

## **Technical data sheet Light curtain receiver** Part no.: 50119020 CML730i-R05-2240.R/CN-M12



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## **Technical data**

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#### **Basic data** Series 730 **Operating principle** Throughbeam principle Device type Receiver Accessories for the use of the BT-2R1 Contains Application Detection of transparent objects Object measurement **Special version** Special version Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning **Optical data** Operating range 0.1 ... 4.5 m **Operating range** Guaranteed operating range Operating range, transparent media 0.1 ... 1.75 m **Operating range limit** 0.1 ... 6 m Operating range limit Typical operating range Measurement field length 2,240 mm Number of beams 448 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 0 ... 15 %, From U<sub>B</sub> **Residual ripple Open-circuit current** 0 ... 435 mA, The specified values refer to the entire package consisting of transmitter and receiver. 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: $\leq 4 \text{ V}$ Input/output 1 Activation/disable delay 1 ms Time behavior Readiness delay 450 ms Cycle time 4.63 ms Response time per beam 10 µs Interface

#### Interia

Туре

CANopen

	CANopen Function	Process
S	ervice interface	
Ту	/pe	IO-Link
IO-Link		
	Function	Configuration via software
		Service
~	onnection	
-		
	umber of connections	2 Piece(s)
PI	lug outlet	Rear side
	Connection 1	
	Function	Configuration interface
		Connection to transmitter
Nu Plu Plu Me De De Dir Ho Me Le Ne		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	BUS IN
		BUS OUT
	Type of connection	Connector
	Thread size	M12
	Туре	Female
	Material	Metal
	No. of pins	5 -pin
	Encoding	A-coded
Μ	echanical data	
D	esign	Cubic
Di	imension (W x H x L)	29 mm x 35.4 mm x 2,263 mm
Н	ousing material	Metal
Μ	etal housing	Aluminum
Le	ens cover material	Plastic
N	et weight	2,350 g
Н	ousing color	Silver
Ту	/pe of fastening	Groove mounting
		Via optional mounting device
0	peration and display	
Ty	/pe of display	LED
		OLED display
N	umber of LEDs	2 Piece(s)
Ту	/pe of configuration	Software
		Teach-in
0	perational controls	Membrane keyboard
E	nvironmental data	
A	mbient temperature, operation	-30 60 °C
A	mbient temperature, storage	-40 70 °C

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#### Certifications

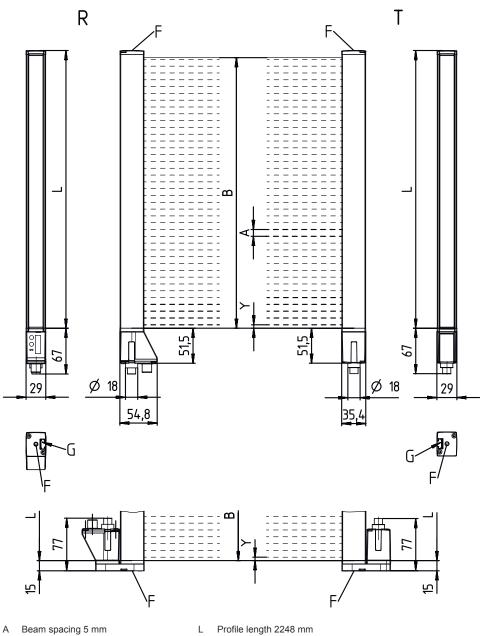
Degree of protection	IP 65
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

#### Classification

90314990
27270910
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EC002549

#### **Dimensioned drawings**

All dimensions in millimeters

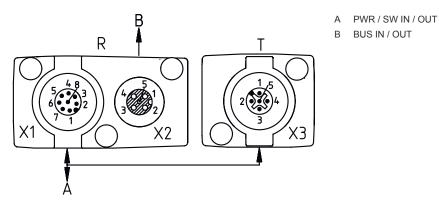


- Beam spacing 5 mm А
- В Measurement field length 2240 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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#### **Dimensioned drawings**





## **Electrical connection**

**Connection 1** 

Function	Configuration interface
	Connection to transmitter
	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	RS 485 Tx+		
7	RS 485 Tx+		
8	FE/SHIELD		



Function	BUS IN
	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

## **Electrical connection**

Pin	Pin assignment	2
1	FE/SHIELD	1
2	n.c.	
3	CAN GND	
4	CAN H	
5	CAN L	3

## **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
50118939	CML730i-T05- 2240.R-M12	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: 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



#### Part number code



DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
	Note
A	∜ A list with all available device types can be found on the Leuze website at www.leuze.com.

#### Notes

Observe intended use!
<ul> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>



#### 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
50132079	KD U-M12-5A-V1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

#### 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

#### Accessories

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## Connection technology - Y distribution cables

	Part no.	Designation	Article	Description
	50118183	K-Y1 M12A-5m- M12A-S-PUR	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Female, A-coded, 8 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 150 mm Sheathing material: PUR
	50118185	K-YCN M12A-M12A- S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

### Connection technology - Terminating resistors

 Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Function: Bus termination Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin

#### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
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

#### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
æ.	429029	BT-2RG	Mounting bracket set	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

#### 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.

## Accessories

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 Part no.	Designation	Article	Description
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
8	<sup>t</sup> A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.