

## **Technical data sheet** Light curtain receiver Part no.: 50122941 CML720i-R05-320.R/PB-M12



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We reserve the right to make technical changes eng • 2020-12-20

### **Technical data**

# Leuze

720
Throughbeam principle
Receiver
Accessories for the use of the BT-2R1
Object measurement
Crossed-beam scanning
Diagonal-beam scanning
Parallel-beam scanning
Guaranteed operating range
0.1 3.5 m
Typical operating range
0.1 4.5 m
320 mm
64 Piece(s)
5 mm
10 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
100 mA
6,000 Ω
ble 2 Piece(s)
Inputs/outputs selectable
DC
DC Typ. U <sub>B</sub> / 0 V
DC Typ. U <sub>B</sub> / 0 V DC
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
DC Typ. U <sub>B</sub> / 0 V DC
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
DC Typ. U <sub>B</sub> / 0 ∨ DC high: ≥6V Iow: ≤4V
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
DC Typ. U <sub>B</sub> / 0 ∨ DC high: ≥6V Iow: ≤4V
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V Iow: ≤4V
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V Iow: ≤4V
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V low: ≤4V 1 ms 2.32 ms
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V low: ≤4V 1 ms 2.32 ms
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 2.32 ms 30 µs
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 2.32 ms 30 µs

Service interface			
Туре	IO-Link		
IO-Link			
Function	Configuration via software		
	Service		
Commention			
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		
Туре	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		
Туре	Female		
Material	Metal		
No. of pins	5 -pin		
Encoding	B-coded		
Mechanical data			
Design	Cubic		
Dimension (W x H x L)	29 mm x 35.4 mm x 343 mm		
Housing material	Metal		
Metal housing	Aluminum		
Lens cover material	Plastic 600 g		
Net weight Housing color	Silver		
Type of fastening	Groove mounting		
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Via optional mounting device		
Operation and display			
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		

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## **Technical data**

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#### Certifications

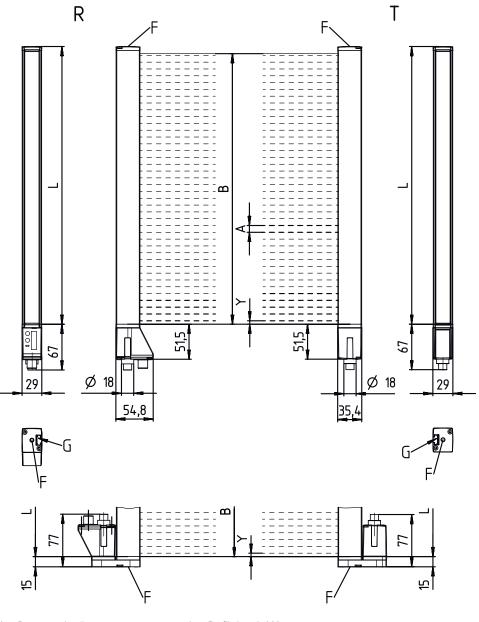
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

#### 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
Cl@ss 10.0 Cl@ss 11.0 FIM 5.0 FIM 6.0	27270910 27270910 EC002549 EC002549

#### **Dimensioned drawings**

All dimensions in millimeters



A Beam spacing 5 mm

- B Measurement field length 320 mm
- F M6 thread

G

Fastening groove

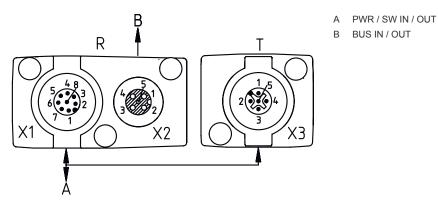
L Profile length 328 mm

- T Transmitter
- R Receiver
- Y 2.5 mm



#### **Dimensioned drawings**





## **Electrical connection**

**Connection 1** 

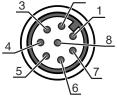
Function	Configuration interface
	Connection to transmitter
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

#### 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		



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**

#### 



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
50119452	CML720i-T05-320.R- M12	Light curtain transmitter	Operating range: 0.1 3.5 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



7/9

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	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

### Configuration devices

	Part no.	Designation	Article	Description
165	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
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.

#### Accessories





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