# Leuze

# **Technical data sheet Light curtain receiver** Part no.: 50119735 CML720i-R05-1680.A/L-M12



## **Technical 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	
evice type ontains pplication pecial version pecial version pecial version perating range perating range limit perating range limit perating range limit easurement field length umber of beams eam spacing leasurement data linimum object diameter lectrical data rotective circuit Performance data Supply voltage U <sub>B</sub> Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectabl Output current, max. Input resistance Number of inputs/outputs selectabl Switching voltage, outputs Switching voltage, inputs Switching voltage, inputs Switching voltage, inputs Switching voltage, inputs Switching voltage, inputs	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	1,680 mm	
Number of beams	336 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 <sub>B</sub>	18 30 V, DC	
Residual ripple	0 15 %, From U <sub>B</sub>	
Open-circuit current	0 350 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.	
1		
	100 mA	
	100 mA	
•	6,000 Ω	
• •	A Piece(s) Inputs/outputs selectable	
	DC	
• • •	Typ. U <sub>B</sub> / 0 V	
	DC	
	high: ≥6V	
e	low: $\leq 4 V$	
Input/output 1	0 1 ms	
Activation/disable delay		
Activation/disable delay		
Activation/disable delay Time behavior Readiness delay	400 ms	
Activation/disable delay		
Activation/disable delay Time behavior Readiness delay Cycle time	400 ms 10.48 ms	

IO-Link	
COM mode	COM2
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1
	V1.1
service interface	
уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
lumber 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 Thread size	Connector M12
	Female
Type Material	Metal
No. of pins	5 -pin
Encoding	A-coded
Encouning	A-couled
Nechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,755 mm
lousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
let weight	1,800 g
lousing color	Silver
ype of fastening	Groove mounting Via optional mounting device
Operation and display	
ype of display	LED
she of dishigh	OLED display
lumber of LEDs	2 Piece(s)
ype of configuration	Software
	Teach-in
	Membrane keyboard
Operational controls	
-	
Derational controls Environmental data Ambient temperature, operation	-30 60 °C

## **Technical data**

#### Certifications

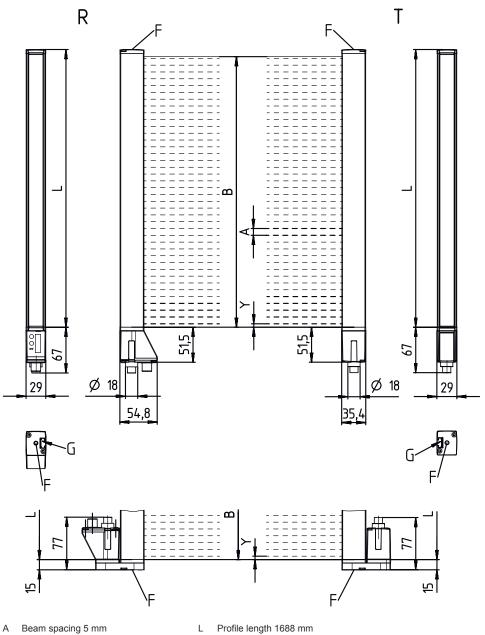
#### Classification

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

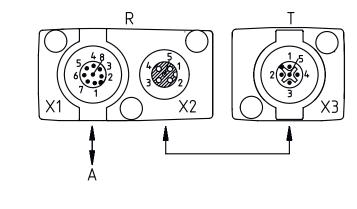


- Beam spacing 5 mm А
- В Measurement field length 1680 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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### **Dimensioned drawings**





A PWR / SW IN / OUT

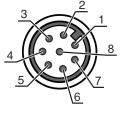
## **Electrical connection**

**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	IO1
3	GND
4	IO-Link
5	102
6	103
7	104
8	GND



#### **Connection 2**

Connection to transmitter
Connector
M12
Female
Metal
5 -pin
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
50119388	CML720i-T05- 1680.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	
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.

b 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:	
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b 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 unit

	Part no.	Designation	Article	Description
C. LEATER	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

#### 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
Ŭ				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

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# 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

#### Configuration devices

**Accessories** 

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