



the sensor people





Figure can vary

Part no.: 50120125 CML720i-R05-320.R/CV-M12 Light curtain receiver





Contents

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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	0.1 3.5 m	
Operating range limit	Typical operating range	
Operating range limit	0.1 4.5 m	
Measurement field length	320 mm	
Number of beams	64 Piece(s)	
Beam spacing	5 mm	
Beam spacing	311111	
Measurement data		
Minimum object diameter	10 mm	
Electrical data		
Protective circuit	Polarity reversal protection	
Protective 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	0 165 mA , The specified values refer to the entire package consisting of transmitter and receiver.	
Outputs		
Number of analog outputs	2 Piece(s)	
Analog outputs		
Current 0 24 mA		
Voltage	0 11 V	
Analog output 1		
Туре	Voltage	
Analog output 2		
Type	Current	
-71		



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	Typ. U _B / 0 V	Typ. U _B / 0 V	
Voltage type, inputs	DC		
Switching voltage, inputs	high: ≥6V low: ≤4V		
Input/output 1			
Activation/disable delay	1 ms		
iming			
eadiness delay	450 ms		
ycle time	2.32 ms		
esponse time per beam	30 µs		
ervice interface			
/pe	IO-Link		
IO-Link			
Function	Configuration via software Service		
onnection			
umber of connections	2 Piece(s)		
ug outlet	Rear side		
Connection 1			
Function	Configuration interface Signal IN Signal OUT Voltage supply		
Type of connection	Connector		
	· · · · · · · · · · · · · · · · · · ·		
Thread size	M12		
Thread size Type	M12 Male		
Туре	Male		
Type Material	Male Metal		
Type Material No. of pins	Male Metal 8 -pin		
Type Material No. of pins Encoding	Male Metal 8 -pin		
Type Material No. of pins Encoding Connection 2	Male Metal 8 -pin A-coded		
Type Material No. of pins Encoding Connection 2 Function	Male Metal 8 -pin A-coded Connection to transmitter		
Type Material No. of pins Encoding Connection 2 Function Type of connection	Male Metal 8 -pin A-coded Connection to transmitter Connector		
Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size	Male Metal 8 -pin A-coded Connection to transmitter Connector M12		
Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type	Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female		



Net weight	600 g	
Housing color	Silver	
Type of fastening	Groove mounting Via optional mounting device	
Operation and display		
Type of display	LED OLED display	
Number of LEDs	2 Piece(s)	
Type of configuration Software Teach-in		
Operational controls	Membrane keyboard	
Environmental data		
Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	

Plastic

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

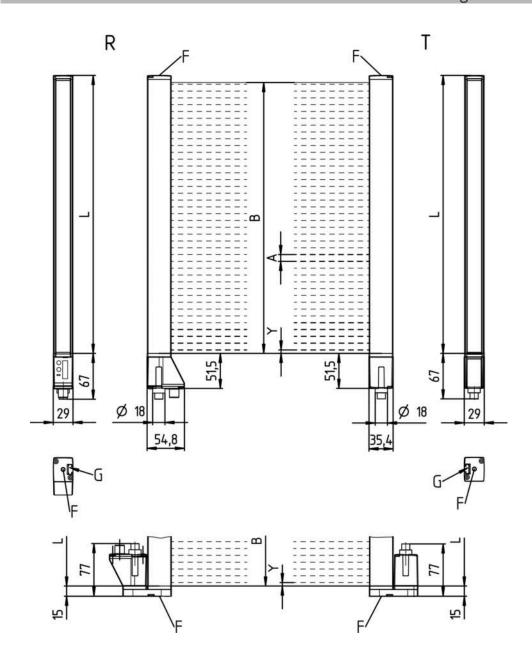
Classification	
Customs tariff number	90314990
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

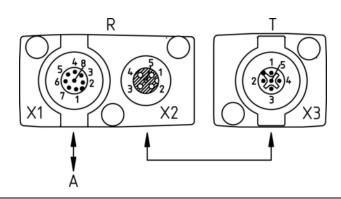
All dimensions in millimeters

Lens cover material





- A Beam spacing 5 mm B Measurement field length 320 mm
- F M6 thread
- G Fastening groove
- L Profile length 328 mm
- T Transmitter
- R Receiver
- Y 2.5 mm





APWR / SW IN/OUT

Electrical connection

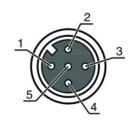
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

Pin	Pin assignment
1	V+
2	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

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
50119452	CML720i- T05-320.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
DDD	Special equipment: -PS: Power Setting
EEE	Electrical connection: M12: M12 connector
FFF	-EX: Explosion protection:

N	_	40
14	U	LC

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.