## Leuze

## **Technical data sheet** Light curtain receiver Part no.: 50120062 CML720i-R05-1920.R/L-M12



The Sensor People In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com Phone: +49 7021 573-0 • Fax: +49 7021 573-199

## **Technical data**

# Leuze

#### Rasic 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 version	
Special version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning
Optical data	
Operating range	Guaranteed operating range
Operating range	0.1 3.5 m
Operating range limit	Typical operating range
Operating range limit	0.1 4.5 m
Measurement field length	1,920 mm
Number of beams	384 Piece(s)
Beam spacing	5 mm
Measurement data	
Minimum object diameter	10 mm
Electrical data	
Protective circuit	Polarity reversal protection
	Short circuit protected
	Transient protection
Performance data	
Supply voltage U <sub>B</sub>	18 30 V, DC
Residual ripple	0 15 %, From U <sub>B</sub>
Open-circuit current	$0 \dots 435 \text{ mA}$ , The specified values refer
	to the entire package consisting of trans- mitter and receiver.
Inputs/outputs selectable	100 mA
Output current, max.	6.000 Ω
Input resistance	- ,
Number of inputs/outputs selectable	
Type	Inputs/outputs selectable DC
Voltage type, outputs	
Switching voltage, outputs	Typ. U <sub>B</sub> / 0 V
Voltage type, inputs	
Switching voltage, inputs	high: ≥6V
	low: ≤4V
Input/output 1	
Activation/disable delay	0 1 ms
-	
Timing	
Readiness delay	400 ms
Cycle time	11.92 ms
Response time per beam	30 µs
Interface	
Туре	IO-Link

COM mode	COM2
Specification	V1.0.1
	V1.1
Min. cycle time	COM2 = 2.3 ms
ervice interface	
vpe	IO-Link
IO-Link	Configuration
Function	Configuration via software Service
connection	
umber of connections	2 Piece(s)
lug outlet	2 Piece(s) Rear side
ing Juliot	Nour 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 to trace "
Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded
lechanical data	
esign	Cubic
imension (W x H x L)	29 mm x 35.4 mm x 1,943 mm
lousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
let weight	2,100 g
lousing color	Silver
ype of fastening	Groove mounting
	Via optional mounting device
peration and display	
ype of display	LED
	OLED display
umber of LEDs	2 Piece(s)
ype of configuration	Software
Jes of configuration	Teach-in
nvironmental data	
	30 60 °C
Ambient temperature, operation	-30 60 °C -40 70 °C

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the rig

 The Sensor People
 In der Braike 1, 73277 Owen
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2020-12-19

We reserve the right to make technical changes

## **Technical data**

## Leuze

#### Certifications

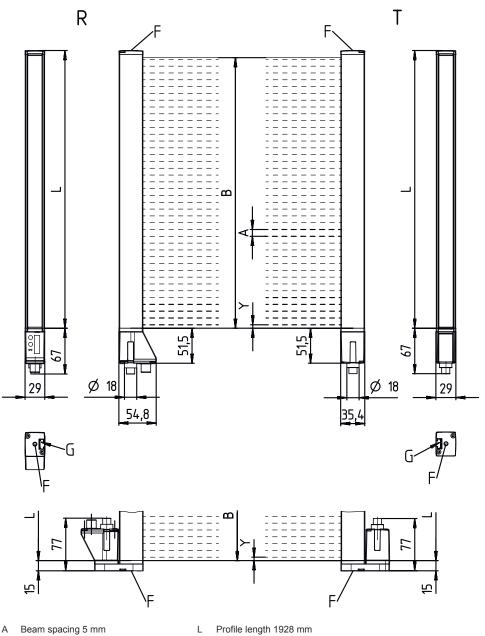
IP 65
III
c CSA US
IEC 60947-5-2
0

#### 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

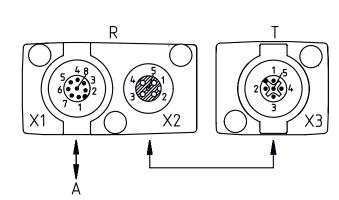


- Beam spacing 5 mm А
- В Measurement field length 1920 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

Leuze

### **Dimensioned drawings**





A PWR / SW IN / OUT

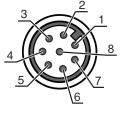
## **Electrical connection**

**Connection 1** 

Function	Configuration interface
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
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	103
7	IO4
8	GND

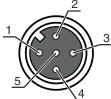


#### **Connection 2**

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**

Display

LED

1

2

display	Leuze
	Meaning
us light	Operational readiness
	Teach / error

01176

Green, continuous light	Operational readiness
Green, flashing	Teach / error
Yellow, continuous light	Light path free, with function reserve
Yellow, flashing	No function reserve
Off	Object detected

#### Suitable transmitters

 Part no.	Designation	Article	Description
50119472	CML720i-T05- 1920.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
DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
Note	
A list wi	th all available device types can be found on 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.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$  The product may only be put into operation by competent persons.

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

	For UL applications:
A	<ul> <li>For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</li> <li>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)</li> </ul>

#### Accessories

#### 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 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: 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
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

Leuze

#### Accessories



## 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
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.

## Note

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