

Technical data sheet Light curtain receiver Part no.: 50120157 CML720i-R05-2880.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 • 2025-04-04

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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
	2,880 mm
Number of beams	576 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 _B	18 30 V, DC
Residual ripple	0 15 %, From U _B
	0 600 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Outputs	2 Bioco(c)
Number of analog outputs	2 Piece(s)
Analog outputs	
- · ·	Analog output
	0 24 mA
	0 11 V
-	
Analog output 1	
Туре	Voltage
Analog output 2	
Туре	Current
Inputs/outputs selectable Output current, max.	100 mA
· · · · ·	
•	6,000 Ω
Number of inputs/outputs selectable	
	Inputs/outputs selectable
	DC
	Typ. U _B / 0 V
0 31 7 1	DC
	high: ≥6V
	low: ≤ 4 V

Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time Response time per beam Service interface Type IO-Link Function	1 ms 450 ms 17.68 ms 30 μs IO-Link Configuration via software Service
Time behavior Readiness delay Cycle time Response time per beam Service interface Type IO-Link	17.68 ms 30 μs IO-Link Configuration via software
Readiness delay Cycle time Response time per beam Service interface Type IO-Link	17.68 ms 30 μs IO-Link Configuration via software
Cycle time Response time per beam Service interface Type IO-Link	17.68 ms 30 μs IO-Link Configuration via software
Response time per beam Service interface Type IO-Link	30 μs IO-Link Configuration via software
Service interface Type IO-Link	IO-Link Configuration via software
Type IO-Link	Configuration via software
IO-Link	Configuration via software
Function	
Connection	
Number of connections	
Plug outlet	2 Piece(s) Rear side
i lug outlet	Iteal Slut
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	
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	
	0.11
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,903 mm
Housing material Metal housing	Metal Aluminum
Lens cover material	Plastic
Net weight	2,950 g
Housing color	Silver
Type of fastening	Groove mounting
i ypo or naotoning	Via optional mounting device
Operation and display	
Type of display	LED
Number of LEDs	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software Teach-in
Operational controls	
Operational controls	Membrane keyboard

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Technical data

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Environmental data

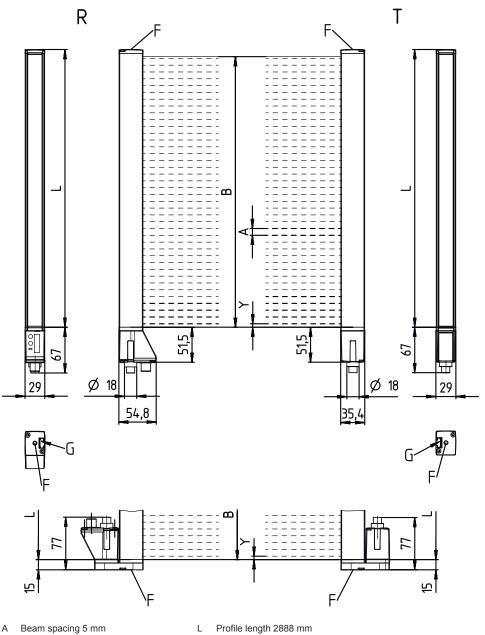
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	

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

Customs tariff number 90314990 ECLASS 5.1.4 27270910 ECLASS 8.0 27270910 ECLASS 9.0 27270910	
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Dimensioned drawings

All dimensions in millimeters



Beam spacing 5 mm А

Fastening groove

- В Measurement field length 2880 mm
- F M6 thread

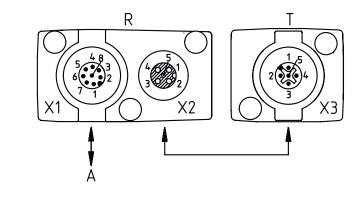
G

- Transmitter Т R Receiver
 - 2.5 mm Υ

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Dimensioned drawings





A PWR / SW IN / OUT

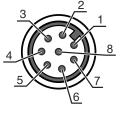
Electrical connection

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

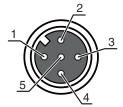


Connection 2

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-



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	
2	Green, flashing Yellow, continuous light Yellow, flashing	Teach / error Light path free, with function reserve No function reserve	

Suitable transmitters

 Part no.	Designation	Article	Description
50119484	CML720i-T05- 2880.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.

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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.

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

	For UL applications:
A	 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
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

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Accessories

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Mounting technology - Swivel mounts

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