Leuze

Technical data sheet Light curtain receiver Part no.: 50120059 CML720i-R05-1680.R/L-M12



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 changes

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Technical data

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	720
Operating principle	Throughbeam principle
	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
	0.1 4.5 m
Operating range limit	Typical operating range
Measurement field length	1,680 mm
Number of beams	336 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	
	18 30 V, DC
	0 15 %, From U _B
	 350 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
Inputs/outputs selectable	
	100 mA
•	6,000 Ω
Input resistance	1 Piece(s)
Input resistance Number of inputs/outputs selectable	
Number of inputs/outputs selectable	Inputs/outputs selectable
Number of inputs/outputs selectable Type	
Number of inputs/outputs selectable Type Voltage type, outputs	Inputs/outputs selectable DC
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	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	Inputs/outputs selectable DC Typ. U _B / 0 ∨ DC high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	Inputs/outputs selectable DC Typ. U _B / 0 ∨ DC high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	Inputs/outputs selectable DC Typ. U _B / 0 ∨ DC high: ≥6∨ Iow: ≤ 4 ∨
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	Inputs/outputs selectable DC Typ. U _B / 0 ∨ DC high: ≥6∨ Iow: ≤ 4 ∨
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	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: $\ge 6V$ low: $\le 4 V$ 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 Cycle time	Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V low: ≤ 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 Cycle time	Inputs/outputs selectable DC Typ. U _B / 0 ∨ DC high: ≥6∨ low: ≤ 4 ∨ 0 1 ms 400 ms 10.48 ms

IO-Link	001/0
COM mode	
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1 V1.1
	V1.1
Service interface	
Туре	IO-Link
1300	
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Diago(a)
Plug outlet	2 Piece(s) Rear side
Plug outlet	Real 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
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,703 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,850 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device
Operation and display	
Type of display	
Number of LEDs	OLED display
Type of configuration	2 Piece(s) Software
JPC OF COMINGUIAUON	Teach-in
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, operation	-40 70 °C

Technical data

Certifications

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

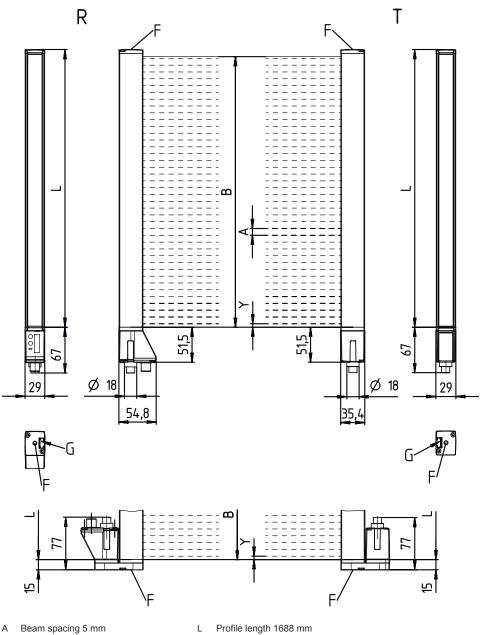
Classification

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

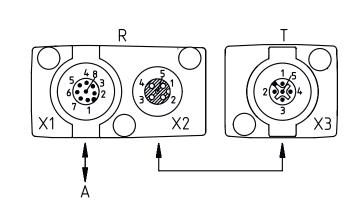


- Beam spacing 5 mm А
- В Measurement field length 1680 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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Dimensioned drawings





A PWR / SW IN / OUT

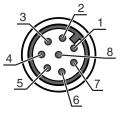
Electrical connection

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	103
7	104
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

Pa	art no.	Designation	Article	Description
50				Operating range: 0.1 3.5 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
Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus
Special equipment -PS: Power Setting
Electrical connection M12: M12 connector
-EX: Explosion protection
th 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.



& 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 unit

	Part no.	Designation	Article	Description
C. L.	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	^t A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.