



the sensor people





Figure can vary

Part no.: 50119821 CML720i-R05-2080.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			
- ' '	,		
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	2,080 mm		
Number of beams	416 Piece(s)		
Beam spacing	5 mm		
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	$0\\ 435\ \text{mA}$, 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		



nputs/outputs selectable output current, max.	100 mA			
nput resistance	6,000 Ω			
<u>·</u>	2 Piece(s)			
Number of inputs/outputs selectable	Inputs/outputs selectable			
Type				
Voltage type, outputs	Typ. U _B / 0 V			
Switching voltage, outputs				
Voltage type, inputs	DC			
Switching voltage, inputs	high: ≥6V low: ≤4V			
Input/output 1				
Activation/disable delay	1 ms			
ming				
eadiness delay	450 ms			
rcle time	12.88 ms			
esponse time per beam	30 µs			
ervice interface				
pe	IO-Link			
IO-Link				
IO-Link Function	Configuration via software Service			
Function pnnection	Service			
Function Onnection Imber of connections	Service 2 Piece(s)			
Function panection imber of connections ug outlet	Service			
Function Onnection Imber of connections	Service 2 Piece(s)			
Punction Connection Important of connections ag outlet Connection 1	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT			
Function Connection Important of connections Function Function	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply			
Function onnection umber of connections ug outlet Connection 1 Function Type of connection	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector			
Function Connection Important of connections In goutlet Connection 1 Function Type of connection Thread size	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12			
Function Onnection Imber of connections ag outlet Connection 1 Function Type of connection Thread size Type	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male			
Function Innection Important of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal			
Function Innection Imper of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
Function Innection Imber of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
Function Innection Important of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded			
Function Innection Imper of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter			
Function Connection Imber of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector			
Function Innection Imber of connections Ing 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) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12			
Function Innection Imber of connections Ing outlet Connection 1 Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type of connection	Service 2 Piece(s) Axial Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female			

Cubic

Metal , Aluminum

29 mm x 35.4 mm x 2,155 mm

Design

Dimension (W x H x L)

Housing material



Lens cover material	Plastic			
Net weight	2,200 g	2,200 g		
Housing color	Silver	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	-40 70 °C		
Certifications				

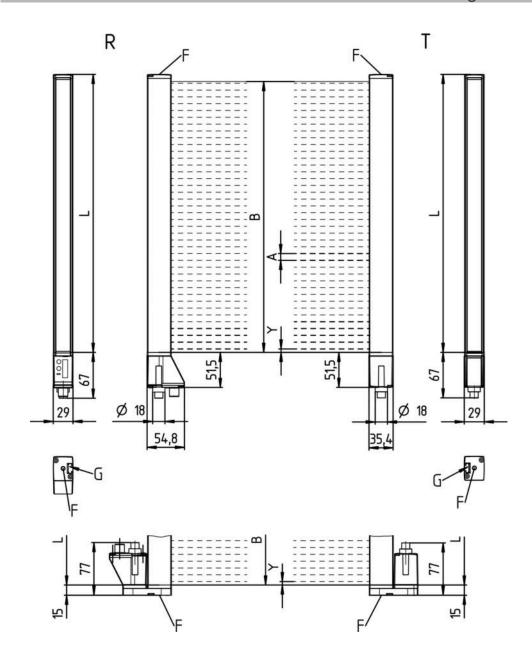
Certifications		
Degree of protection	IP 65	
Protection class	III	
Certifications	c CSA US	
Standards applied	IEC 60947-5-2	

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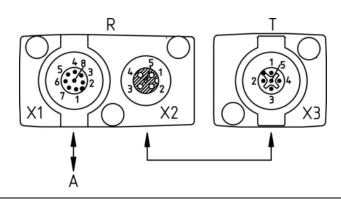
Dimensioned drawings

All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 2080 mm
- F M6 thread
- G Fastening groove
- L Profile length 2088 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



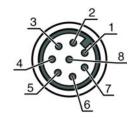


APWR / SW IN/OUT

Electrical connection

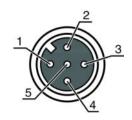
Connection 1	
Function	Configuration interface Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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
50119393	CML720i- T05-2080.A-M12	Light curtain transmitter	Operating range: 0.1 3.5 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			
Υ	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:			

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.