Leuze

Technical data sheet Light curtain receiver Part no.: 50120054 CML720i-R05-1280.R/L-M12



 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 changes

 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
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Technical data

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Series	720
Operating principle	Throughbeam 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	1,280 mm
Number of beams	256 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
Porformance data	
Performance data Supply voltage U _R	18 30 V, DC
Residual ripple	0 15 %, From U _B
Open-circuit current	$0 \dots 270 \text{ mA}$, The specified values refer
	to the entire package consisting of trans mitter and receiver.
Inputs/outputs selectable	
Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	
Number of inputs/outputs selectable	4 Piece(s)
Number of inputs/outputs selectable Type	4 Piece(s) Inputs/outputs selectable
Number of inputs/outputs selectable Type Voltage type, outputs	4 Piece(s) Inputs/outputs selectable DC
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\ge 6V$ Iow: $\le 4 V$
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms 8.08 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay Cycle time Response time per beam	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms 8.08 ms

IO-Link		COM2			
COM mode Min. cycle time	0	COM2 COM2 = 2.3 ms			
Specification	e	V1.0.1			
Specification		V1.1			
		V1.1			
Service interfa	се				
Turno		IO-Link			
Туре					
IO-Link					
Function		Configuration via software			
		Service			
Composition					
Connection					
Number of conne	ections	2 Piece(s)			
Plug outlet		Rear side			
Connection	4				
Function	1	Configuration interface			
		Signal IN			
		Signal OUT			
		Voltage supply			
Type of conne	ction	Connector			
Thread size		M12			
Туре		Male			
Material		Metal			
No. of pins		8 -pin			
Encoding		A-coded			
Connection 2	2				
Function		Connection to transmitter			
Type of conne	ction	Connector			
Thread size		M12			
Туре		Female			
Material		Metal			
No. of pins		5 -pin			
Encoding		A-coded			
Mechanical dat	ta				
Design		Cubic			
Dimension (W x I	H x L)	29 mm x 35.4 mm x 1,303 mm			
Housing material	I	Metal			
Metal housing		Aluminum			
Lens cover mate	rial	Plastic			
Net weight		1,500 g			
Housing color		Silver			
Type of fastening	9	Groove mounting			
		Via optional mounting device			
Operation and	display				
	alopiay	- 55			
Type of display		LED			
Number of LED		OLED display			
Number of LEDs		2 Piece(s)			
Type of configura	auon	Software Teach-in			
Environmental	data				
Ambient tempera	ature operation	-30 60 °C			
Ambient tempera	· -	-40 70 °C			
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Technical data

Certifications

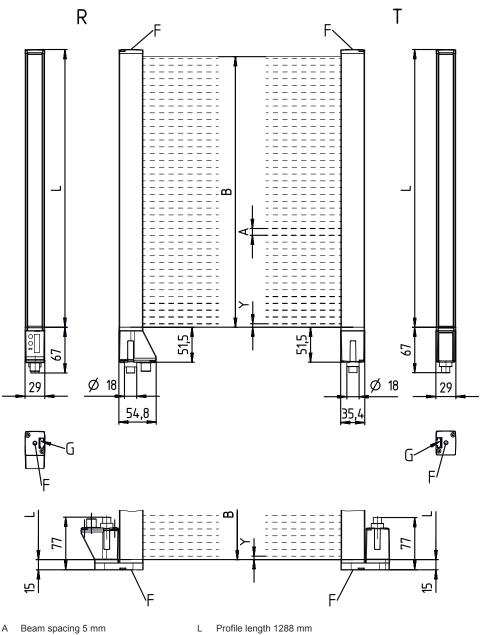
Classification

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 1280 mm
- F M6 thread G Fastening groove
- R Receiver

Т

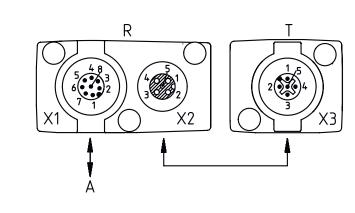
2.5 mm Υ

Transmitter

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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	IO2
6	103
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

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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 n	o. Designation	Article	Description	
501194	64 CML720i-T05- 1280.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	ith all available device types can be found on the Leuze website at www.leuze.com.

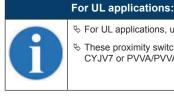
Notes

Observe intended use!

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

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 L	JL applications,	use is o	only permitted in Clas	s 2 circuits in accor	dance with the NEC (N	lational 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 unit

	Part no.	Designation	Article	Description
C. LEATING	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
J.	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.