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Technical data sheet Light curtain receiver Part no.: 50120056 CML720i-R05-1440.R/L-M12



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 eng • 2025-04-04

Technical data

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Basic data Series 720 Throughbeam principle **Operating principle** Device type Receiver 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** 0.1 ... 3.5 m **Operating range** Guaranteed operating range Operating range limit 0.1 ... 4.5 m **Operating range limit** Typical operating range Measurement field length 1,440 mm Number of beams 288 Piece(s) 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 18 ... 30 V, DC 0 ... 15 %, From U_B **Residual ripple** 0 ... 350 mA, The specified values refer **Open-circuit current** to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 100 mA Output current, max. Input resistance 6,000 Ω Number of inputs/outputs selectable 4 Piece(s) Туре Inputs/outputs selectable DC Voltage type, outputs Switching voltage, outputs Typ. U_B / 0 V Voltage type, inputs DC Switching voltage, inputs high: ≥6V low: $\leq 4 \text{ V}$ Input/output 1 Activation/disable delay 0 ... 1 ms **Time behavior** Readiness delay 400 ms 9.04 ms Cycle time Response time per beam 30 µs Interface IO-Link Туре

	IO-Link	
	COM mode	COM2
	Min. cycle time	COM2 = 2.3 ms
-	Specification	V1.0.1
		V1.1
e	rvice interface	
yı	pe	IO-Link
	IO-Link	
	Function	Configuration via software
		Service
20	onnection	
	mber of connections	2 Piece(s)
٩L	ig outlet	Rear side
	Connection 1	
	Function	Configuration interface
		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	Connection to transmitter
	Type of connection	Connector
	Thread size	M12
	Туре	Female
	Material	Metal
	No. of pins	5 -pin
	Encoding	A-coded
// e	echanical data	
)e	sign	Cubic
Dir	mension (W x H x L)	29 mm x 35.4 mm x 1,463 mm
ło	using material	Metal
/le	tal housing	Aluminum
.e	ns cover material	Plastic
le	t weight	1,650 g
ło	using color	Silver
УI	pe of fastening	Groove mounting
		Via optional mounting device
Dþ	peration and display	
Ţ yı	pe of display	LED
		OLED display
۱u	mber of LEDs	2 Piece(s)
YI	pe of configuration	Software
		Teach-in
In	vironmental data	
_	bient temperature, operation	-30 60 °C
۱n		

Technical data

Certifications

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

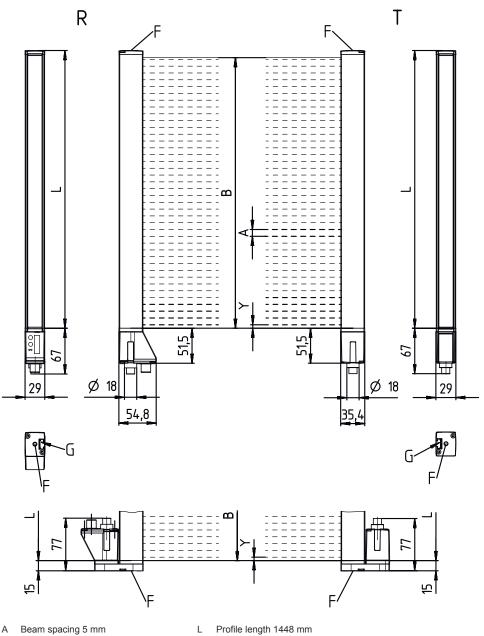
Classification

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

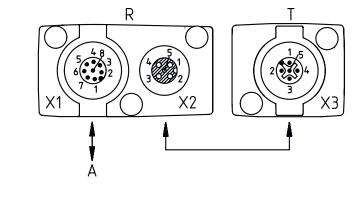


- Beam spacing 5 mm А
- В Measurement field length 1440 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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Dimensioned drawings





A PWR / SW IN / OUT

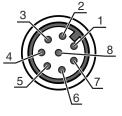
Electrical connection

Connection 1

Function	Configuration interface
	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	IO1		
3	GND		
4	IO-Link		
5	102		
6	IO3		
7	IO4		
8	GND		

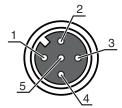


Connection 2

Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Pin Pin assignment

1	FE/SHIELD
2	V+
3	GND
4	RS 485 Tx+
5	RS 485 Tx-



Operation and display

Meaning

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
50119466	CML720i-T05- 1440.R-M12	Light curtain transmitter	Operating range: 0.1 3.5 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			
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			
DDD	Special equipment -PS: Power Setting			
EEE	Electrical connection M12: M12 connector			
FFF	-EX: Explosion protection			
Note Note Image: Second state of the second sta				

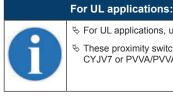
Notes

Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

b The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ Only use the product in accordance with its intended use.



ł	> For UI	L applications,	use is only	permitted in Class 2	circuits in accordan	ce with the NEC (National El	ectric 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 unit

	Part no.	Designation	Article	Description
C. LEWIS	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connector, LED: No Connection 2: Open end
				Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50129781	KDS DN-M12-5A- M12-5A-P3-050	Interconnection cable	Suitable for interface: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

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Accessories

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
ęę.	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

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