

# **Technical data sheet Light curtain receiver** Part no.: 50120134 CML720i-R05-1040.R/CV-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 • 2024-06-21

#### 1/8

## **Technical data**

#### Basic 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	0.1 3.5 m
Operating range	Guaranteed operating range
Operating range limit	0.1 4.5 m
Operating range limit	Typical operating range
Measurement field length	1,040 mm
Number of beams	208 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	40 201/ 00
Supply voltage U <sub>B</sub>	18 30 V, DC
Residual ripple	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer
Open-circuit current	to the entire package consisting of trans- mitter and receiver.
Outrasta	
Outputs Number of analog outputs	2 Piece(s)
Number of analog outputs	
Analog outputs	
Туре	Analog output
Current	0 24 mA
Voltage	0 11 V
Analog output 1	N/ W
Туре	Voltage
Analog output 2	
Type	Current
.,,-	
Inputs/outputs selectable	
Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	2 Piece(s)
Туре	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Тур. U <sub>В</sub> / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	high: ≥6V
	low: ≤ 4 V

Input/output 1 Activation/disable delay	1 ms
ime behavior	
Readiness delay	450 ms
Cycle time	6.64 ms
Response time per beam	30 µs
Service interface	
Гуре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Rear side
Connection 1 Function	Configuration interfere
Function	Configuration interface
	Signal IN
	Signal OUT
Tune of connection	Voltage supply Connector
Type of connection	M12
Thread size	Male
Type Material	Metal
No. of pins	
	8 -pin A-coded
Encoding	A-coded
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
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,063 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,300 g
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

Leuze

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 • 2024-06-21

## **Technical data**

# Leuze

#### **Environmental data**

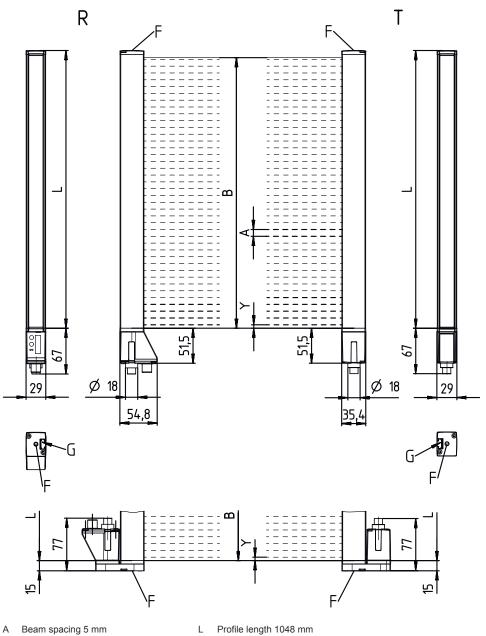
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	

Degree of protection	IP 65	
Protection class	III	
Certifications	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		
ETIM 5.0	EC002549		
ETIM 6.0	EC002549		
ETIM 7.0	EC002549		
ETIM 8.0	EC002549		
ETIM 9.0	EC002549		

### **Dimensioned drawings**

All dimensions in millimeters



- Beam spacing 5 mm А
- В Measurement field length 1040 mm
- F M6 thread G Fastening groove
- R Receiver

Т

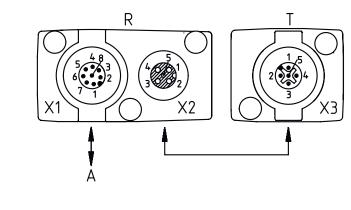
2.5 mm Υ

Transmitter

# Leuze

## **Dimensioned drawings**





A PWR / SW IN / OUT

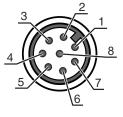
## **Electrical connection**

**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	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	OUT V
7	OUT mA
8	AGND

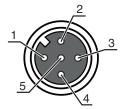


#### **Connection 2**

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-



8

#### . ÷. Operati

LED 1

2

tion and display		Leuze
	Display	Meaning
	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
	Yellow, continuous light	Light path free, with function reserve
	Yellow, flashing	No function reserve

Object detected

### Suitable transmitters

Off

 Part no.	Designation	Article	Description
50119461	CML720i-T05- 1040.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		
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:
6	<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 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

#### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
1. 1. 1. 1. 1. 1. 1. 1. 1. 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

Leuze

### Accessories

# Leuze

# 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

## Configuration devices

	Part no.	Designation	Article	Description
16	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.
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	& A li

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