



the sensor people





Figure can vary

Part no.: 50123394 CML730i-R10-800.R/D3-M12 Light curtain receiver





Contents

- Technical data
- . Dimensioned drawings
- Electrical connection
- · Operation and display
- Suitable transmitters
- · Part number code
- Notes
- Accessories



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	0.3 9.5 m	
Operating range, transparent media	0.3 3.5 m	
Operating range limit	Typical operating range	
Operating range limit	0.2 12 m	
Measurement field length	800 mm	
Number of beams	80 Piece(s)	
Beam spacing	10 mm	
Measurement data		
Minimum object diameter	20 mm	
Electrical data		
Protective circuit	Polarity reversal protection	
Totodive direct	Short circuit protected Transient protection	
Performance data		
Supply voltage U _B	18 30 V , DC	
Residual ripple	0 15 % , From U _B	
Open-circuit current	 215 mA , The specified values refer to the entire package consisting of transmitter and receiver. 	
Inputs/outputs selectable		
Number of inputs/outputs selectable	2 Piece(s)	
Туре	Inputs/outputs selectable	
Voltage type, outputs	DC	
Switching voltage, outputs	Typ. U _B / 0 V	
Switching voltage, inputs	high: ≥6V low: ≤4V	
Input/output 1		
Timing		
Cycle time	1 ms	
	10 µs	
Response time per beam		



Function Process Service interface Type IO-Link Function Configuration via software Service Service of connection Function Configuration via software Service Connection Type of connections 2 Piece(s) Plug outlet Rear side Connection 1 Function Configuration interface Connection to transmitter Signal IN Signal OUT Type of connection Connection Connection to transmiter Signal IN Signal OUT Type of connection Connection Male Material Metal No. of pins 8-pin Encoding A-coded Connection 2 Function BUS IN BUS IN BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal Me	RS 485					
Service interface Inchin		Process				
Connection						
Connection	Samilaa intarfaaa					
Gounction Connection Number of connections Plug outlet Rear side Connection Configuration interface Connection Function Configuration interface Connection to transmitter Signal NN Signal OUT Voitage supply Type of connection Thread size M12 Type Male Material Metal No. of pins B-pin Encoding A-coded Connection 2 Function BUS NT Type of connection BUS NT Type of connection Connection BUS OUT Type of connection Connection BUS NT BUS NT BUS OUT Type of connection Connection BUS OUT Connection BUS OUT Connection Connection Connection Connection Connection BUS OUT Connection Connection Connection BUS OUT Connection Connection Connection Connection Connection BUS OUT Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Connection Conne		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 Signa		10-Lilik				
Service		Configuration via coftware				
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 Function BUS IN BUS OUT Type of connection Thread size M12 Type of connection A-coded Connection BUS IN BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins B-coded Connection Connection Connection BUS IN BUS OUT Type of connection Connector Thread size M12 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 823 mm Housing material Metal 1,050 g Housing material Plastic Not of pins 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 Treacti-in	Function					
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 Function BUS IN BUS OUT Type of connection Thread size M12 Type of connection A-coded Connection BUS IN BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins B-coded Connection Connection Connection BUS IN BUS OUT Type of connection Connector Thread size M12 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 823 mm Housing material Metal 1,050 g Housing material Plastic Not of pins 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 Treacti-in	Connection					
Plug outlet Rear side Connection 1 Function Configuration interface Commedian to transmitter Signal DUT Voltage supply Type of connection Connector Thread size M12 Type Material Metal No. of pins 8-pin Encoding A-coded Connection 2 Function BUS IN BUS IN BUS OUT Type of connection Type of connection Function BUS IN BUS OUT Type of connection Function Connector Function BUS IN B		2 Piece(s)				
Connection 1	Plug outlet					
Function Configuration interface Connection to transmitter Signal OUT Voltage supply Type of connection Connector Thread size M12 Type Male Material Metal No. of prins BUS IN Function BUS OUT Type of connection Connection 2 Function BUS OUT Type of connection Connection Connection Connection Function BUS OUT Type of connection Connector Thread size M12 Type Female Metal No. of prins S-prin Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) Lens cover material Net weight 1,050 g Housing color Silver Type of fastening Groove mounting Via optional mounting device Operation and display Type of configuration Configuration Configuratio						
Thread size		Connection to transmitter Signal IN Signal OUT				
Type Male Material Metal No. of pins 8 - pin Encoding A-coded Connection 2 Function BUS IN BUS OUT Type of connector Thread size M12 Type 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 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 g Housing color Siliver Type of fastening Groove mounting Via optional mounting device Operation and display Type of display LED OLED display Type of configuration Software Feach-in	Type of connection	Connector				
Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 Function Function BUS IN BUS OUT Type of connection Connector Thread size M12 Type 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 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Thread size	M12				
No. of pins 8 -pin Encoding A-coded Connection 2 Function BUS IN BUS OUT Type of connection Connector Thread size M12 Type 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 823 mm Housing material Metal Aluminum Lens cover material Plastic Net weight 1,050 g Housing color Silver Type of fastening Groove mounting via optional mounting device Operation and display Type of display Number of LEDs 2 Piece(s) Type of configuration Software Facch-in	Туре	Male				
Encoding A-coded Connection 2 Function BUS IN BUS OUT Type of connection Connector Thread size M12 Type 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 823 mm Housing material Metal, Aluminum Lens cover material Plastic Net weight 1,050 g Housing color Silver Type of fastening Groove mounting Via optional mounting device Operation and display Type of display Number of LEDS 2 Piece(s) Type of configuration BUS IN BUS	Material	Metal				
Function BUS IN BUS OUT Type of connection Thread size M12 Type Female Material Metal No. of pins Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) Lens cover material Net weight Housing material Net weight 1,050 g Housing color Type of fastening Cubic Cubic Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 823 mm Metal , Aluminum Lens cover material Plastic Net weight 1,050 g Housing color Silver Type of fastening Cubic Cubic Dimension (W and the pin and tisplay Type of display LED OLED display Number of LEDs 2 Piece(s) Type of configuration Software Teach-in	No. of pins	8 -pin				
Function BUS IN BUS OUT Type of connection Connector Thread size M12 Type Female Material No. of pins Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 g Housing color Silver Type of fastening Operation and display Type of display Number of LEDs Type of configuration Software Tacch-in Software Tacch-in	Encoding					
Type of connection Thread size M12 Type Female Material Motal No. of pins Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) Housing material Lens cover material Net weight Housing color Type of fastening Coperation and display Type of configuration BUS OUT Connector M12 M12 M12 M12 M12 M13 M14 M15 M15 M16 M16 M17 M17 M17 M18 M18 M18 M18 M18 M18 M18 M18 M19	Connection 2					
Thread size M12 Type 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 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Function					
Type 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 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Type of connection	Connector				
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 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Thread size	M12				
No. of pins Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) Dimension (W x H x L) Housing material Lens cover material Net weight Housing color Type of fastening Croove mounting Via optional mounting device Coperation and display Type of display Number of LEDs 2 Piece(s) Type of configuration Software Teach-in	Туре	Female				
Encoding B-coded Mechanical data Design Cubic Dimension (W x H x L) 100 29 mm x 35.4 mm x 823 mm Housing material Metal , Aluminum Lens cover material Net weight 1,050 g Housing color Silver Type of fastening Groove mounting Via optional mounting device COperation and display Type of display LED OLED display Number of LEDs 2 Piece(s) Type of configuration Software Teach-in	Material	Metal				
Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	No. of pins	5 -pin				
Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Encoding B-coded					
Dimension (W x H x L) 29 mm x 35.4 mm x 823 mm Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Mechanical data					
Housing material Metal , Aluminum Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Design	Cubic				
Lens cover material Plastic Net weight 1,050 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) Type of configuration Software Teach-in	Dimension (W x H x L)	29 mm x 35.4 mm x 823 mm				
Net weight 1,050 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) Type of configuration Software Teach-in	Housing material	Metal , Aluminum				
Housing color Type of fastening Groove mounting 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	Lens cover material	Plastic				
Type of fastening Groove mounting 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	Net weight	1,050 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				
Type of display LED OLED display Number of LEDs 2 Piece(s) Type of configuration Software Teach-in	Type of fastening	Groove mounting Via optional mounting device				
OLED display Number of LEDs 2 Piece(s) Type of configuration Software Teach-in	Operation and display					
Type of configuration Software Teach-in	Type of display					
Teach-in	Number of LEDs	2 Piece(s)				
Operational controls Membrane keyboard	Type of configuration					
	Operational controls	Membrane keyboard				



Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C

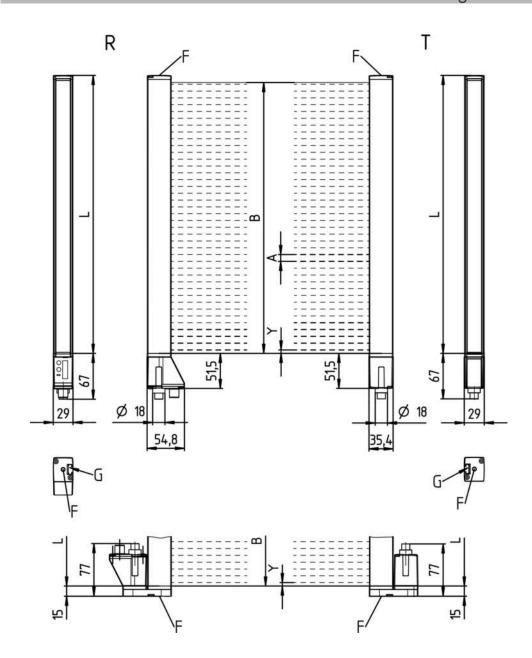
Certifications	
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

Classification	
Customs tariff number	90314990
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

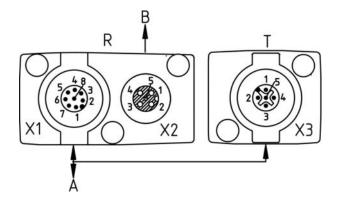
All dimensions in millimeters





- A Beam spacing 10 mm B Measurement field length 800 mm
- F M6 thread
- G Fastening groove L Profile length 808 mm
- T Transmitter
- R Receiver
- Y 5 mm



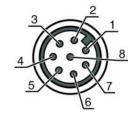


A PWR / SW IN/OUT B BUS IN / OUT

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	

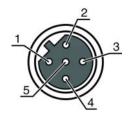
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	RS 485 Tx+
7	RS 485 Tx+
8	FE/SHIELD



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
50118953	CML730i- T10-800.R-M12	Light curtain transmitter	Operating range: 0.3 9.5 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

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



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

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.
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 electronic website in the Download tab of the article detailed page.