

Technical data sheet Light curtain receiver Part no.: 50119779 CML720i-R20-1590.A/L-M12



 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 changes

 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
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Technical data

Series	720		
Operating principle			
Device type	Throughbeam principle Receiver		
Contains	2x BT-NC sliding block		
Application	Object measurement		
Application	Object measurement		
Special version			
Special version	Crossed-beam scanning		
	Diagonal-beam scanning		
	Parallel-beam scanning		
Optical data			
•	0.3 7 m		
Operating range	Guaranteed operating range		
Operating range	0.2 9 m		
Operating range limit Operating range limit			
	Typical operating range		
Measurement field length Number of beams	1,590 mm 80 Piece(s)		
Beam spacing	20 mm		
Measurement data			
Minimum object diameter	30 mm		
Electrical data			
	Polarity reversal protection		
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	0 350 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.		
Innuto/outnuto oplastable			
Inputs/outputs selectable Output current, max.	100 mA		
Input resistance	6,000 Ω		
Number of inputs/outputs selectable	,		
Type Voltage type, outputs	Inputs/outputs selectable DC		
Switching voltage, outputs	Typ. U _B / 0 V		
Voltage type, inputs	DC		
Switching voltage, inputs	high: ≥6V		
e moning voltage, inpute	low: $\leq 4 V$		
	····· = = v		
Input/output 1			
Activation/disable delay	0 1 ms		
Time behavior			
Readiness delay	400 ms		
Cycle time	2.8 ms		
Response time per beam	30 µs		
Interface			
Туре	IO-Link		

COM mode	COM2
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1
	V1.1
Service interface	
Туре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
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
O	
Connection 2 Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
No. or pins	A-coded
Encoding	
Encoding	
Encoding Mechanical data	
Mechanical data Design	Cubic
Mechanical data Design Dimension (W x H x L)	Cubic 29 mm x 35.4 mm x 1,675 mm
Mechanical data Design Dimension (W x H x L) Housing material	Cubic 29 mm x 35.4 mm x 1,675 mm Metal
Mechanical data Design Dimension (W x H x L) Housing material Metal housing	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic
Mechanical data Design Dimension (W x H x L)	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device LED
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s)
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration Operational controls	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in
Mechanical data Design Dimension (W x H x L) Housing material Metal housing Lens cover material Net weight Housing color Type of fastening Operation and display Type of display Number of LEDs Type of configuration	Cubic 29 mm x 35.4 mm x 1,675 mm Metal Aluminum Plastic 1,750 g Silver Groove mounting Via optional mounting device

Technical data

Certifications

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

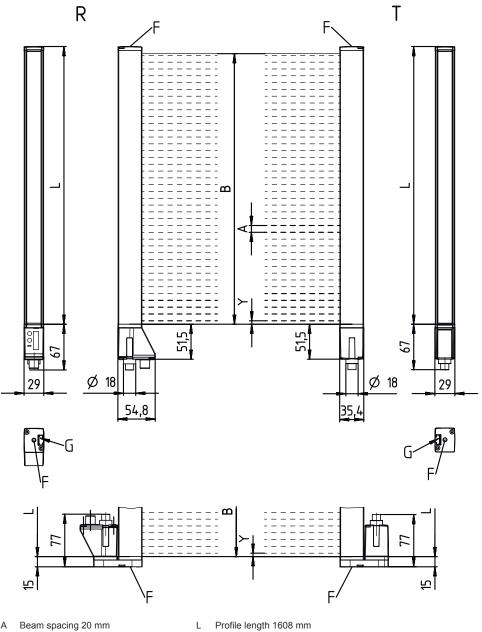
Classification

Customs tariff number	90314990
ECLASS 5.1.4	27270910
ECLASS 8.0	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ECLASS 15.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549



Dimensioned drawings

All dimensions in millimeters

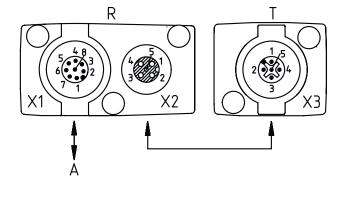


- Beam spacing 20 mm А
- В Measurement field length 1590 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver Υ
- 5 mm

Dimensioned drawings



A PWR / SW IN / OUT



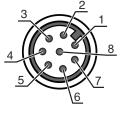
Electrical connection

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	IO1
3	GND
4	IO-Link
5	102
6	IO3
7	IO4
8	GND



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

LEDDisplayMeaning1Green, continuous lightOperational readinessGreen, flashingTeach / error2Yellow, continuous lightLight path free, with function reserveYellow, flashingNo function reserveOffObject detected

Suitable transmitters

 Part no.	Designation	Article	Description
50119432	CML720i-T20- 1590.A-M12	Light curtain transmitter	Operating range: 0.3 7 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	
22	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: Axial connector outlet 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 Image: Second se		

Notes

Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

b The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ Only use the product in accordance with its intended use.

	For
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U	L appl	ications:
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b 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 unit

	Part no.	Designation	Article	Description
C. LEATER	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

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 Connector, LED: No Connection 2: Open end
Ŭ				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: 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

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Mounting technology - Mounting brackets

 Part no.	Designation	Article	Description
 50142900	BT 700M.5-2SET	Mounting device set	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

Configuration devices

Accessories

 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

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.
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.

Note

the A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.