



the sensor people





Figure can vary

Part no.: 50123550 CML720i-R20-310.A/D3-M12 Light curtain receiver





Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- · Operation and display
- Suitable receivers
- · Part number code
- Notes
- Accessories



Technical data

Pacie data	
Basic data Series	720
Series Operating principle	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Object measurement
Special design	
Special design	Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning
Ontical data	
Optical data Operating range	Guaranteed operating range
Operating range	0.3 7 m
Operating range limit	
Operating range limit Operating range limit	Typical operating range 0.2 9 m
Measurement field length	310 mm
Number of beams	
Beam spacing	16 Piece(s) 20 mm
Down opening	20 11111
Measurement data	
Minimum object diameter	30 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
Open-circuit current	0 135 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	2 Piece(s)
Type	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Typ. U _B / 0 V
Switching voltage, inputs	high: ≥6V low: ≤4V
Input/output 1	
Activation/disable delay	1 ms
Timing	
Cycle time	1 ms
Response time per beam	30 µs



Interface	DO 405
Туре	RS 485
RS 485	December
Function	Process
Service interface	
	IO-Link
Type IO-Link	IO-LIIIK
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
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
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
Machanical data	
Mechanical data Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 395 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
Net weight	550 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	OLED display 2 Piece(s)
Type of configuration	Software
Operational controls	Teach-in Membrane keybeard
Operational controls	Membrane keyboard

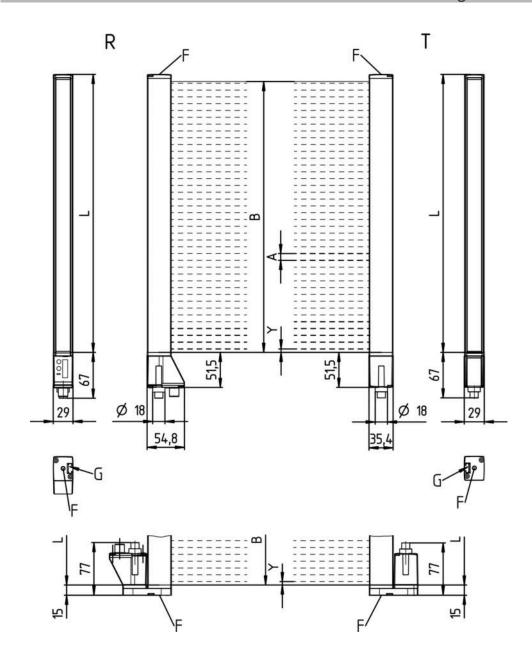


Environmental data					
Ambient temperature, operation	-30 60 °C	-30 60 °C			
Ambient temperature, storage	-40 70 °C				
Certifications					
Degree of protection	IP 65				
Protection class	III	III			
Certifications	c CSA US	c CSA US			
Standards applied	IEC 60947-5-2	IEC 60947-5-2			
Classification					
Customs tariff number	90314990				
eCl@ss 8.0	27270910	27270910			
eCl@ss 9.0	27270910	27270910			
ETIM 5.0	EC002549	EC002549			
ETIM 6.0	EC002549	EC002549			

Dimensioned drawings

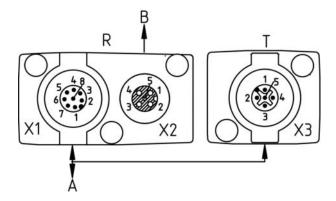
All dimensions in millimeters





- A Beam spacing 20 mm B Measurement field length 310 mm
- F M6 thread
- G Fastening groove
- L Profile length 328 mm
- T Transmitter
- R Receiver
- Y 5 mm



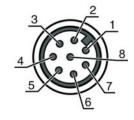


A PWR / SW IN/OUT B BUS IN / OUT

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	

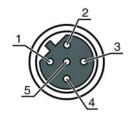
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	RS 485 Tx+
7	RS 485 Tx+
8	FE/SHIELD



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



Pin	Pin assignment
1	V+
2	Tx-
3	PB GND
4	Tx+
5	FE/SHIELD



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 receivers

Part no.	Designation	Article	Description
50119424	CML720i- T20-310.A-M12	Light curtain transmitter	Operating range: 0.3 6 m Connection: Connector, M12, Axial, 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:	

Note

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
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
	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: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 250 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

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	429046	BT-2R1	Mounting bracket 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

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.