



the sensor people





Figure can vary

Part no.: 50131890 CML720i-R05-2800.A/PN-M12 Light curtain receiver





Contents

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



Technical data

Basic data				
	700			
Series	720 Throughbeam principle			
Operating principle	Receiver			
Device type				
Contains	2x BT-NC sliding block			
Application	Object measurement			
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	2,800 mm			
Number of beams	560 Piece(s)			
Beam spacing	5 mm			
Measurement data				
Minimum object diameter	10 mm			
Electrical data				
Protective circuit	Polarity reversal protection			
Trotective enoun	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 mA , The specified values refer to the entire package con sisting 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)			
Туре	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			
Timing				
Readiness delay	1,500 ms			
Cycle time	17.2 ms			
Response time per beam	30 µs			
Interface	PROFINET			
Туре	PROFINET			



Profinet	
Function	Process
Conformance class	В
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s
·	100 Mbit/s
Service interface	
Туре	IO-Link
IO-Link	
Function	Configuration via software Service
Connection	
Number of connections	3 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
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
Connection 3	
Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,875 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
	. 18818

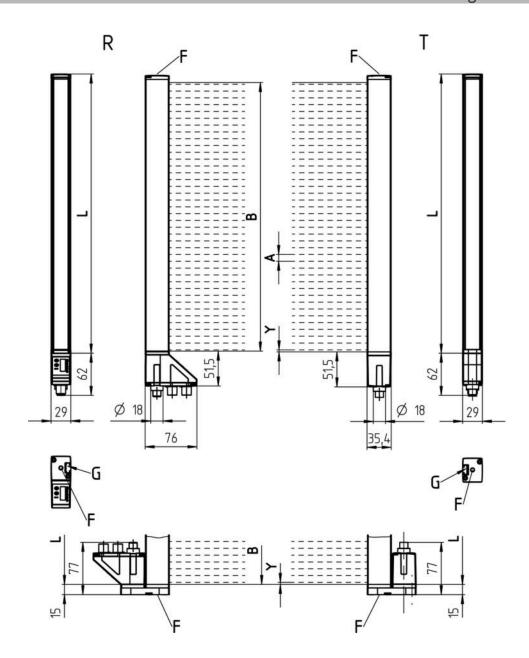


Housing color	Silver			
Type of fastening	Groove mounting Via optional mounting device	Groove mounting Via optional mounting device		
Operation and display				
Type of display	LED OLED display			
Number of LEDs	4 Piece(s)			
Type of configuration	Software Teach-in			
Operational controls	Membrane keyboard			
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	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				

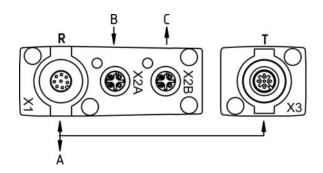
Dimensioned drawings

All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 2800 mm
- F M6 thread
- G Fastening groove L Profile length 2808 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



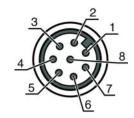


A PWR / SW IN/OUT B BUS IN C BUS OUT

Electrical connection

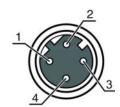
Connection 1	X1	
Function	Configuration interface Connection to transmitter Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded A-coded	

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	X2A	
Function	BUS IN	
Type of connection	Connector	
Thread size	M12	
Туре	Female	
Material	Metal	
No. of pins	4 -pin	
Encoding	D-coded	

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-

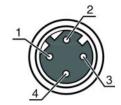


Connection 3	X2B	
Function	BUS OUT	
Type of connection	Connector	
Thread size	M12	
Туре	Female	



Connection 3	X2B
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-



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
3	Green, continuous light (at the X2A / X2B connector)	Link
4	Yellow, continuous light (at the X2A / X2B connector)	Activity

Suitable transmitters

Part no.	Designation	Article	Description
50119402	CML720i- T05-2800.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
Y	Device type: T: transmitter R: receiver

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



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

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



Part no.	Designation	Article	Description
50135074	KS ET-M12-4A- P7-050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

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

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

Part no.	Designation	Article	Description
50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



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.