



the sensor people





Figure can vary

Part no.: 50119924 CML720i-R05-1680.R/CN-M12 Light curtain receiver





Contents

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- . Dimensioned drawings
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Technical data

Series 720 Perating principle Throughbeam principle Receiver Perating principle Receiver Perating principle Receiver Perating principle Receiver Perating principle Receiver Perating	Basic data			
Departing principle Device type Receiver Receiv		720		
Receiver Special Receiver Receiver Receiver Accessories for the use of the BT-2R1 Accessories for the use of				
Contains Accessories for the use of the BT-2R1 Object measurement Objectal design Crossed-beam scanning Disgonal-beam scanning Disgonal-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Optical data Operating range Operating range O.13.5 m Operating range imit Typical operating range Operating range imit O.14.5 m Geasurement field length I.880 mm Iumber of beams 336 Piece(s) Seam spacing Smm Geasurement data George of the scanning Feeding of the scanning of the scanning of the scanning of transmitter and receiver. Imputs/outputs selectable Output current				
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Sisting of transmitter and receiver. Inputs/outputs selectable	Residual ripple	0 15 % , From U _B		
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 Fining Readiness delay 450 ms Sycle time 10.48 ms		0 350 mA , The specified values refer to the entire package con-		
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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 Activation/disable delay 1 ms Fiming 450 ms Cycle time 10.48 ms		100 mA		
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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 Page Readiness delay 450 ms Eycle time 10.48 ms	Number of inputs/outputs selectable	2 Piece(s)		
Switching voltage, outputs Voltage type, inputs DC Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Activation/disable delay 1 ms Timing Readiness delay 450 ms Cycle time 10.48 ms	Туре	Inputs/outputs selectable		
Voltage type, inputs DC Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Activation/disable delay 1 ms Readiness delay 450 ms Cycle time 10.48 ms				
Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Activation/disable delay 1 ms Fiming Readiness delay 450 ms Cycle time 10.48 ms	Switching voltage, outputs	Typ. U _B / 0 V		
Input/output 1	Voltage type, inputs	DC		
Activation/disable delay 1 ms Fiming Readiness delay 450 ms Cycle time 10.48 ms	Switching voltage, inputs			
Fiming Readiness delay 450 ms Cycle time 10.48 ms	Input/output 1			
Readiness delay 450 ms Cycle time 10.48 ms	Activation/disable delay	1 ms		
Readiness delay 450 ms Cycle time 10.48 ms	Timina			
Cycle time 10.48 ms	-	450 ms		
•				
	Response time per beam	30 µs		



Interface				
Type	CANopen			
CANopen	ол изорен			
Function	Process	Process		
- unotion	. 100000			
Service interface				
Type	IO-Link			
IO-Link				
Function	Configuration via software			
	Service			
Connection				
Number of connections	2 Piece(s)			
Plug outlet	Rear side			
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	A-coded			
Mechanical data	Cubia			
Design	Cubic 20 mm v 25 4 mm v 1 702 mm			
Dimension (W x H x L)	29 mm x 35.4 mm x 1,703 mm			
Housing material	Metal , Aluminum			
Lens cover material Net weight	Plastic			
Housing color	1,850 g			
Housing color Silver Type of fastening Groove mounting				
Type of fastering	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			

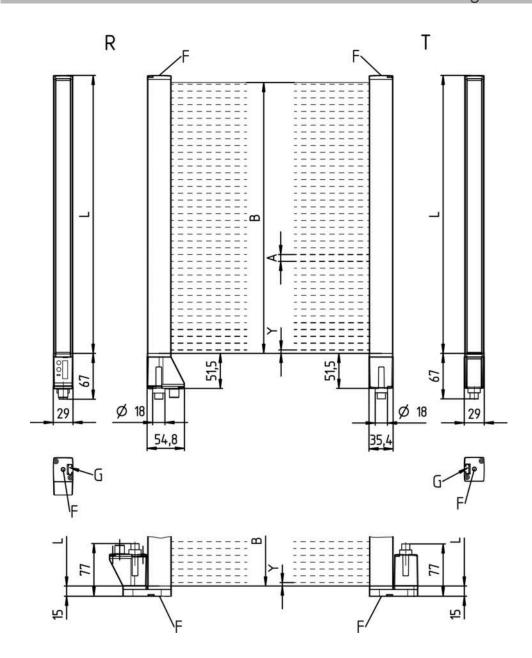


Environmental data			
Ambient temperature, operation	-30 60 °C		
Ambient temperature, storage	-40 70 °C	-40 70 °C	
Certifications			
Degree of protection	IP 65		
Protection class	III		
Certifications	c CSA US		
Standards applied	IEC 60947-5-2		
Classification			
Customs tariff number	90314990		
eCl@ss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

Dimensioned drawings

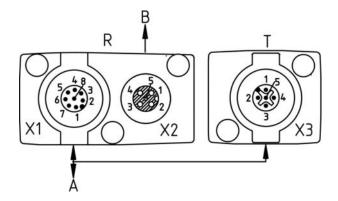
All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 1680 mm
- F M6 thread
- G Fastening groove
- L Profile length 1688 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



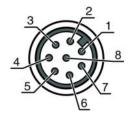


A PWR / SW IN/OUT B BUS IN / OUT

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	

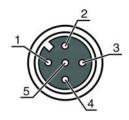
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	RS 485 Tx+
7	RS 485 Tx+
8	FE/SHIELD



Connection 2	
Function	BUS IN BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded



Pin	Pin assignment
1	FE/SHIELD
2	n.c.
3	CAN GND
4	CAN H
5	CAN L



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
50119469	CML720i- T05-1680.R-M12	Light curtain transmitter	Operating range: 0.1 3.5 m Connection: Connector, M12, Rear side, 5 -pin

Part number code

Part designation: ${f CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF}$

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

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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

Connection technology - Y distribution cables

	Part no.	Designation	Article	Description
		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
	50118185	K-YCN M12A- M12A-S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

Connection technology - Terminating resistors

Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Function: Bus termination

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

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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.