



the sensor people





Figure can vary

Part no.: 50119852 CML720i-R20-310.A/CV-M12 Light curtain receiver





Contents

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- Electrical connection
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Technical data

Basic data	
Series	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Object measurement
E.B. 1999	
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	310 mm
Number of beams	16 Piece(s)
Beam spacing	20 mm
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	$0\\ 135\ \text{mA}$, 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	
Туре	Current



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	
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	1 ms	
esponse time per beam	30 µs	
ervice interface	10.11.1	
/pe	IO-Link	
IO-Link		
Function	Configuration via software Service	
onnection		
umber of connections	2 Piece(s)	
amber of conficctions	211000(0)	
ug outlet	Axial	
ug outlet	Axial	
Connection 1		
	Configuration interface Signal IN	
Connection 1	Configuration interface Signal IN Signal OUT	
Connection 1 Function	Configuration interface Signal IN Signal OUT Voltage supply	
Connection 1 Function Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector	
Connection 1 Function Type of connection Thread size	Configuration interface Signal IN Signal OUT Voltage supply Connector M12	
Connection 1 Function Type of connection Thread size Type	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male	
Connection 1 Function Type of connection Thread size Type Material	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal	
Connection 1 Function Type of connection Thread size Type Material No. of pins	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection Thread size	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Type	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection Thread size Type Material	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female Metal Metal	
Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Type	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female	

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	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

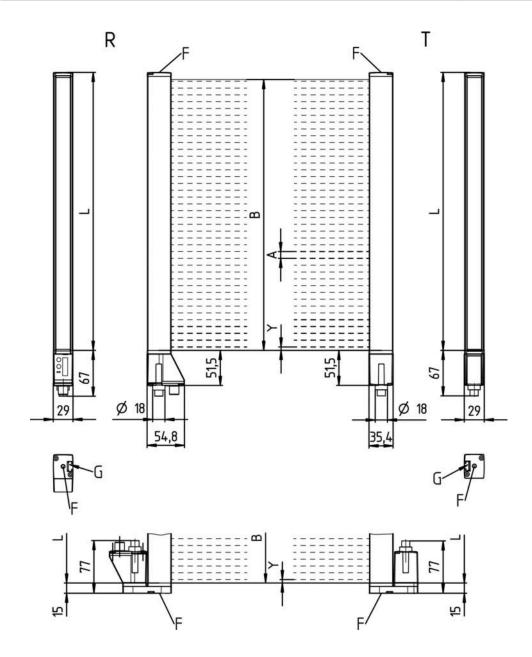
Certifications	
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

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

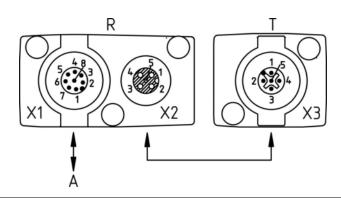
Dimensioned drawings

All dimensions in millimeters





- 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



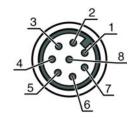


APWR / SW IN/OUT

Electrical connection

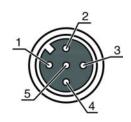
Connection 1	
Function	Configuration interface Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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
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:				

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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
50129781	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
16	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.