

Technical data sheet Light curtain receiver Part no.: 50123611 CML720i-R05-2960.R/D3-M12



The Sensor People In der Braike 1, 73277 Owen

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Technical data

Leuze

Basic data Series 720 Throughbeam principle **Operating 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 2,960 mm Number of beams 592 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 0 ... 15 %, From U_B **Residual ripple** 0 ... 600 mA, The specified values refer **Open-circuit current** to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 100 mA Output current, max. Input resistance 6,000 Ω Number of inputs/outputs selectable 2 Piece(s) Туре Inputs/outputs selectable DC Voltage type, outputs Typ. U_B / 0 V Switching voltage, outputs Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Activation/disable delay 1 ms Timing Cycle time 18.16 ms Response time per beam 30 µs Interface RS 485 Modbus Туре RS 485 Process Function

уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
onnection	
umber of connections	2 Piece(s)
lug outlet	Rear side
5	
Connection 1	
Function	Configuration interface
	Connection to transmitter
	Signal IN
	Signal OUT
Time of comment's s	Voltage supply
Type of connection	Connector M12
Thread size	M12 Male
Type Material	Male
No. of pins	8 -pin
Encoding	A-coded
Lisoung	1100000
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
lechanical data	
esign	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,983 mm
lousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
let weight	3,050 g
lousing color	Silver
ype of fastening	Groove mounting
	Via optional mounting device
Operation and display	
ype of display	LED
	OLED display
lumber of LEDs	2 Piece(s)
ype of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
	30 60 °C
Ambient temperature, operation	-30 60 °C

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Certifications

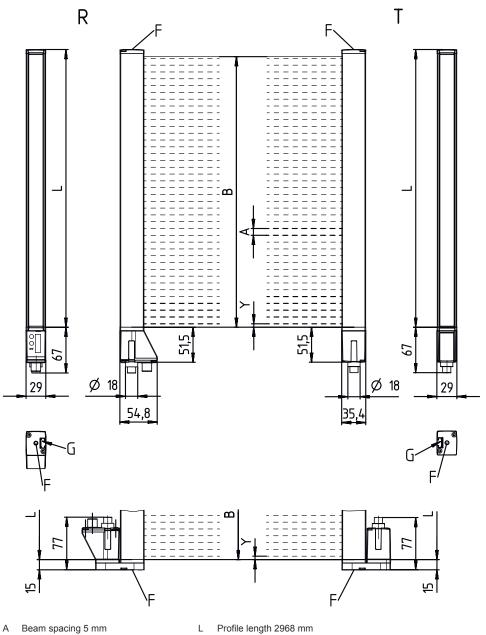
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

Classification

90314990
27270910
27270910
27270910
27270910
27270910
EC002549
EC002549
EC002549

Dimensioned drawings

All dimensions in millimeters



- Beam spacing 5 mm А
- В Measurement field length 2960 mm
- F M6 thread G Fastening groove
- R
- Receiver Υ

Т

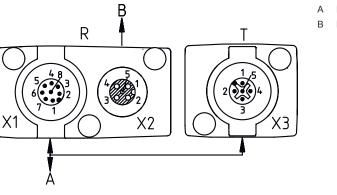
2.5 mm

Transmitter



Dimensioned drawings





A PWR / SW IN / OUT B BUS IN / OUT

Electrical connection

Connection 1

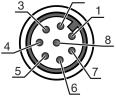
Function	Configuration interface
	Connection to transmitter
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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

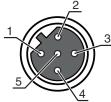
Leuze Pin assignment V+ Tx-PB GND Tx+

4 5 FE/SHIELD

Pin

1 2

3



Operation and display

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
Off	Object detected
	Green, continuous light Green, flashing Yellow, continuous light Yellow, flashing

Suitable transmitters

 Part no.	Designation	Article	Description
50119485	CML720i-T05- 2960.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
ZZ	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



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!
 This product is not a safety sensor and is not intended as personnel protection. The product may only be put into operation by competent persons. Only use the product in accordance with its intended use.



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

Leuze

	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

Services

	Part no.	Designation	Article	Description
y, U	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

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