

# **Technical data sheet Light curtain receiver** Part no.: 50119224 CML730i-R05-1200.R/CV-M12



 The Sensor People
 Leuze electronic GmbH + Co. P

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We reserve the right to make technical changes eng • 2020-12-19

## **Technical data**

#### Basic data

Basic data		
Series	730	
Operating principle	Throughbeam principle	
Device type	Receiver	
Contains	Accessories for the use of the BT-2R1	
Application	Detection of transparent objects	
	Object measurement	
Special version		
Special version	Crossed-beam scanning	
	Diagonal-beam scanning	
	Parallel-beam scanning	
Optical data		
Operating range	Guaranteed operating range	
Operating range	0.1 4.5 m	
Operating range, transparent media	0.1 1.75 m	
Operating range limit	Typical operating range	
Operating range limit	0.1 6 m	
Measurement field length	1,200 mm	
Number of beams	240 Piece(s)	
Beam spacing	5 mm	
	II	
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	0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.	
Outputs		
Number of analog outputs	2 Piece(s)	
Analog outputs		
Current	0 24 mA	
Voltage	0 11 V	
Analog output 1		
Туре	Voltage	
	-	
Analog output 2		
Туре	Current	
Inputs/outputs selectable	100 1	
Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable		
Туре	Inputs/outputs selectable	
Voltage type, outputs	DC	
Switching voltage, outputs	Тур. U <sub>в</sub> / 0 V	
Voltage type, inputs	DC	
Switching voltage, inputs	high: ≥6V	
	low: <4\/	

Activation/disable delay1 msTimingReadiness delay450 msCycle time2.55 msResponse time per beam10 µsService interfaceTypeIO-LinkFunctionConfiguration via software ServiceConnectionConfiguration via software ServiceNumber of connections2 Piece(s)Plug outletRear sideConnection 1Configuration interface Signal IN Signal OUT Voltage supplyType of connectionConnectorThread sizeM12Type for connectionConnec	Input/output 1	
Readiness delay         450 ms           Cycle time         2.55 ms           Response time per beam         10 μs           Service interface         IO-Link           Type         IO-Link           Function         Configuration via software Service           Connection         Service           Number of connections         2 Piece(s)           Plug outlet         Rear side           Connection 1         Configuration interface           Signal IN         Signal IN           Signal IN         Signal IN           Signal OUT         Voltage supply           Type of connection         Connector           Thread size         M12           Type of connection         Connector           Thread size         M12           Type of connection         Connector           Thread size         M12           Type         Material           No. of pins         5 -pin           Encoding         A-coded           Wetal         No. of pins           Signal         Metal           No. of pins         5 -pin           Encoding         A-coded           Design         Cubic		1 ms
Cycle time         2.55 ms           Response time per beam         10 μs           Service interface         IO-Link           Type         IO-Link           Function         Configuration via software Service           Connection         Configuration via software           Number of connections         2 Piece(s)           Plug outlet         Rear side           Connection 1         Configuration interface           Function         Configuration interface           Signal OUT         Voltage supply           Type of connection 1         Connector           Type of connection         Connector           Type of connection         Connector           Type of connection         Connector           Type         Male           Material         Metal           No. of pins         8 -pin           Encoding         A-coded           Type of connection         Connector           Thread size         M12           Type         Female           Material         Metal           No. of pins         5 -pin           Encoding         A-coded           Design         Cubic           Dimension (W x H x L) <th>Timing</th> <th></th>	Timing	
Response time per beam         10 μs           Service interface         IO-Link           Type         IO-Link           Function         Configuration via software Service           Connection         Service           Number of connections         2 Piece(s)           Plug outlet         Rear side           Connection 1         Configuration interface           Function         Configuration interface           Signal OUT         Voltage supply           Type of connection         Connector           Thread size         M12           Type         Male           Material         Metal           No. of pins         8 -pin           Encoding         A-coded           Type         Gonnection to transmitter           Type         Female           Material         Metal           No. of pins         5 -pin           Encoding         A-coded           Meterial         Metal           No. of pins         5 -pin           Encoding         A-coded           Metarial         Metal           No. of pins         5 -pin           Encoding         A-coded           Dimensi	Readiness delay	450 ms
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Design     Cubic       Dimension (W x H x L)     29 mm x 35.4 mm x 1,223 mm       Housing material     Metal       Metal housing     Aluminum       Lens cover material     Plastic       Net weight     1,400 g       Housing color     Silver       Type of fastening     Groove mounting       Via optional mounting device       Operation and display       Type of display     LED       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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Metal housing     Aluminum       Lens cover material     Plastic       Net weight     1,400 g       Housing color     Silver       Type of fastening     Groove mounting       Operation and display     Via optional mounting device       Type of display     LED       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Dimension (W x H x L)	29 mm x 35.4 mm x 1,223 mm
Lens cover material     Plastic       Net weight     1,400 g       Housing color     Silver       Type of fastening     Groove mounting       Operation and display     Via optional mounting device       Type of display     LED       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Housing material	Metal
Net weight     1,400 g       Housing color     Silver       Type of fastening     Groove mounting       Operation and display     Via optional mounting device       Type of display     LED       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Metal housing	Aluminum
Housing color     Silver       Type of fastening     Groove mounting Via optional mounting device       Operation and display     LED       Type of display     LED display       Number of LEDs     2 Piece(s)       Type of configuration     Software Teach-in	Lens cover material	Plastic
Type of fastening     Groove mounting Via optional mounting device       Operation and display     LED       Type of display     LED display       Number of LEDs     2 Piece(s)       Type of configuration     Software Teach-in	Net weight	1,400 g
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	Housing color	Silver
Operation and display     LED       Type of display     LED display       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Type of fastening	-
Type of display     LED       OLED display     OLED display       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in		Via optional mounting device
Number of LEDs     OLED display       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Operation and display	
Number of LEDs     OLED display       Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in     Teach-in	Type of display	LED
Number of LEDs     2 Piece(s)       Type of configuration     Software       Teach-in	2. · · · · · · · · · · · · · · · · · · ·	
Type of configuration Software Teach-in	Number of LEDs	
Teach-in		
	., po or configuration	
	Operational controls	
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# Leuze

# **Technical data**

# Leuze

#### **Environmental data**

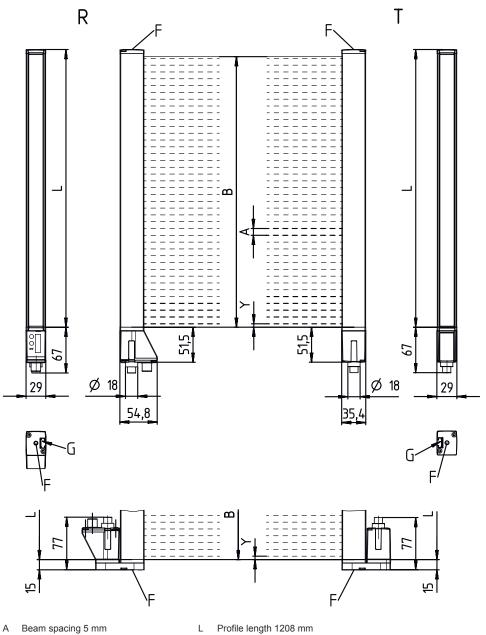
Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	
Certifications		
Degree of protection	IP 65	
Degree of protection Protection class	IP 65 III	
<b>v</b> ,		
Protection class		

#### Classification

Customs tariff number	90314990	
eCl@ss 5.1.4	27270910	
eCl@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**

All dimensions in millimeters



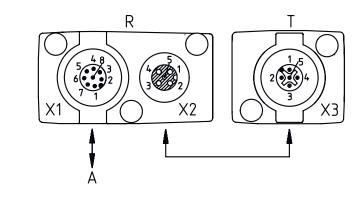
- Beam spacing 5 mm А
- В Measurement field length 1200 mm
- F M6 thread G Fastening groove
- Т R Receiver
  - 2.5 mm Υ

Transmitter



## **Dimensioned drawings**





A PWR / SW IN / OUT

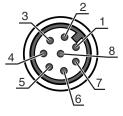
## **Electrical connection**

**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	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

Pa	art no.	Designation	Article	Description
50			Light curtain transmitter	Operating range: 0.1 4 m Connection: Connector, M12, Rear side, 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: connector outlet, axial 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.

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#### 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 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
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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# Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęł.	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
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
с. С	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.