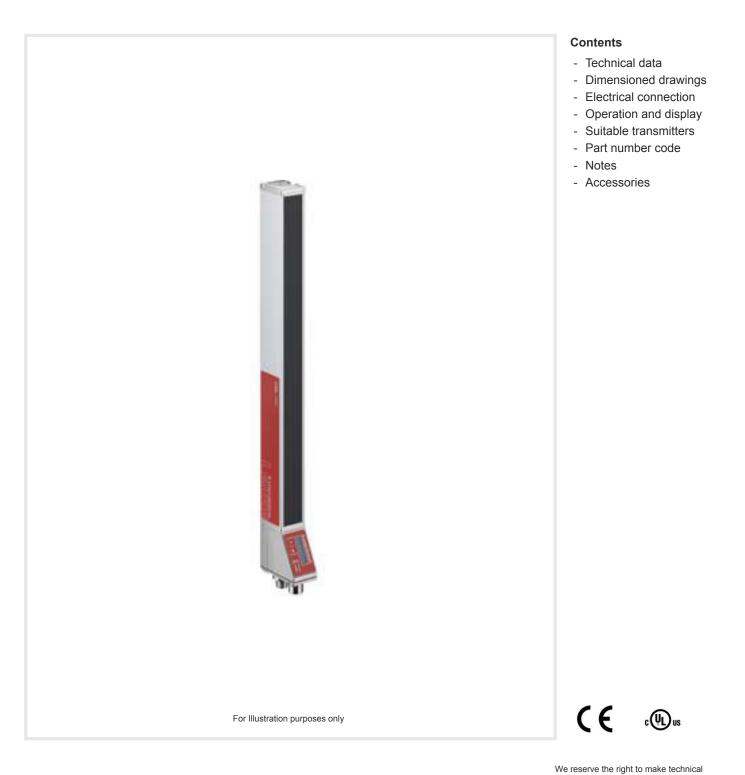


Technical data sheet Light curtain receiver Part no.: 50123566 CML720i-R20-2870.A/D3-M12



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 changes

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 eng • 2025-04-04

Technical data

Leuze

Operating principle Throughbeam principle Device type Receiver Contains 2x BT-NC sliding block Application Object measurement Special version Crossed-beam scanning Deprating range 0.37 m Operating range 0.37 m Operating range 0.37 m Operating range 0.37 m Operating range 0.29 m Operating range 0.29 m Operating range 0.29 m Operating range limit Typical operating range Massurement field length 2.870 mm Number of beams 144 Piece(s) Beam spacing 20 mm Measurement data 30 mm Electrical data Polarity reversal protection Short circuit protection Short circuit protection Short circuit in tropice data Supply voltage Ug Supply voltage Ug 1830 V.DC Residual ripple 0455 mA.The specified values re to the entire package consisting of tra mitter and receiver. Input foutput selectable 2 Piece(s)	Basic data	
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Special version Crossed-beam scanning Diagonal-beam scanning Special version Diagonal-beam scanning Operating range 0.3 7 m Operating range Guaranteed operating range Operating range limit 0.2 9 m Operating range limit 0.2 9 m Operating range limit 2.870 mm Number of beams 144 Piece(s) Beam spacing 20 mm Weasurement field length 2.870 mm Number of beams 144 Piece(s) Beam spacing 20 mm Weasurement data Winimum object diameter Supply voltage Ug 18 30 V, DC Residual ripple 0 15 %, From Ug Open-circuit current 0 435 mA, The specified values re to the entre package consisting of tra mitter and receiver. Inputs/outputs selectable 00 mA Output current, max. 100 mA Input resistance 6.000 Ω Number of inputs/outputs selectable 2 Piece(s) Type Input/output 1 Activation/disable delay 1 ms Time behavior Vu <td>Application</td> <td>Object measurement</td>	Application	Object measurement
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Dyperating range 0.3 7 m Operating range Guaranteed operating range Operating range limit 0.2 9 m Operating range limit 1ypical operating range Weasurement field length 2.870 mm Number of beams 144 Piece(s) Beam spacing 20 mm Measurement data 30 mm Minimum object diameter 30 mm Electrical data Polarity reversal protection Short circuit protected Transient protected Transient protection Short circuit protected Transient protection 0		Parallel-beam scanning
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Operating range limit 0.2 9 m Operating range limit Typical operating range Measurement field length 2,870 mm Number of beams 144 Piece(s) Beam spacing 20 mm Measurement data 30 mm Minimum object diameter 30 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 0 435 mA, The specified values re to the entire package consisting of tramitter and receiver. Inputs/outputs selectable Output current, max. Output current, max. 100 mA Input resistance 6,000 Ω Number of inputs/outputs selectable 2 Piece(s) Type Input/output Voltage type, outputs DC Switching voltage, inputs Typ. U _B / 0 V Switching voltage, inputs 10m; : s6V Input/output 1 Activation/disable delay 1 ms Time behavior 30 µs Cycle time 4.72 ms Response time per bea		Guaranteed operating range
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Beam spacing 20 mm Measurement data Minimum object diameter 30 mm Electrical data Protective circuit 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 0 435 mA, The specified values re to the entire package consisting of tra- mitter and receiver. Inputs/outputs selectable Output current, max. 100 mA Input resistance 6,000 Ω Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable 2 Piece(s) Type 0 Switching voltage, outputs DC Switching voltage, outputs 1 Activation/disable delay 1 ms Time behavior Cycle time 4.72 ms Response time per beam 30 μs Interface Type RS 485		
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Minimum object diameter 30 mm Electrical data Protective circuit Performance data Supply voltage U _B 18 30 V, DC Residual ripple 0 15 %, From U _B Open-circuit current 0 435 mA, The specified values re to the entire package consisting of tra mitter and receiver. Inputs/outputs selectable Output current, max. 100 mA Input resistance 6,000 Ω Number of inputs/outputs selectable 2 Piece(s) Type Inputs/outputs selectable 2 Dice(s) Type Inputs/outputs selectable DC Switching voltage, inputs DC Switching voltage, inputs Typ. U _B / 0 V Switching voltage, inputs 4 V Input/output 1 Activation/disable delay 1 ms Time behavior Cycle time er beam 30 μs Interface Type RS 485	Beam spacing	20 mm
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Output current, max.100 mAInput resistance6,000 ΩNumber of inputs/outputs selectable2 Piece(s)TypeInputs/outputs selectableVoltage type, outputsDCSwitching voltage, outputsTyp. U _B / 0 VSwitching voltage, inputsInput / 0 VInput/output 1Activation/disable delayActivation/disable delay1 msTime behavior30 μsCycle time4.72 msResponse time per beam30 μsInterfaceRS 485 Modbus	Open-circuit current	0 435 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
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Activation/disable delay 1 ms Time behavior Cycle time 4.72 ms Response time per beam 30 µs Interface Type RS 485 Modbus		
Activation/disable delay 1 ms Time behavior Cycle time 4.72 ms Response time per beam 30 µs Interface Type RS 485 Modbus	Input/output 1	
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Cycle time 4.72 ms Response time per beam 30 µs Interface Interface Type RS 485 Modbus RS 485 Interface	Time behavior	
Response time per beam 30 µs Interface Type RS 485 Modbus RS 485		4.70 mg
Interface Type RS 485 Modbus RS 485	•	
Type RS 485 Modbus RS 485	response unie per beam	ου μο
RS 485	Interface	
	Туре	RS 485 Modbus
Function Process	RS 485	
	Function	Process

Service interface	
Туре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
Connection 1 Function	Configuration interface
Function	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
	BUSOUT
Type of connection	Connector
Thread size	M12 Female
Type Material	Metal
No. of pins	5 -pin
Encoding	B-coded
Liboanig	
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,955 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	2,900 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
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C

Technical data

Certifications

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

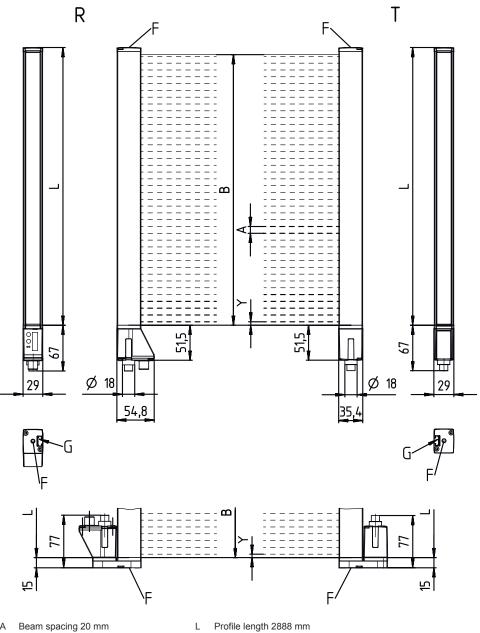
Classification

Customs tariff number	90314990
ECLASS 5.1.4	27270910
ECLASS 8.0	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ECLASS 15.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549



Dimensioned drawings

All dimensions in millimeters



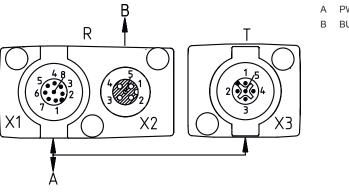
- Beam spacing 20 mm А
- В Measurement field length 2870 mm
- F M6 thread G Fastening groove
- Transmitter
- R Receiver
- 5 mm Υ

Т

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Dimensioned drawings





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

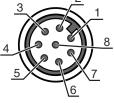
Electrical connection

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

Electrical connection

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



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
50119440	CML720i-T20- 2870.A-M12	Light curtain transmitter	Operating range: 0.3 7 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: 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	^t ⊗ 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 Connector, LED: No 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

Leuze

Mounting technology - Mounting brackets

 Part no.	Designation	Article	Description
 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

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.
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
A	♣ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.