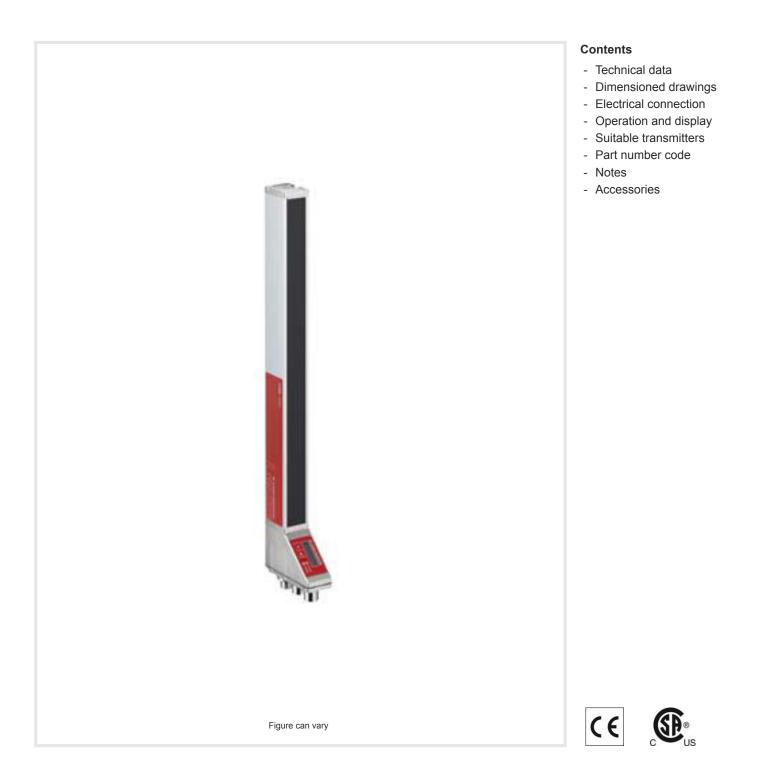


Technical data sheet Light curtain receiver Part no.: 50131966 CML720i-R20-2230.A/PN-M12



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Technical data

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Response time per beam	30 µs
•	30 µs
Cycle time	3.76 ms
Readiness delay	1,500 ms
Fiming	
Input/output 1 Activation/disable delay	1 ms
	low: ≤4V
Switching voltage, inputs	high: ≥6V
Voltage type, inputs	DC
Switching voltage, outputs	Typ. U _B / 0 V
Voltage type, outputs	DC
Туре	Inputs/outputs selectable
Number of inputs/outputs selectable	,
Input resistance	6,000 Ω
Inputs/outputs selectable Output current, max.	100 mA
Open-circuit current	0 435 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
Residual ripple	0 15 %, From U _B
Supply voltage U _B	18 30 V, DC
Performance data	18 20 \/ DC
Durfamoura data	Short circuit protected Transient protection
Protective circuit	Polarity reversal protection
Electrical data	
Ainimum object diameter	30 mm
Measurement data	
Beam spacing	20 mm
Number of beams	112 Piece(s)
Measurement field length	2,230 mm
Operating range limit	0.2 9 m
Operating range limit	Typical operating range
Operating range	0.3 7 m
Operating range	Guaranteed operating range
Optical data	
	Parallel-beam scanning
	Diagonal-beam scanning
Special version	Crossed-beam scanning
Special version	
Application	Object measurement
Contains	2x BT-NC sliding block
Device type	Receiver
	rnioughbeam principle
Operating principle	Throughbeam principle

Profinet	
Function	Process
Conformance class	Β
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s
	100 Mbit/s
ervice interface	
уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
connection	
umber of connections	3 Piece(s)
lug 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
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
0 // 0	
Connection 3	
Function	BUS OUT
Type of connection	Connector
Thread size	M12 Female
Type Material	Metal
No. of pins	4 -pin
Encoding	D-coded
-	
lechanical data	Cubio
esign	Cubic
imension (W x H x L)	29 mm x 35.4 mm x 2,315 mm
ousing material	Metal Aluminum
	Plastic
letal housing	
ens cover material	
ens cover material let weight	2,300 g
ens cover material	

Technical data

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Operation and display

Type of display	LED		
	OLED display		
Number of LEDs	4 Piece(s)		
Type of configuration	Software		
	Teach-in		
Operational controls	Membrane keyboard		
Environmental data			
Environmental data			
Ambient temperature, operation	-30 60 °C		

Ambient temperature, operation Ambient temperature, storage

Certifications

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

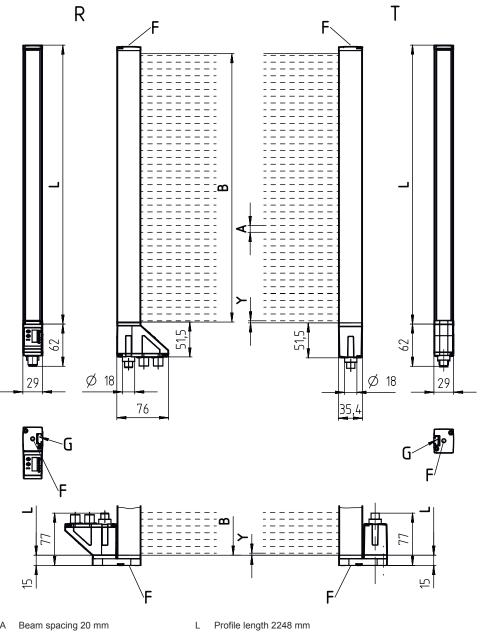
-40 ... 70 °C

Classification

Customs tariff number	90314990
eCl@ss 5.1.4	27270910
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
eCl@ss 10.0	27270910
eCl@ss 11.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

Dimensioned drawings

All dimensions in millimeters



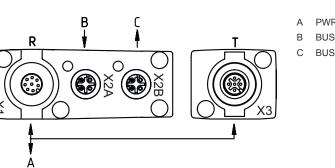
- Beam spacing 20 mm А
- В Measurement field length 2230 mm
- F M6 thread G Fastening groove
- Transmitter Receiver
- R

Т

5 mm Υ

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Dimensioned drawings



- PWR / SW IN / OUT BUS IN
 - BUS 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

X1

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

X2A

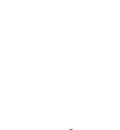
Connection 2

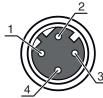
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin Pin assignment

1	TD0+
2	RD0+
3	TD0-
4	RD0-









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Electrical connection

Connection 3

Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

X2B

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-

Operation and display

Display	Meaning
Green, continuous light	Operational readiness
Green, flashing	Teach / error
Yellow, continuous light	Light path free, with function reserve
Yellow, flashing	No function reserve
Off	Object detected
Green, continuous light (at the X2A / X2B connector)	Link
Yellow, continuous light (at the X2A / X2B connector)	Activity
	Green, continuous light Green, flashing Yellow, continuous light Yellow, flashing Off Green, continuous light (at the X2A / X2B connector)

Suitable transmitters

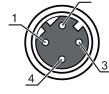
 Part no.	Designation	Article	Description
50119436	CML720i-T20- 2230.A-M12	Light curtain transmitter	Operating range: 0.3 6 m Connection: Connector, M12, Axial, 5 -pin

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					

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Part number code



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
6	✤ 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
W	50135074	KS ET-M12-4A-P7- 050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Accessories

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Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

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

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

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
RR.	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

Configuration devices

 Part no.	Designation	Article	Description
50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

Accessories

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Services

	Part no.	Designation	Article	Description
с. С	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
6	♦ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.