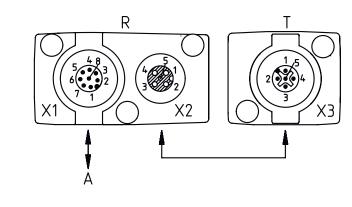
В

- Measurement field length 320 mm
- F M6 thread G Fastening groove
- Т R Receiver
  - Υ 5 mm

Transmitter

### **Dimensioned drawings**





A PWR / SW IN / OUT

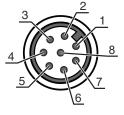
### **Electrical connection**

**Connection 1** 

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

#### Pin Pin assignment

1	V+
2	IO1
3	GND
4	IO-Link
5	102
6	IO3
7	104
8	GND



#### **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-



### **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
50119487	CML720i-T10-320.R- M12	Light curtain transmitter	Operating range: 0.3 7 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: 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 Solution of the Leuze website at www.leuze.com.					

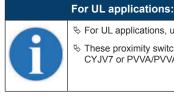
#### Notes

#### Observe intended use!

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

b The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$  Only use the product in accordance with its intended use.



ł	For UL a	application	is, use	is only per	mitted in Class 2	circuits in	accordance with	the NEC (N	lational E	lectric 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
C. LEATING	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 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	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	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

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# Accessories

## 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
RR.	429029	BT-2RG	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
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
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.
	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
6	S A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.