

# **Technical data sheet Light curtain receiver** Part no.: 50119828 CML720i-R05-2640.A/CV-M12



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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
	0.1 4.5 m
	Typical operating range
	2,640 mm
	528 Piece(s)
	5 mm
Measurement data	
Minimum object diameter	10 mm
Electrical data	
Protective circuit	Polarity reversal protection
	Short circuit protected
	Transient protection
Performance data	18 30 V, DC
	0 15 %, From U <sub>B</sub>
	0 435 mA, The specified values refer
	to the entire package consisting of trans- mitter and receiver.
Outputs	
Outputs Number of analog outputs	2 Piece(s)
	2 Piece(s)
Number of analog outputs Analog outputs	```
Number of analog outputs Analog outputs Type	Analog output
Number of analog outputs Analog outputs Type Current	Analog output 0 24 mA
Number of analog outputs Analog outputs Type Current	Analog output
Number of analog outputs Analog outputs Type Current Voltage	Analog output 0 24 mA
Number of analog outputs Analog outputs Type Current Voltage Analog output 1	Analog output 0 24 mA 0 11 V
Number of analog outputs Analog outputs Type Current Voltage Analog output 1	Analog output 0 24 mA
Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type	Analog output 0 24 mA 0 11 V
Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	Analog output 0 24 mA 0 11 V
Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	Analog output 0 24 mA 0 11 V Voltage
Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	Analog output 0 24 mA 0 11 V Voltage
Number of analog outputs         Analog outputs         Type         Current         Voltage         Analog output 1         Type         Analog output 2         Type         Inputs/outputs selectable	Analog output 0 24 mA 0 11 V Voltage
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	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
Number of analog outputs         Analog outputs         Type         Current         Voltage         Analog output 1         Type         Analog output 2         Type         Inputs/outputs selectable         Output current, max.	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
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         Number of inputs/outputs selectable	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
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         Number of inputs/outputs selectable         Type	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s)
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         Number of inputs/outputs selectable         Type         Voltage type, outputs	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable
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         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs	Analog output 0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC
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         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Voltage type, inputs	Analog output $0 \dots 24 \text{ mA}$ $0 \dots 11 \text{ V}$ Voltage Current 100  mA $6,000 \Omega$ 2  Piece(s) Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V

Input/output 1	
Activation/disable delay	1 ms
Time behavior	
Readiness delay	450 ms
Cycle time	16.24 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	
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
Encoding	A-could
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
	A-coded
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,715 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	2,700 g
Housing color	Silver
Type of fastening	Groove mounting Via optional mounting device
Operation and display	
Type of display	LED OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
-	Teach-in
Operational controls	Membrane keyboard
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## **Technical data**

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#### **Environmental data**

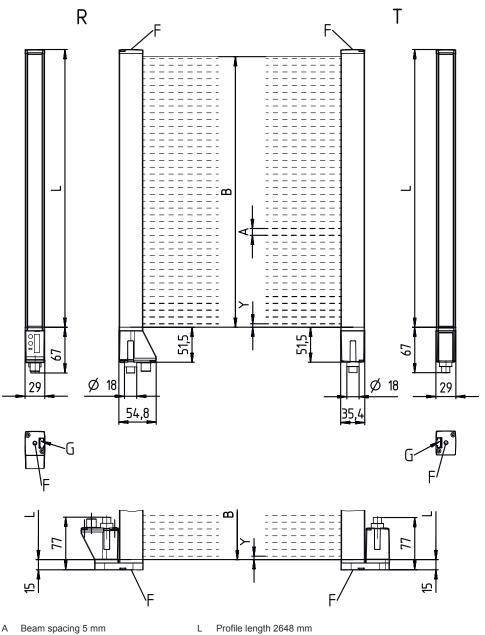
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	

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	
ECLASS 10.0 27270910	
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ETIM 7.0 EC002549	9
ETIM 8.0 EC002549	9
ETIM 9.0 EC002549	9
ETIM 10.0 EC002549	)

### **Dimensioned drawings**

All dimensions in millimeters



Beam spacing 5 mm А

Fastening groove

- В Measurement field length 2640 mm
- F M6 thread

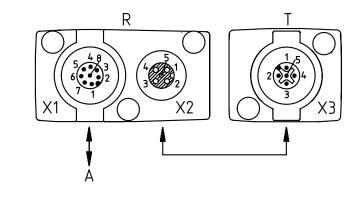
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- Transmitter Т
- R Receiver
- 2.5 mm Υ

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### **Dimensioned drawings**





A PWR / SW IN / OUT

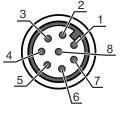
## **Electrical connection**

**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**

LED

2

	on and display	LCOZC
	Display	Meaning
Ī	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
	Yellow, continuous light	Light path free, with function reserve
	Yellow, flashing	No function reserve

Object detected

### Suitable transmitters

Off

 Part no.	Designation	Article	Description
50119400	CML720i-T05- 2640.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
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
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	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	<ul> <li>For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</li> <li>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)</li> </ul>

#### 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. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 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

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