

## **Technical data sheet** Light curtain receiver Part no.: 50119922 CML720i-R05-1520.R/CN-M12



Leuze electronic GmbH + Co. KG

info@leuze.com • www.leuze.com changes 
 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2025-04-04

We reserve the right to make technical

### **Technical data**

# Leuze

720
720 Throughbeam principle
Throughbeam principle Receiver
Accessories for the use of the BT-2R1
Object measurement
,
Crossed-beam scanning
Diagonal-beam scanning
Parallel-beam scanning
0.1 3.5 m
Guaranteed operating range
0.1 4.5 m
Typical operating range
1,520 mm
304 Piece(s)
5 mm
10 mm
10 mm
Polarity reversal protection
Short circuit protected
Transient protection
18 30 V, DC
0 15 %, From U <sub>B</sub>
0 350 mA, The specified values refer to the entire package consisting of tran mitter and receiver.
100 mA
6,000 Ω
2 Piece(s)
Inputs/outputs selectable
Inputs/outputs selectable DC
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. $U_B / 0 V$ DC high: $\geq 6V$ low: $\leq 4 V$
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ low: $\leq 4 V$
DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ low: $\leq 4 V$
DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ low: $\leq 4 V$ 1 ms
DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V low: ≤ 4 V 1 ms 450 ms
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 450 ms 9.52 ms
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 450 ms 9.52 ms 30 $\mu$ s
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 450 ms 9.52 ms
DC Typ. $U_B / 0 \vee$ DC high: $\geq 6 \vee$ low: $\leq 4 \vee$ 1 ms 450 ms 9.52 ms 30 $\mu$ s

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			
	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	A-coded			
Mechanical data				
Design	Cubic			
Dimension (W x H x L)	29 mm x 35.4 mm x 1,543 mm			
Housing material	Metal			
Metal housing	Aluminum			
Lens cover material	Plastic			
Net weight	1,700 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			

#### Environmental data

Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the right to make technical changes

 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 We reserve the right to make technical changes

## **Technical data**

#### Certifications

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

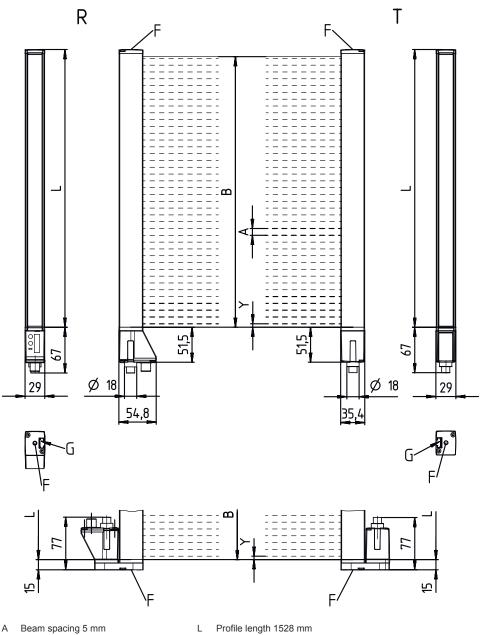
#### Classification

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



- Beam spacing 5 mm А
- В Measurement field length 1520 mm
- F M6 thread G Fastening groove
- R Receiver
  - 2.5 mm Υ

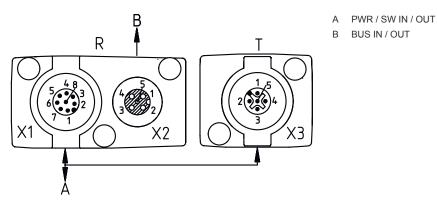
Т

Transmitter

Leuze

#### **Dimensioned drawings**





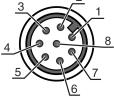
## **Electrical connection**

**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		



#### **Connection 2**

Function	BUS IN
	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

## **Electrical connection**

Pin assignment	
FE/SHIELD	
n.c.	
CAN GND	
CAN H	
CAN L	

### **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
50119467	CML720i-T05- 1520.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: 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



#### Part number code



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 Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

#### 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

#### Accessories

## Leuze

## 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
	50118185	K-YCN M12A-M12A- S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

### Connection technology - Terminating resistors

 Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Function: Bus termination Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin

#### 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
ęę.	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

#### 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.

## Leuze

#### Accessories

 Part no.	Designation	Article	Description
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	Note: A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.