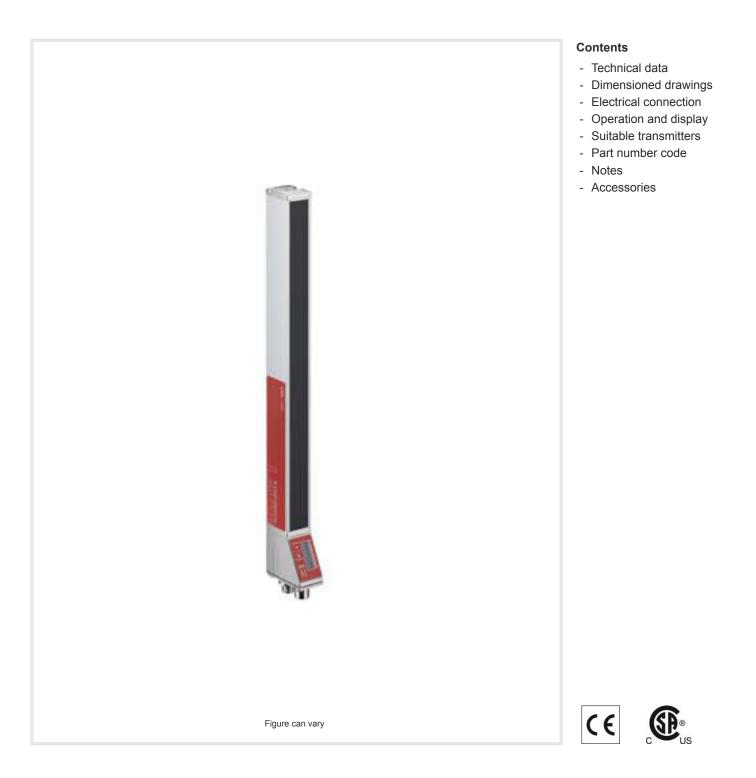


Technical data sheet Light curtain receiver Part no.: 50123272 CML730i-R05-240.A/D3-M12



 Leuze electronic GmbH + Co. KG

 The Sensor People
 In der Braike 1, 73277 Owen

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Technical data

Leuze

Rasic data

Operating principle Throughbeam principle Device type Receiver Contains 2x BT-NC sliding block Application Detection of transparent objects Object measurement Object measurement Special version Crossed-beam scanning Diagonal-beam scanning Diagonal-beam scanning Operating range Cuaranteed operating range Operating range, transparent media 0.1 4.5 m Operating range limit 0.1 4.5 m Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 mm Electrical data Protective circuit Protective circuit Polarity reversal protection Short circuit protected Transient protection Short circuit protected Transient protection Performance data Su	Basic data	
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Application Detection of transparent objects Object measurement Special version Crossed-beam scanning Diagonal-beam scanning Dagonal-beam scanning Operating range Guaranteed operating range Operating range, transparent media 0.1 4.5 m Operating range limit 0.1 4.5 m Operating range limit 0.1 6 m Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 m Minimum object diameter 10 mm Electrical data Protective circuit Protective circuit Polarity reversal protection Short circuit protected Transient protection Short circuit protected Transient protection Short circuit protected 0 15 %, From Ug Open-circuit current 0 15 %, From Ug Open-circuit current 0 15 %, From Ug Voltage type, outputs selectable 2 Piece(s) Type Inputs/output selectable Number of inputs/output selectable 2 Piece(s) <t< th=""><th>Device type</th><th>Receiver</th></t<>	Device type	Receiver
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Special version Crossed-beam scanning Diagonal-beam scanning Parallet-beam scanning Operating range Guaranteed operating range Operating range, transparent media 0.1 4.5 m Operating range limit Typical operating range Operating range limit 0.1 4.5 m Operating range limit 0.1 6 m Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 mm Measurement data 10 mm Electrical data Polarity reversal protection Short circuit protected Transient protection Short circuit protected Transient protection Supply voltage Ug 18 30 V, DC Residual ripple 0 15 %, From Ug Open-circuit current 0 15 mA, The specified values refer to the entire package consisting of transmiter and receiver. Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Number of inputs/outputs Typ. Ug / 0 V Switching voltage, inputs Typ. Ug / 0 V Switching voltage, inputs 10 µs Interfac		Object measurement
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Parallel-beam scanning Optical data Operating range Guaranteed operating range Operating range, transparent media 0.1 0.75 m Operating range limit 0.1 0.75 m Operating range limit 0.1 0. m Measurement field length 240 mm Number of beams 48 Piecc(s) Beam spacing 5 mm Measurement data 10 mm Measurement data 10 mm Electrical data Polarity reversal protection Short circuit protected Transient protection Performance data Supply voltage UB Supply voltage UB 18 30 V, DC Residual ripple 0 165 mA, The specified values refer Open-circuit current 0 165 mA, The specified values refer Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Number of inputs/outputs DC Switching voltage, inputs Typ. UB / 0 V Switching voltage, outputs Typ. UB / 0 V Input/output 1 Image Timing Image Cycle time 1 ms Response time per beam 10 µs Interface Image Type RS 485 Modbus	Special version	Crossed-beam scanning
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Operating range Guaranteed operating range Operating range 0.1 4.5 m Operating range, transparent media 0.1 1.75 m Operating range limit 0.1 6 m Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 mm Measurement data 10 mm Minimum object diameter 10 mm Electrical data Polarity reversal protection Protective circuit Polarity reversal protection Short circuit protected Transient protection Supply voltage Ug 18 30 V, DC Residual ripple 0 15 %, From Ug Open-circuit current 0 165 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) Type Inputs/outputs selectable Number of inputs, outputs DC Switching voltage, outputs DC Switching voltage, inputs high: 26V Input/output 1 Imming Cycle time 1 ms Response time per beam 10 µs Interface 17 Type RS 485 Modbus Function Process		Parallel-beam scanning
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Operating range limit 0.16 m Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 mm Measurement data Minimum object diameter 10 mm Electrical data Polarity reversal protection Short circuit protected Transient protection Supply voltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Voltage type, outputs DC Switching voltage, inputs DC Switching voltage, inputs High: ≥6V Input/output 1 Imming Cycle time 1 ms Response time per beam 10 µs Interface Type Type RS 485 Modbus Function Process	Operating range, transparent media	0.1 1.75 m
Measurement field length 240 mm Number of beams 48 Piece(s) Beam spacing 5 mm Measurement data 10 mm Measurement data 10 mm Electrical data Polarity reversal protection Supply coltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Voltage type, outputs DC Switching voltage, inputs Typ. U _B / 0 V Switching voltage, inputs 10 μS Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μS Interface Type Type RS 485 Modbus Function Process	Operating range limit	Typical operating range
Number of beams 48 Piece(s) Beam spacing 5 mm Measurement data 5 mm Winimum object diameter 10 mm Electrical data Polarity reversal protection Short circuit protected Transient protection Supply voltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Number of inputs/outputs selectable DC Switching voltage, outputs DC Switching voltage, inputs high: ≥6V Iow: ≤4V Iow: ≤4V Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type Rs 485 Function Function Process	Operating range limit	0.1 6 m
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 _B 1830 V, DC Residual ripple 015 %, From U _B Open-circuit current 0165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. Inputs/outputs selectable Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable Voltage type, outputs DC Switching voltage, inputs itching voltage, outputs Typ. U _B / 0 V Switching voltage, inputs Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface	Measurement field length	240 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 _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. Inputs/outputs selectable Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable 2 OC Switching voltage, outputs DC Switching voltage, inputs high: ≥6V Iow: ≤4V Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface	Number of beams	48 Piece(s)
Minimum object diameter 10 mm Electrical data Protective circuit Polarity reversal protection Short circuit protected Transient protected Transient protection Performance data Supply voltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. Inputs/outputs selectable Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable DC Switching voltage, outputs DC Switching voltage, outputs Typ. U _B / 0 V Switching voltage, inputs high: 26V Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service Interface	Beam spacing	5 mm
Electrical data Protective circuit Potentive circuit Performance data Supply voltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. Inputs/outputs selectable Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs DC Switching voltage, outputs DC Switching voltage, inputs high: ≥6V low: ≤4V Input/output 1 Timing Cycle time I ms Response time per beam 10 µs Interface Type RS 485 Function Process Service interface	Measurement data	
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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 0 165 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) Type 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 Imput/output 1 Timing Input Cycle time 1 ms Response time per beam 10 µs Interface Inputs Type RS 485 Modbus RS 485 Function Function Process	Electrical data	
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low: ≤4V Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface		5
Input/output 1 Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface	Switching voltage, inputs	
Timing Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface		10W. 27V
Cycle time 1 ms Response time per beam 10 μs Interface Type RS 485 Modbus RS 485 Function Process Service interface	Input/output 1	
Response time per beam 10 µs Interface Type RS 485 Modbus RS 485 Function Process	Timing	
Interface Type RS 485 Modbus RS 485 Function Process Service interface	Cycle time	1 ms
Type RS 485 Modbus RS 485 Function Process Service interface	Response time per beam	10 µs
RS 485 Function Process Service interface	Interface	
Function Process Service interface Image: Control of the service interface	Туре	RS 485 Modbus
Function Process Service interface Image: Comparison of the service of	RS 485	
		Process
	Service interface	
Type IO-Link		
	Туре	IO-LINK

Function	Configuration via software Service
connection	
lumber of connections	2 Piece(s)
Plug outlet	Axial
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
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
- Wechanical data	
	0.11
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 315 mm
Housing material	Metal
Metal housing	Aluminum
ens cover material	Plastic
Net weight	450 g
Housing color	Silver
Гуре of fastening	Groove mounting
	Via optional mounting device
Operation and display	
Гуре of display	LED
2. · · · · · · · · · · · · · · · · · · ·	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
., pe of configuration	Teach-in
Operational controls	Membrane keyboard
	Membrane Reybuard
Environmental data	
Ambient temperature, operation	-30 60 °C
	-40 70 °C
Ambient temperature, storage	
Ambient temperature, storage Certifications	
	IP 65
Certifications	IP 65 III
Certifications Degree of protection	

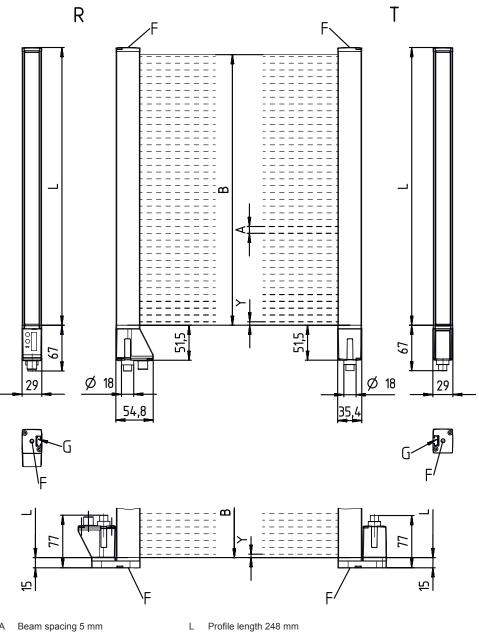
Technical data

Customs tariff number	90314990
eCl@ss 5.1.4	27270910
eCl@ss 8.0	27270910
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eCl@ss 10.0	27270910
eCl@ss 11.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

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Dimensioned drawings

All dimensions in millimeters



Beam spacing 5 mm А

Fastening groove

- В Measurement field length 240 mm
- F M6 thread

G

R Receiver

Т

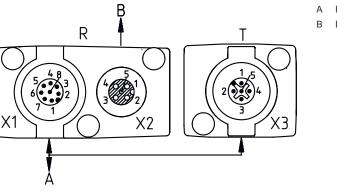
2.5 mm Υ

Transmitter



Dimensioned drawings





A PWR / SW IN / OUTB BUS IN / OUT

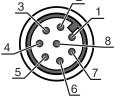
Electrical connection

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

Electrical connection



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
50118578	CML730i-T05-240.A- M12	Light curtain transmitter	Operating range: 0.1 4 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
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

6/8

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Part number code



7/8

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!
 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

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

Accessories

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	Part no.	Designation	Article	Description
	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: Cable with connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Cable with connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Sheathing material: PUR

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
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

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęę.	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

Services

	Part no.	Designation	Article	Description
y, U	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.