

# **Technical data sheet Light curtain receiver** Part no.: 50119741 CML720i-R05-2160.A/L-M12



# **Technical data**

# Leuze

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	2,160 mm	
Number of beams	432 Piece(s)	
Beam spacing	5 mm	
Measurement data		
Measurement data	10	
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	0 435 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.	
Inputs/outputs selectable Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable	,	
Type	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	
· · · · · · · · · · · · · · · · · · ·	$low: \le 4 V$	
Input/output 1		
Activation/disable delay	0 1 ms	
lime behavior		
Readiness delay	400 ms	
Cycle time	13.36 ms	
Response time per beam	30 µs	
Interface		
	IO-Link	
Гуре	IO-Link	

IO-Link	
COM mode	COM2
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1 V1.1
	V1.1
Service interface	
ӯуре	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	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin A-coded
Encoding	A-coucu
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,235 mm
lousing material	Metal
Netal housing	Aluminum
ens cover material	Plastic
let weight	2,250 g
lousing color Type of fastening	Silver Groove mounting
ype of lastening	Via optional mounting device
Operation and display	
Type of display	LED
	OLED display
lumber of LEDs	2 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C

# **Technical data**

#### Certifications

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

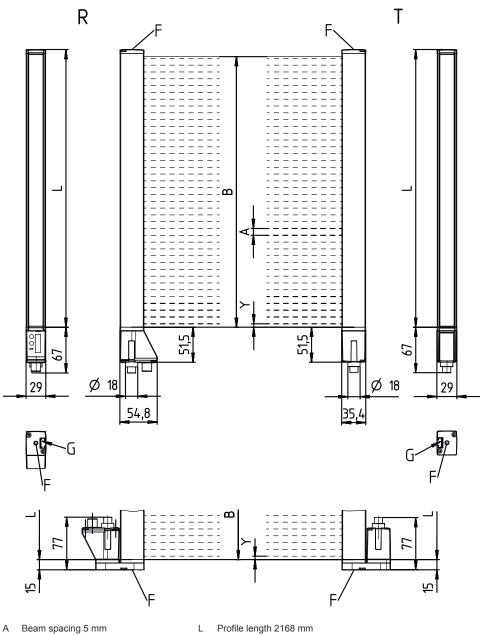
#### Classification

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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549



### **Dimensioned drawings**

All dimensions in millimeters

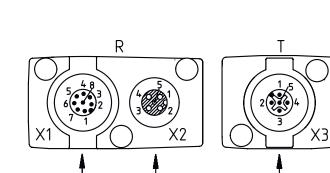


- Beam spacing 5 mm А
- В Measurement field length 2160 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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## **Dimensioned drawings**





A PWR / SW IN / OUT

# **Electrical connection**

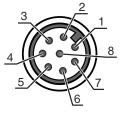
**Connection 1** 

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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	IO2
6	103
7	IO4
8	GND

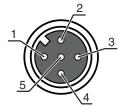


#### **Connection 2**

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 disp**

Green, flashing

Yellow, flashing

Off

LED

1

2

on and display	Leuze
Display	Meaning
Green, continuous light	Operational readiness
Green flashing	Teach / error

No function reserve

Object detected

Light path free, with function reserve

Suitable	transmitters	

Yellow, continuous light

 Part no.	Designation	Article	Description
50119394	CML720i-T05- 2160.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

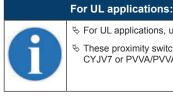
CML	Operating principle Measuring light curtain
7XXi	Series   720i: 720i series   730i: 730i series
Y	Device type T: transmitter R: receiver
ZZ	Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
AAAA	Measurement field length [mm], dependent on beam spacing
В	Equipment A: Axial connector outlet R: Rear 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.

 $\ensuremath{\mathfrak{b}}$  Only use the product in accordance with its intended use.



Ŕ,	For UL applications,	s, use is only permitted in 0	Class 2 circuits in accorda	nce 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 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
165	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

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