

Technical data sheet Light curtain receiver Part no.: 50131974 CML720i-R20-2870.A/PN-M12



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Technical data

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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		
Dperating 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	2,870 mm	
Number of beams	144 Piece(s)	
Beam spacing	20 mm	
Measurement data		
Minimum object diameter	30 mm	
-	50 mm	
Electrical data		
Protective circuit	Polarity reversal protection	
	Short circuit protected	
	Transient protection	
Performance data	19 20.1/ DC	
Supply voltage U _B Residual ripple	18 30 V, DC	
Open-circuit current	0 15 %, From U _B 0 435 mA, The specified values refer	
Open-circuit current	to the entire package consisting of trans- mitter and receiver.	
Inputs/outputs selectable	100 1	
Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable Type	2 Piece(s) Inputs/outputs selectable	
Voltage type, outputs	DC	
	00	
Switching voltage, outputs	Typ. U _B / 0 V	
Switching voltage, outputs Voltage type, inputs	DC	
Switching voltage, outputs		
Switching voltage, outputs Voltage type, inputs	DC high: ≥6V	
Switching voltage, outputs Voltage type, inputs	DC high: ≥6V	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	DC high: ≥6V	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	DC high: ≥6V low: ≤ 4 V	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	DC high: ≥6V low: ≤ 4 V 1 ms	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	DC high: ≥6V low: ≤ 4 V 1 ms 1,500 ms	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time	DC high: ≥6V low: ≤ 4 V 1 ms 1,500 ms 4.72 ms	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	DC high: ≥6V low: ≤ 4 V 1 ms 1,500 ms	
Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time	DC high: ≥6V low: ≤ 4 V 1 ms 1,500 ms 4.72 ms	

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
Function	Configuration interface
	Connection to transmitter
	Signal IN
	Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded
Connection 2	DUCIN
Function	BUS IN Connector
Type of connection	M12
Thread size	Female
Type	
Material No. of pins	Metal 4 -pin
Encoding	D-coded
Encouning	D-coueu
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 2,955 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
	2,900 g
Net weight	Olliver
Housing color	Silver
-	Silver Groove mounting Via optional mounting device

Technical data

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Operation and display

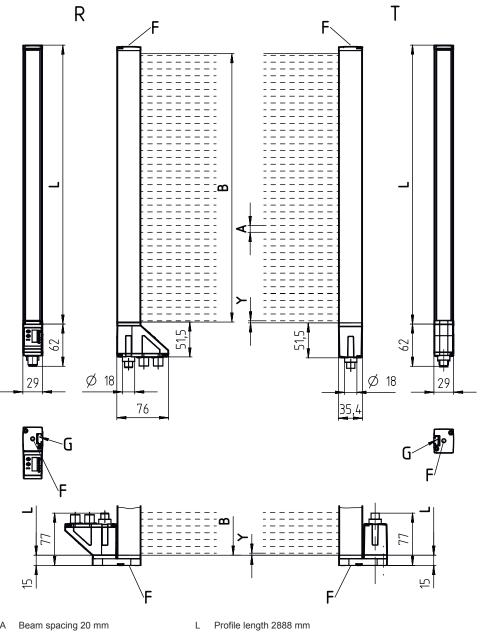
Type of display	LED
	OLED display
Number of LEDs	4 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, operation Ambient temperature, storage	-30 60 °C -40 70 °C
Ambient temperature,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



- Beam spacing 20 mm А
- В Measurement field length 2870 mm
- F M6 thread G
 - Fastening groove
- Т
 - Transmitter
- R Receiver
- 5 mm Υ

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Dimensioned drawings

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В ٢ А В R С Ο

- PWR / SW IN / OUT BUS IN
- BUS OUT

Electrical connection Connection 1

A

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

X1

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

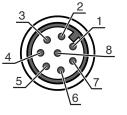
X2A

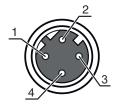
Connection 2

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-			









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 . ----Diaml

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

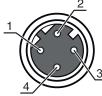
F	Part no.	Designation	Article	Description
5		CML720i-T20- 2870.A-M12	Light curtain transmitter	Operating range: 0.3 7 m Connection: Connector, M12, Axial, 5 -pin

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.
\frown	∜ 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
W D	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
Ŵ	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.