



the sensor people





Figure can vary

Part no.: 50123123 CML730i-R05-2960.R/PB-M12 Light curtain receiver





Contents

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- Electrical connection
- · Operation and display
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Technical 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 design	
Special design	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	2,960 mm
Number of beams	592 Piece(s)
Beam spacing	5 mm
Measurement data Minimum object diameter	10 mm
	10 mm
Ainimum object diameter	Polarity reversal protection Short circuit protected Transient protection
Minimum object diameter	Polarity reversal protection Short circuit protected
Minimum object diameter Electrical data Protective circuit	Polarity reversal protection Short circuit protected
Alinimum object diameter Electrical data Protective circuit Performance data	Polarity reversal protection Short circuit protected Transient protection
Performance data Supply voltage UB	Polarity reversal protection Short circuit protected Transient protection
Protective circuit Performance data Supply voltage UB Residual ripple	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package con-
Protective circuit Performance data Supply voltage UB Residual ripple Open-circuit current	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package con-
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package consisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max.	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package consisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance	Polarity reversal protection Short circuit protected Transient protection $18 \dots 30 \text{ V}, \text{ DC}$ $0 \dots 15 \text{ \%}, \text{ From UB}$ $0 \dots 600 \text{ mA}, \text{ The specified values refer to the entire package consisting of transmitter and receiver.}$ 100 mA $6,000 \Omega$
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package con sisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package con sisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs Voltage type, outputs	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U _B 0 600 mA , The specified values refer to the entire package con sisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From UB 0 600 mA , The specified values refer to the entire package consisting of transmitter and receiver.
Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From UB 0 600 mA , The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V

6.07 ms

Cycle time



Response time per beam	10 µs
Interface	
Туре	PROFIBUS DP
PROFIBUS DP	
Function	Process
Service interface	
Туре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Rear side
Connection 1	
Function	Configuration interface
	Connection to transmitter Signal IN
	Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded
Connection 2	A-000C0
Function	BUS IN
Tulleton	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,983 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
Net weight	3,050 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device
Operation and display	
Type of display	LED OLED display
Number of LEDs	2 Piece(s)
	· · ·

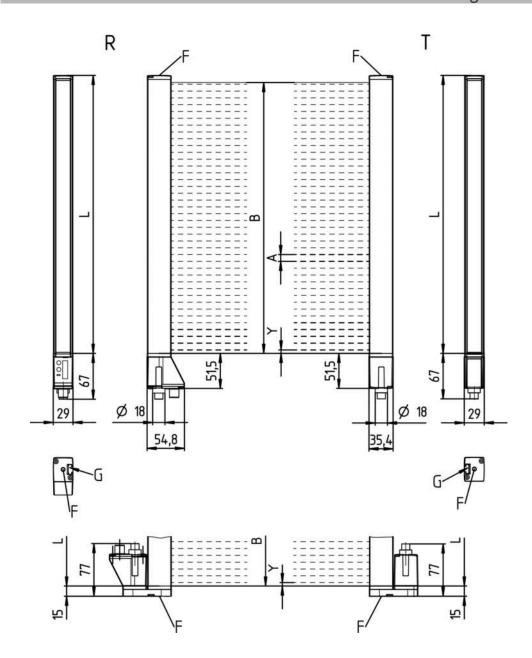


Software Teach-in			
Membrane keyboard			
-30 60 °C			
-40 70 °C			
IP 65			
III			
c CSA US			
IEC 60947-5-2			
90314990			
27270910			
27270910			
EC002549	EC002549		
EC002549	EC002549		
	Teach-in Membrane keyboard -30 60 °C -40 70 °C IP 65 III c CSA US IEC 60947-5-2 90314990 27270910 27270910 EC002549		

Dimensioned drawings

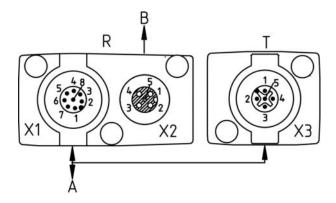
All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 2960 mm
- F M6 thread
- G Fastening groove
- L Profile length 2968 mm
- T Transmitter
- R Receiver
- Y 2.5 mm





A PWR / SW IN/OUT B BUS IN / OUT

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	

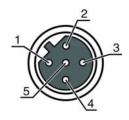
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	RS 485 Tx+
7	RS 485 Tx+
8	FE/SHIELD



Connection 2	
Function	BUS IN BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded



Pin	Pin assignment
1	V+
2	Tx-
3	PB GND
4	Tx+
5	FE/SHIELD



Operation and display

LEDs

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
		Measurement frequency display
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
50118948	CML730i- T05-2960.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
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



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 with all available device types can be found on the Leuze electronic 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
50132079	KD U-M12-5A- V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

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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
	50123265	K-YPB M12A-5m- M12A-S-PUR	Interconnection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 250 mm Sheathing material: PUR

Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
50142900	BT 700M.5-2SET	Mounting device set	Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws 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
EE.	429046	BT-2R1	Mounting bracket set	Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

	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. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.

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Part no.	Designation	Article	Description
\$981005	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 electronic website in the Download tab of the article detailed page.