

Technical data sheet Light curtain receiver Part no.: 50131993 CML720i-R40-2210.R/PN-M12



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Technical data

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Series	720		
Operating principle	Throughbeam principle Receiver		
Device type			
Contains	Accessories for the use of the BT-2R1		
Application	Object measurement		
Special version			
Special version	Crossed-beam scanning		
	Diagonal-beam scanning		
	Parallel-beam scanning		
Optical data			
Operating range	0.3 7 m		
Operating range	Guaranteed operating range		
Operating range limit	0.2 9 m		
Operating range limit	Typical operating range		
Measurement field length	2,210 mm		
Number of beams	55 Piece(s)		
Beam spacing	40 mm		
Measurement data			
Minimum object diameter	50 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	 435 mA, The specified values refer to the entire package consisting of trans mitter and receiver. 		
Innuta/outnuta calactable			
Inputs/outputs selectable Output current, max.	100 mA		
Input resistance	6.000 Ω		
Number of inputs/outputs selectabl	,		
Туре	Inputs/outputs selectable		
Voltage type, outputs	DC		
Switching voltage, outputs	Typ. U _B / 0 V		
Voltage type, inputs	DC		
Switching voltage, inputs	high: ≥6V		
5 · · · 5 · · · 5 · · · · · ·	low: ≤ 4 V		
Input/output 1			
Activation/disable delay	1 ms		
Time behavior			
	1 500 mg		
-	1,500 ms		
Readiness delay Cycle time	2.05 ms		
-			
Cycle time	2.05 ms		
Cycle time Response time per beam	2.05 ms		

I	PROFINET		
1	Function	Process	
	Conformance class	В	
	Protocol	PROFINET RT	
	Switch functionality	Integrated	
-	Transmission speed	10 Mbit/s	
		100 Mbit/s	
Se	rvice interface		
Тур	De	IO-Link	
	O-Link		
	Function	Configuration via software	
		Service	
_			
Co	nnection		
Nu	mber of connections	3 Piece(s)	
Plu	ig outlet	Rear side	
	Connection 1		
I	Function	Configuration interface	
		Connection to transmitter	
		Signal IN	
		Signal OUT	
		Voltage supply	
1	Type of connection	Connector	
	Thread size	M12	
1	Туре	Male	
1	Material	Metal	
1	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	
	Connection 3 Function	BUS OUT	
		Connector	
	Type of connection Thread size	M12	
		Female	
	Type Material	Metal	
		4 -pin	
	No. of pins	D-coded	
	Encoding	D-coded	
Me	echanical data		
	sign	Cubic	
	nension (W x H x L)	29 mm x 35.4 mm x 2,263 mm	
Housing material		Metal	
Metal housing		Aluminum	
	ns cover material	Plastic	
Net	t weight	2,350 g	
Но	using color	Silver	
Тур	be of fastening	Groove mounting	
		Via optional mounting device	

Technical data

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Operation and display

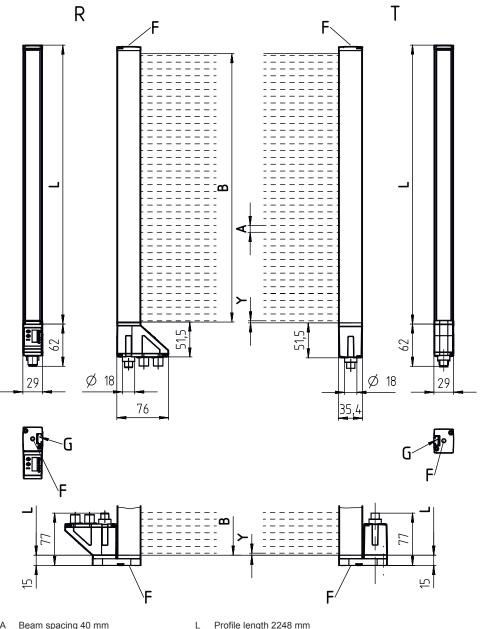
Type of display	LED	
	OLED display	
Number of LEDs	4 Piece(s)	
Type of configuration	Software	
	Teach-in	
Operational controls	Membrane keyboard	
Environmental data		
Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	
Certifications		
Degree of protection	IP 65	
Protection class	III	
Certifications	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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549

Dimensioned drawings

All dimensions in millimeters



- Beam spacing 40 mm А
- В Measurement field length 2210 mm
- F M6 thread G
 - Fastening groove
- Profile length 2248 mm
- Transmitter
- R Receiver

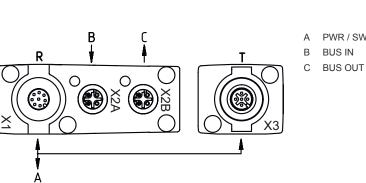
Т

5 mm Υ

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Dimensioned drawings

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- PWR / SW 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

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

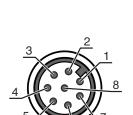
X2A

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

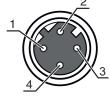
Connection 3

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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

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
3	Green, continuous light (at the X2A / X2B connector)	Link
4	Yellow, continuous light (at the X2A / X2B connector)	Activity

Suitable transmitters

 Part no.	Designation	Article	Description
50119529	CML720i-T40- 2210.R-M12	Light curtain transmitter	Operating range: 0.3 7 m Connection: Connector, M12, Rear side, 5 -pin

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

Operating principle Measuring light curtain
Series 720i: 720i series 730i: 730i series
Device type T: transmitter R: receiver
Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
Measurement field length [mm], dependent on beam spacing
Equipment A: Axial connector outlet R: Rear connector outlet

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 Connector, LED: No 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 Connector, LED: No 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.	429029	BT-2RG	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
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
6	A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.