



the sensor people





Figure can vary

Part no.: 50120112 CML720i-R20-2870.R/L-M12 Light curtain receiver







Contents

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- Electrical connection
- Operation and display
- Suitable transmitters
- · Part number code
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Technical data

Basic data		
Series	720	
Operating principle	Throughbeam principle	
	Receiver	
Device type Contains	Accessories for the use of the BT-2R1	
Application	Object measurement	
Special design		
Special design	Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning	
Optical data		
Operating range	Guaranteed operating range	
Operating range	0.3 7 m	
Operating range limit	Typical operating range	
Operating range limit	0.2 9 m	
Measurement field length	2,870 mm	
lumber of beams	144 Piece(s)	
Beam spacing	20 mm	
fleasurement data		
/linimum object diameter	30 mm	
Electrical data		
Protective circuit	Polarity reversal protection	
Totective circuit	Short circuit protected Transient protection	
Performance data		
Supply voltage U _B	18 30 V , DC	
Residual ripple	0 15 % , From U _B	
Open-circuit current	0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.	
Inputs/outputs selectable		
Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable	4 Piece(s)	
Туре	Inputs/outputs selectable	
Voltage type, outputs	DC	
Switching voltage, outputs	Typ. U _B / 0 V	
Voltage type, inputs	DC	
Switching voltage, inputs	high: ≥6V low: ≤4V	
Input/output 1		
Activation/disable delay	0 1 ms	
Fiming		
Readiness delay	400 ms	
Cycle time	4.72 ms	
Response time per beam	30 µs	



Interface		
Type	IO-Link	_
IO-Link		
COM mode	COM2	
Specification	V1.0.1 V1.1	
Min. cycle time	COM2 = 2.3 ms	
Service interface		
Туре	IO-Link	
IO-Link		
Function	Configuration via software	
	Service	
Connection Number of connections	2 Pinco(s)	
Plug outlet	2 Piece(s) Rear side	—
Connection 1	real slue	
Function	Configuration interface	
Function	Configuration interface Signal IN	
	Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
	Male	
Type Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	
Connection 2	Composition to transmitten	
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 2,903 mm	
Housing material	Metal , Aluminum	
Lens cover material	Plastic	
Net weight	2,950 g	
Housing color	Silver	
Type of fastening	Groove mounting Via optional mounting device	
0 " 1"		
Operation and display	LED	
Type of display	LED OLED display	
Number of LEDs	2 Piece(s)	

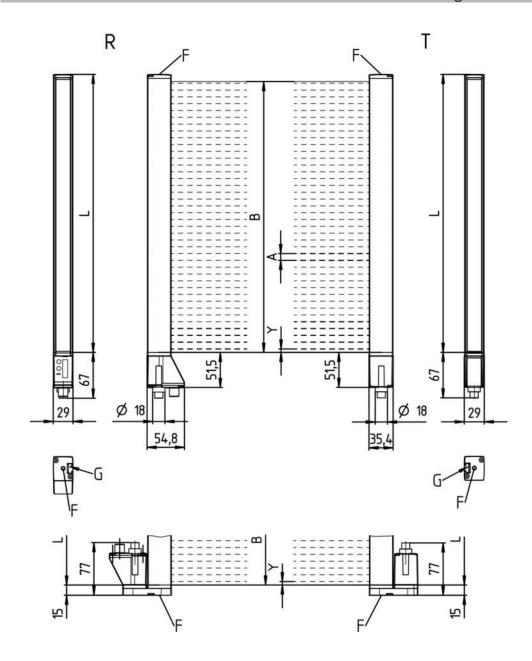


Software Teach-in	
Membrane keyboard	
-30 60 °C	
-40 70 °C	
IP 65	
otection class III	
c CSA US	
IEC 60947-5-2	
90314990	
Cl@ss 8.0 27270910	
27270910	
ETIM 5.0 EC002549	
ETIM 6.0 EC002549	
	-30 60 °C -40 70 °C IP 65 III c CSA US IEC 60947-5-2 90314990 27270910 27270910 EC002549

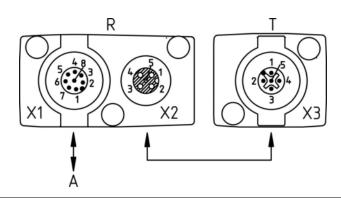
Dimensioned drawings

All dimensions in millimeters





- A Beam spacing 20 mm B Measurement field length 2870 mm
- F M6 thread
- G Fastening groove L Profile length 2888 mm
- T Transmitter
- R Receiver
- Y 5 mm





APWR / SW IN/OUT

Electrical connection

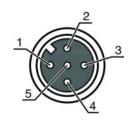
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

Pin	Pin assignment
1	V+
2	101
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

LEDs

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
		Measurement frequency display
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
50119522	CML720i- T20-2870.R-M12	Light curtain transmitter	Operating range: 0.3 6 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		
Υ	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		
DDD	Special equipment: -PS: Power Setting		
EEE	Electrical connection: M12: M12 connector		
FFF	-EX: Explosion protection:		

A list with all available device types can be found on the Leuze electronic 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
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
	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
 50142900	BT 700M.5-2SET	Mounting device set	Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws 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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Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	429046	BT-2R1	set	Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

	Part no.	Designation	Article	Description
166	50121098	SET MD12-US2-IL1.1 + Zub.		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 electronic website in the Download tab of the article detailed page.