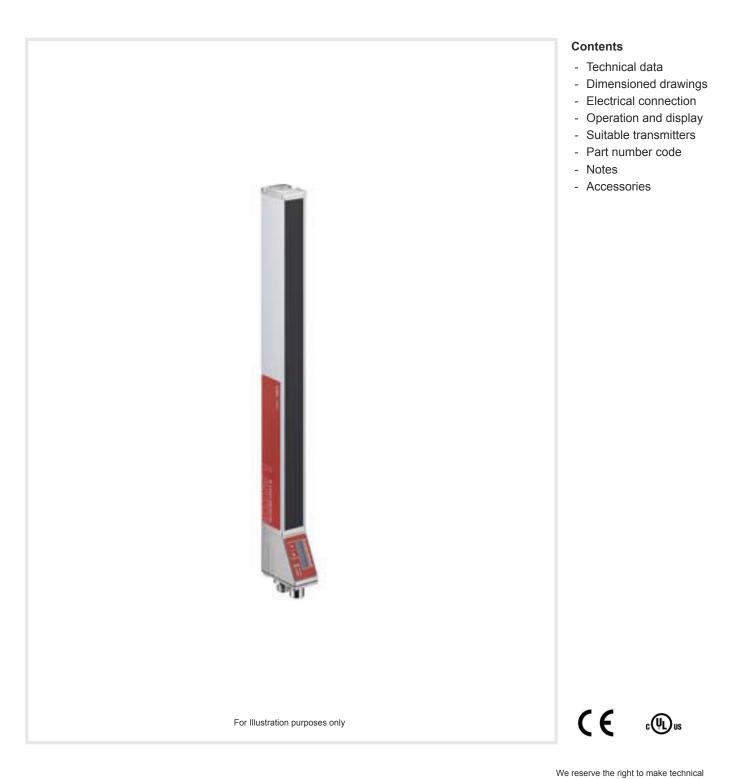


## **Technical data sheet Light curtain receiver** Part no.: 50119810 CML720i-R05-1200.A/CV-M12



#### **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	Ū.
•	0.1 3.5 m
Operating range	
Operating range	Guaranteed operating range 0.1 4.5 m
Operating range limit	
Operating range limit	Typical operating range 1.200 mm
Measurement field length Number of beams	,
	240 Piece(s) 5 mm
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 <sub>B</sub>	18 30 V, DC
Supply voltage U <sub>B</sub> Residual ripple	18 30 V, DC 0 15 %, From U <sub>B</sub>
Residual ripple Open-circuit current	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans-</li> </ul>
Residual ripple Open-circuit current Outputs	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Residual ripple Open-circuit current	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans-</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Residual ripple Open-circuit current Outputs	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> </ul>
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 2 Piece(s) Analog output 0 24 mA 0 11 V Voltage Current
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max.	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer 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
Residual ripple Open-circuit current Outputs Number of analog outputs Analog outputs Type Current Voltage Analog output 1 Type Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance	0 15 %, From U <sub>B</sub> 0 270 mA, The specified values refer 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
Residual ripple Open-circuit current 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 Number of inputs/outputs selectable	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>2 Piece(s)</li> </ul>
Residual ripple Open-circuit current 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 Number of inputs/outputs selectabl Type	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>4 Piece(s)</li> <li>Inputs/outputs selectable</li> </ul>
Residual ripple Open-circuit current 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 Number of inputs/outputs selectabl Type Voltage type, outputs	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>2 Piece(s)</li> <li>Inputs/outputs selectable</li> <li>DC</li> </ul>
Residual ripple Open-circuit current 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 Number of inputs/outputs selectabl Type Voltage type, outputs Switching voltage, outputs	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>ie 2 Piece(s)</li> <li>Inputs/outputs selectable</li> <li>DC</li> <li>Typ. U<sub>B</sub> / 0 V</li> </ul>
Residual ripple Open-circuit current 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 Number of inputs/outputs selectabl Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>2 Piece(s)</li> <li>Inputs/outputs selectable</li> <li>DC</li> <li>Typ. U<sub>B</sub> / 0 V</li> <li>DC</li> </ul>
Residual ripple Open-circuit current 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 Number of inputs/outputs selectabl Type Voltage type, outputs Switching voltage, outputs	<ul> <li>0 15 %, From U<sub>B</sub></li> <li>0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.</li> <li>2 Piece(s)</li> <li>Analog output</li> <li>0 24 mA</li> <li>0 11 V</li> <li>Voltage</li> <li>Voltage</li> <li>Current</li> <li>100 mA</li> <li>6,000 Ω</li> <li>ie 2 Piece(s)</li> <li>Inputs/outputs selectable</li> <li>DC</li> <li>Typ. U<sub>B</sub> / 0 V</li> </ul>

	Input/output 1	
	Activation/disable delay	1 ms
Tim	e behavior	
Read	diness delay	450 ms
Cycl	le time	7.6 ms
Res	ponse time per beam	30 µs
Serv	vice interface	
Туре	•	IO-Link
	D-Link	
	unction	Configuration via software
		Service
Con	inection	
Num	ber of connections	2 Piece(s)
Plug	outlet	Axial
	onnection 1	
Fu	unction	Configuration interface
		Signal IN
		Signal OUT
		Voltage supply
Ту	/pe of connection	Connector
T	hread size	M12
Ty	/pe	Male
М	aterial	Metal
N	o. of pins	8 -pin
	ncoding	A-coded
С	onnection 2	
	unction	Connection to transmitter
Ty	pe of connection	Connector
T	hread size	M12
T١	/pe	Female
	aterial	Metal
N	o. of pins	5 -pin
	ncoding	A-coded
	-	
	hanical data	
Desi	-	Cubic
	ension (W x H x L)	29 mm x 35.4 mm x 1,275 mm
	sing material	Metal
	al housing	Aluminum
	s cover material	Plastic
	weight	1,350 g
Hou	sing color	Silver
Туре	e of fastening	Groove mounting Via optional mounting device
	eration and display	
Туре	e of display	LED
		OLED display
Num	ber of LEDs	2 Piece(s)
Туре	e of configuration	Software
		Teach-in

Leuze

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the right to make technical changes

 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2025-04-04

### **Technical data**

# Leuze

#### **Environmental data**

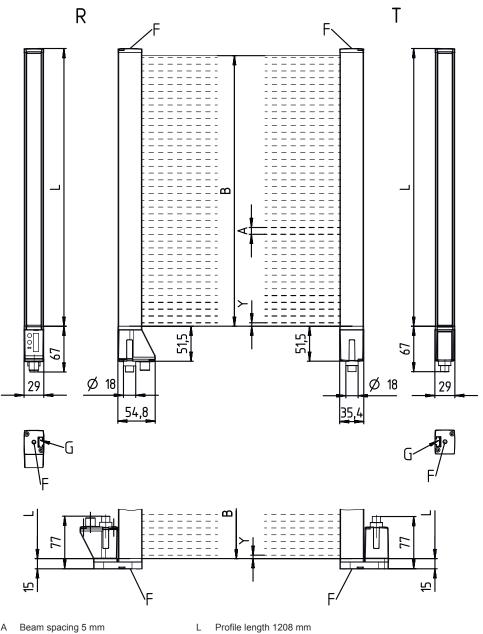
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	

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

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 5 mm А
- В Measurement field length 1200 mm
- F M6 thread G Fastening groove
- Transmitter R Receiver

Т

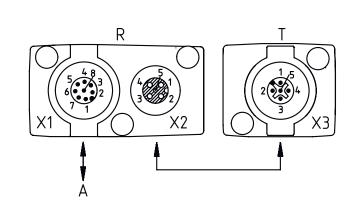
2.5 mm Υ

### We reserve the right to make technical



### **Dimensioned drawings**





A PWR / SW IN / OUT

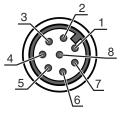
### **Electrical connection**

**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		

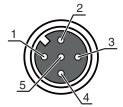


#### **Connection 2**

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 1

2

on and display	Leuze
Display	Meaning
Green, continuous light	Operational readiness
Green, flashing	Teach / error
Yellow, continuous light	Light path free, with function reserve
Yellow, flashing	No function reserve
Off	Object detected

#### Suitable transmitters

 Part no.	Designation	Article	Description
50119382	CML720i-T05- 1200.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

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

Leuze

#### Accessories

# Leuze

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