

Technical data sheet Light curtain receiver Part no.: 50119813 CML720i-R05-1440.A/CV-M12



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 changes

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 eng • 2025-04-04

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Technical data

Basic 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	0.1 3.5 m
Operating range	Guaranteed operating range
Operating range limit	0.1 4.5 m
Operating range limit	Typical operating range
Measurement field length	1,440 mm
Number of beams	288 Piece(s)
Beam spacing	5 mm
Measurement data	
Minimum object diameter	10 mm
-	
Electrical data	
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.
	to the entire package consisting of trans-
Outputs	to the entire package consisting of trans-
	to the entire package consisting of trans- mitter and receiver.
Outputs	to the entire package consisting of trans- mitter and receiver.
Outputs Number of analog outputs Analog outputs Type	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output
Outputs Number of analog outputs Analog outputs Type Current	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA
Outputs Number of analog outputs Analog outputs Type	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output
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Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V
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Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage
Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage
Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage
Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max.	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
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Outputs Number of analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC
Outputs Number of analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output resistance Number of inputs/outputs selectable Yoltage type, outputs Switching voltage, outputs	to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V

Input/output 1	
Activation/disable delay	1 ms
Time behavior	
Readiness delay	450 ms
Cycle time	9.04 ms
Response time per beam	30 µs
Service interface	
Туре	IO-Link
IO-Link Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
Connection 1	Configuration into for
Function	Configuration interface
	Signal IN
	Signal OUT
True of compaction	Voltage supply
Type of connection	Connector
Thread size	M12
Type	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
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,515 mm
Housing material	Metal
Metal housing	
Lens cover material	Plastic
Net weight	1,600 g Silver
Housing color	
Type of fastening	Groove mounting Via optional mounting device
Operation and display	
Type of display	LED
All a minimut	OLED display
	2 Piece(s)
Number of LEDs	
Number of LEDs	
Number of LEDs Type of configuration	Software Teach-in

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 We reserve the right to make technical changes

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Technical data

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Environmental data

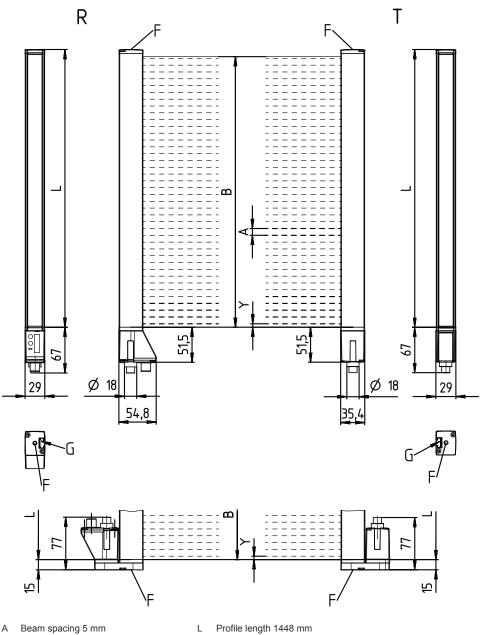
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	

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

Customs tariff number 90314990 ECLASS 5.1.4 27270910 ECLASS 8.0 27270910 ECLASS 9.0 27270910	
ECLASS 8.0 27270910	
ECLASS 9.0 27270910	
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ETIM 8.0 EC002549	9
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ETIM 10.0 EC002549)

Dimensioned drawings

All dimensions in millimeters

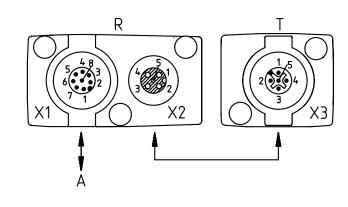


- Beam spacing 5 mm А
- В Measurement field length 1440 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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Dimensioned drawings





A PWR / SW IN / OUT

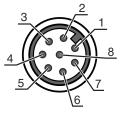
Electrical connection

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	I/O 1		
3	GND		
4	IO-Link		
5	I/O 2		
6	OUT V		
7	OUT mA		
8	AGND		



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

Display

LED

by Leuze Meaning Operational readiness

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
50119385	CML720i-T05- 1440.A-M12	Light curtain transmitter	Operating range: 0.1 3.5 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
ZZ	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	
6 A list wi	th 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.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ 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 Connector, LED: No 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: 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	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

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