

Technical data sheet Light curtain receiver Part no.: 50119777 CML720i-R20-1270.A/L-M12



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Technical data

Series	720		
Operating principle	Throughbeam principle		
Device type	Receiver		
Contains	2x BT-NC sliding block		
Application	Object measurement		
Special version			
Special version	Crossed-beam scanning		
	Diagonal-beam scanning		
	Parallel-beam scanning		
Optical data			
Operating range	0.3 7 m		
Operating range	Guaranteed operating range		
Operating range limit	0.2 9 m		
Operating range limit	Typical operating range		
Measurement field length	1,270 mm		
Number of beams	64 Piece(s)		
Beam spacing	20 mm		
Measurement data			
Minimum object diameter	30 mm		
Electrical data			
Protective circuit	Polarity reversal protection		
	Short circuit protected		
	Transient protection		
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Performance data			
Supply voltage U _B	18 30 V, DC		
Residual ripple	0 15 %, From U _B		
Open-circuit current	0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.		
Inputs/outputs coloctable			
Inputs/outputs selectable Output current, max.	100 mA		
Input resistance	6,000 Ω		
Number of inputs/outputs selectable	,		
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		
	$low: \leq 4 V$		
Input/output 1			
Activation/disable delay	0 1 ms		
Time behavior			
Readiness delay	400 ms		
Cycle time	2.32 ms		
Response time per beam	30 µs		
Interface			
Туре	IO-Link		
	IO-Link		

IO-Link	
COM mode	COM2
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1
	V1.1
ervice interface	
уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
connection	
umber of connections	2 Piece(s)
lug 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
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
lechanical data	
esign	Cubic
imension (W x H x L)	29 mm x 35.4 mm x 1,355 mm
ousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
et weight	1,450 g
ousing color	Silver
ype of fastening	Groove mounting
	Via optional mounting device
peration and display	
ype of display	LED
	OLED display
umber of LEDs	2 Piece(s)
ype of configuration	Software
	Teach-in
perational controls	Membrane keyboard
nvironmental data	
mbient temperature, operation	-30 60 °C
insidine tomporataro, oporation	

Technical data

Certifications

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

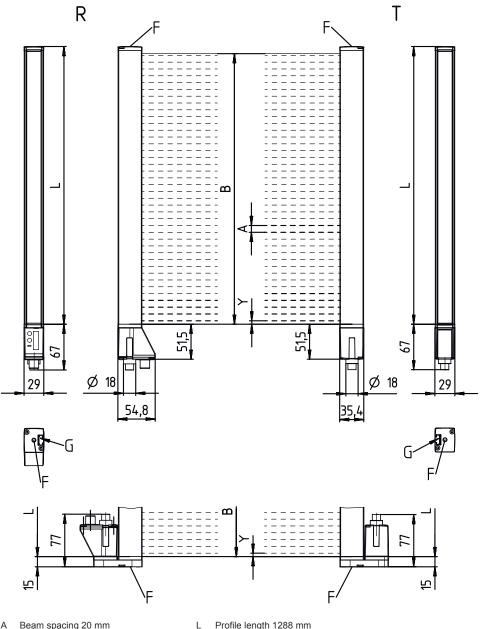
Classification

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 1270 mm
- F M6 thread G
 - Fastening groove
- Profile length 1288 mm Т
 - Transmitter
- R Receiver
- 5 mm Υ

Dimensioned drawings



A PWR / SW IN / OUT

Electrical connection

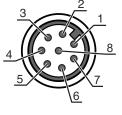
Connection 1

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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 IO2
3 GND 4 IO-Link
4 IO-Link
5 102
6 IO3
7 104
8 GND

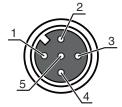


Connection 2

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
50119430	CML720i-T20- 1270.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

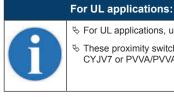
	Operating principle Measuring light curtain	
	Series 720i: 720i series 730i: 730i series	
	Device type T: transmitter R: receiver	
	Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm	
AAAA	Measurement field length [mm], dependent on beam spacing	
	Equipment A: Axial connector outlet R: Rear connector outlet	
	Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus	
	Special equipment -PS: Power Setting	
	Electrical connection M12: M12 connector	
FFF	-EX: Explosion protection	
Note Image: Second state Image: Second state<		

Notes

Observe intended use!

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

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



✤ 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. LEATING	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
165	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.