

Technical data sheet Light curtain receiver

Part no.: 50120133

CML720i-R05-960.R/CV-M12



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Technical data



Basic data

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
	3
	3
Optical data	
Optical data Operating range	Guaranteed operating range
Operating range	Guaranteed operating range
Operating range Operating range	Guaranteed operating range 0.1 3.5 m
Operating range Operating range Operating range limit	Guaranteed operating range 0.1 3.5 m Typical operating range
Operating range Operating range limit Operating range limit	Guaranteed operating range 0.1 3.5 m Typical operating range 0.1 4.5 m

Measurement data

Minimum ob	ject diameter	10 mm
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Electrical data Protective circuit

	Short circuit protected
	Transient protection
Performance data	
Supply voltage U _B	18 30 V, DC

Polarity reversal protection

ouppry voitage o _B	10 00 V, DO
Residual ripple	0 15 %, From U _B
Open-circuit current	$0\dots 270$ mA, The specified values refer to the entire package consisting of transmitter and receiver.

Outputs

Number of analog outputs	2 Piece(s)

Analog outputs

Current	0 24 mA
Voltage	0 11 V

Analog output 1

Type	voitage

Analog output 2

Type	Current

Inputs/outputs selectable

inputs/outputs selectable	
Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	2 Piece(s)
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

low: ≤4V

Input/output 1
Activation/disable delay

Timing	
Readiness delay	450 ms
Cycle time	6.16 ms
Response time per beam	30 μs

1 ms

Service interface

Туре	IO-Link
IO-Link	
Function	Configuration via software
	Service

Connection

Number of connections	2 Piece(s)
Plug 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

Connection 2		
Function	Connection to transmitter	
Type of connection	Connector	
Thread size	M12	
Type	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 983 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,200 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device

Operation and display

Type of display	LED
	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
	Teach-in
Operational controls	Membrane keyboard

Technical data



Environmental data

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 CSA US	
Standards applied	IEC 60947-5-2	

Classification

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

Dimensioned drawings



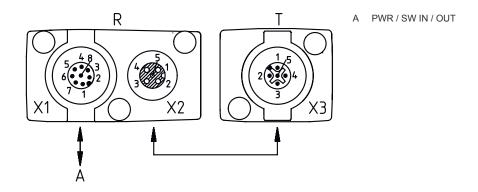
All dimensions in millimeters



- A Beam spacing 5 mm
- B Measurement field length 960 mm
- F M6 thread
- G Fastening groove
- L Profile length 968 mm
- T Transmitter
- R Receiver
- Y 2.5 mm

Dimensioned drawings



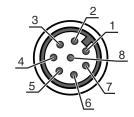


Electrical connection

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

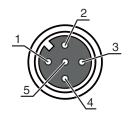
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	OUT V
7	OUT mA
8	AGND



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



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
50119460	CML720i-T05-960.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				
Υ	Device type T: transmitter R: receiver				
ZZ	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				
ссс	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



🖔 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
50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin 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: IO-Link, 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

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

Accessories



Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
R.	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
TIS .	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
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



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