

Technical data sheet Light curtain receiver Part no.: 50131936 CML720i-R10-2720.A/PN-M12



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Technical data

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	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		
	2,720 mm		
Number of beams	272 Piece(s)		
Beam spacing	10 mm		
Massurement data			
Measurement data	00		
Minimum object diameter	20 mm		
Electrical data			
Protective circuit	Polarity reversal protection		
	Short circuit protected		
	Transient protection		
Performance data	40 00 1/ 50		
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 consisting of trans mitter and receiver.		
Inputs/outputs selectable	100		
Output current, max.	100 mA		
Input resistance	6,000 Ω		
Number of inputs/outputs selectable			
Number of inputs/outputs selectable Type	Inputs/outputs selectable		
Number of inputs/outputs selectable Type Voltage type, outputs	Inputs/outputs selectable DC		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V DC		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V DC		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 1 ms		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ low: $\leq 4 V$ 1 ms 1,500 ms		
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 1 ms 1,500 ms 8.56 ms		

PROFINET	
Function	Process
Conformance class	B
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s 100 Mbit/s
Service interface	
Гуре	IO-Link
IO-Link	
Function	Configuration via software
	Service
D	
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 2,795 mm
Housing material	Metal
Metal housing	Aluminum
_ens cover material	Plastic
Net weight	2,750 g
Housing color	Silver
	Groove mounting
Гуре of fastening	Groove mounting

Technical data

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Operation and display

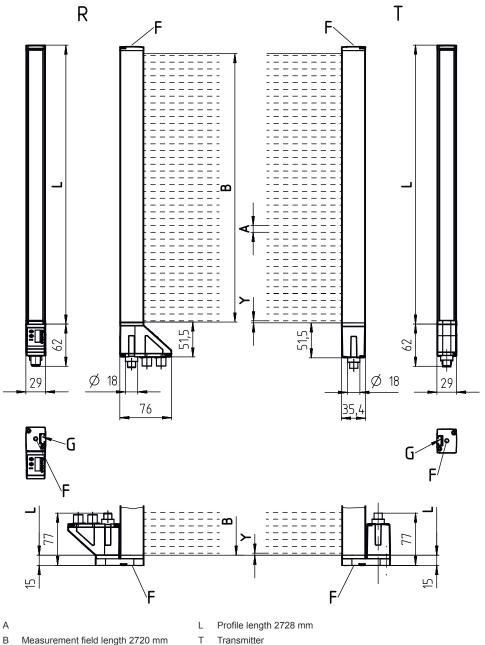
Type of display	LED
	OLED display
Number of LEDs	4 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, operation Ambient temperature, storage	-30 60 °C -40 70 °C
Ambient temperature, storage	
Ambient temperature, storage	
Ambient temperature, storage	-40 70 °C
Ambient temperature, storage Certifications Degree of protection	-40 70 °C IP 65
Ambient temperature, storage Certifications Degree of protection Protection class	-40 70 °C IP 65 III

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



- Measurement field length 2720 mm
- F M6 thread
- G Fastening groove
- Transmitter
- R Receiver
- 5 mm Υ

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Dimensioned drawings

Electrical connection

Connection 1

Type of connection

Thread size

Туре

Pin

Material

No. of pins

Encoding

Function

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5/9

1 V+ 2 I/O 1 3 GND

Pin assignment

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

X2A

Connection 2

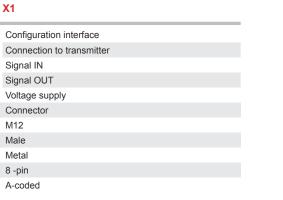
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin Pin assignment

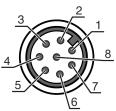
 2 RD0+ 3 TD0- 4 RD0- 	1	TD0+		
	2	RD0+		
4 RD0-	3	TD0-		
	4	RD0-		

R	B ∳	C ∳	Т	l
	0			
			X3	
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- A PWR / SW IN / OUT B BUS IN
- C BUS OUT









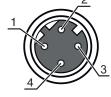
Electrical connection

Connection 3

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

X2B

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



Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
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
50119421	CML720i-T10- 2720.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





Part number code



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					
f	A list with all available device types can be found on the Leuze 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 Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
50135074	KS ET-M12-4A-P7- 050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

Accessories

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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	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

	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
с. С	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.

Accessories





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