

# **Technical data sheet** Light curtain receiver

Part no.: 50119846

CML720i-R10-2240.A/CV-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	
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	2,240 mm
Number of beams	224 Piece(s)
Beam spacing	10 mm
Measurement data	
Minimum object diameter	20 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
Residual ripple	0 15 %, From U <sub>B</sub>
	<u> </u>

Out	tpu	ts

Number of analog outputs 2 Piece(s)

Open-circuit current

Current	0 24 mA
Voltage	0 11 V

#### Analog output 1

Voltage

#### Analog output 2

Type Current

inputs/outputs selectable		
Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable	2 Piece(s)	
Туре	Inputs/outputs selectable	
Voltage type, outputs	DC	
Switching voltage, outputs	Typ. U <sub>B</sub> / 0 V	
Voltage type, inputs	DC	
Switching voltage, inputs	high: ≥6V	

low: ≤4V

Input/output 1		
Activation/disable delay	1 ms	

#### **Timing**

Readiness delay	450 ms
Cycle time	7.12 ms
Response time per beam	30 μs

#### Service interface

Ty	уре	IO-Link
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

#### **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 2,315 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	2,300 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device

#### **Operation and display**

	1 ED
Type of display	LED
	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard

0 ... 435 mA, The specified values refer

to the entire package consisting of trans-

mitter and receiver.

## **Technical data**



#### **Environmental data**

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Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
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
eCI@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**

Leuze

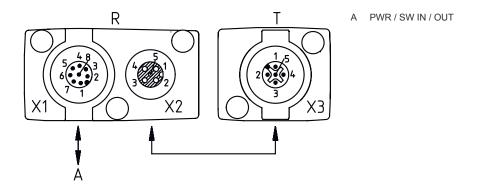
All dimensions in millimeters



- A Beam spacing 10 mm
- B Measurement field length 2240 mm
- F M6 thread
- G Fastening groove
- L Profile length 2248 mm
- T Transmitter
- R Receiver
- Y 5 mm

# **Dimensioned drawings**



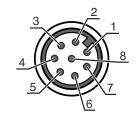


# **Electrical connection**

#### **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

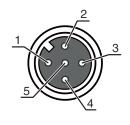
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	OUT V
7	OUT mA
8	AGND



#### **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-







LED	Display	Meaning
1	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
50119418	CML720i-T10- 2240.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

CML	Operating principle Measuring light curtain
7XXi	Series           720i: 720i series           730i: 730i series
Υ	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: connector outlet, axial R: rear connector outlet
ссс	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



🖔 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.
- 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
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
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

### **Accessories**



# Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	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
TIS .	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.