



the sensor people





Figure can vary

Part no.: 50120129 CML720i-R05-640.R/CV-M12 Light curtain receiver





Contents

- Technical data
- . Dimensioned drawings
- Electrical connection
- · Operation and display
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Technical data

Basic data	
Series	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	Accessories for the use of the BT-2R1
Application	Object measurement
Аррисации	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	640 mm
Number of beams	128 Piece(s)
Beam spacing	5 mm
Beam spacing	311111
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
Residual ripple	0 15 % , From U _B
Open-circuit current	0 215 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) Inputs/outputs selectable			
Type Voltage type guttavite				
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			
ming				
eadiness delay	450 ms			
ycle time	4.24 ms			
esponse time per beam	30 µs			
ervice interface				
rpe	IO-Link			
IO-Link				
Function	Configuration via software Service			
	Service			
onnaction	Service			
onnection	Service			
umber of connections	Service 2 Piece(s)			
umber of connections ug outlet	Service			
umber of connections	Service 2 Piece(s)			
umber of connections ug outlet Connection 1	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT			
umber of connections ug outlet Connection 1 Function	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply			
umber of connections ug outlet Connection 1 Function Type of connection	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector			
umber of connections ug outlet Connection 1 Function Type of connection Thread size	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12			
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male			
Type of connection Type Material	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal			
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type Material No. of pins	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
Type of connection Thread size Type Material No. of pins Encoding	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded			
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter			
Type of connection Type of connection Type Material No. of pins Encoding Connection 2 Function Type of connection	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector			
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12			
umber of connections ug outlet 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	Service 2 Piece(s) Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female			



Lens cover material	Plastic		
Net weight	900 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	Membrane keyboard	
Environmental data			
Ambient temperature, operation	-30 60 °C		
Ambient temperature, storage	-40 70 °C	-40 70 °C	
Certifications			

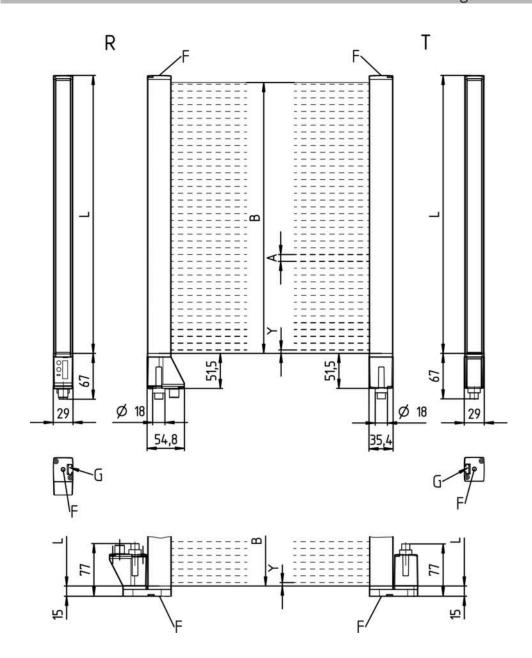
Certifications		
Degree of protection	IP 65	
Protection class	III	
Certifications	c CSA US	
Standards applied	IEC 60947-5-2	

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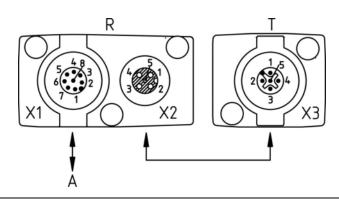
Dimensioned drawings

All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 640 mm
- F M6 thread
- G Fastening groove
- L Profile length 648 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



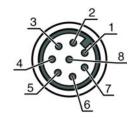


APWR / SW IN/OUT

Electrical connection

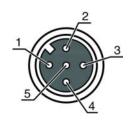
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

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
50119456	CML720i- T05-640.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:

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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
5			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.