

Technical data sheet Light curtain receiver Part no.: 50119773 CML720i-R20-630.A/L-M12



 Leuze electronic GmbH + Co. P

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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		
Operating range	Guaranteed operating range	
Operating range	0.3 7 m	
Operating range limit	Typical operating range	
Operating range limit	0.2 9 m	
Measurement field length	630 mm	
Number of beams	32 Piece(s)	
Beam spacing	20 mm	
Measurement data		
Measurement data Minimum object diameter	30 mm	
winning object grameter	JU IIIII	
Electrical data		
Protective circuit	Polarity reversal protection	
	Short circuit protected	
	Transient protection	
Deuferman et d		
Performance data	18 30 V DC	
Supply voltage U _B	18 30 V, DC	
Residual ripple Open-circuit current	0 15 %, From U_B 0 165 mA, The specified values refer	
open-circuit current	to the entire package consisting of trans mitter and receiver.	
Innuts/outnuts selectable		
Inputs/outputs selectable Output current, max.	100 mA	
Output current, max.	100 mA 6.000 Ω	
Output current, max. Input resistance	6,000 Ω	
Output current, max. Input resistance Number of inputs/outputs selectable	6,000 Ω 4 Piece(s)	
Output current, max. Input resistance Number of inputs/outputs selectable Type	6,000 Ω	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_{\rm B}$ / 0 V DC	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	$6,000 \Omega$ 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤4V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤4V	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Timing Readiness delay	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms 400 ms	
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Timing Readiness delay Cycle time	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤4V 0 1 ms 400 ms 1.36 ms	

IO-Link	
COM mode	COM2
Specification	V1.0.1
	V1.1
Min. cycle time	COM2 = 2.3 ms
Service interface	
Гуре	IO-Link
IO-Link Function	Configuration via software
Function	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
	7000
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
5	
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
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 715 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	850 g
Housing color	Silver
Type of fastening	Groove mounting
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Via optional mounting device
Operation and display	
	LED
Type of display	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
	20 60 °C
Ambient temperature, operation	-30 60 °C -40 70 °C
Ambient temperature, storage	

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Technical data

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Certifications

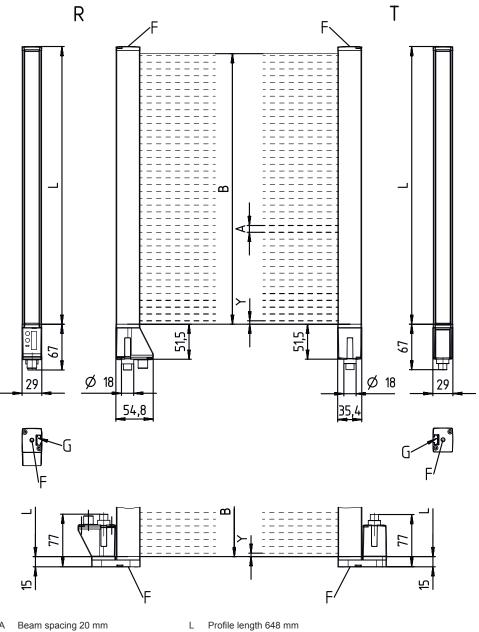
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	90314990
eCl@ss 5.1.4	27270910
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
eCl@ss 10.0	27270910
eCl@ss 11.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

Dimensioned drawings

All dimensions in millimeters



Beam spacing 20 mm А

- В Measurement field length 630 mm
- F M6 thread G Fastening groove
- R Receiver

Transmitter

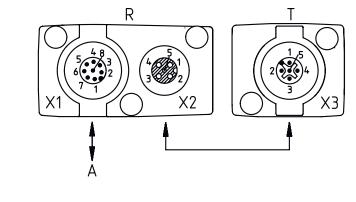
Т

Υ 5 mm



Dimensioned drawings





A PWR / SW IN / OUT

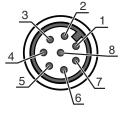
Electrical connection

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		

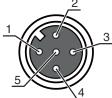


Connection 2

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

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

Suitable transmitters

 Part no.	Designation	Article	Description
50119426	CML720i-T20-630.A- M12	Light curtain transmitter	Operating range: 0.3 6 m Connection: Connector, M12, Axial, 5 -pin

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

1	Note
FFF	-EX: Explosion protection
EEE	Electrical connection M12: M12 connector
DDD	Special equipment -PS: Power Setting
CCC	Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus
В	Equipment A: connector outlet, axial R: rear connector outlet
AAAA	Measurement field length [mm], dependent on beam spacing
ZZ	Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
Y	Device type T: transmitter R: receiver
7XXi	Series 720i: 720i series 730i: 730i series
CML	Operating principle Measuring light curtain

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Notes

Observe intended use!

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

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ 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 UL applications:
A	 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
	50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end 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: IO-Link, 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

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
1 + 1 + + + + + + + + + + + + + + + + +	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

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Accessories



Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęę.	429046	BT-2R1	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

Configuration devices

 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. 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 website in the Download tab of the article detailed page.