△ **Leuze electronic**

the sensor people

Part no.: 50123590
CML720i-R05-1280.R/D3-M12
Light curtain receiver

CE   CSA
c   US

Figure can vary

Contents

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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 design	
Special design	Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning

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

Performance data	
Supply voltage U_B	18 ... 30 V , DC
Residual ripple	0 ... 15 % , From U_B
Open-circuit current	0 ... 270 mA , The specified values refer to the entire package consisting of transmitter and receiver.

Inputs/outputs selectable	
Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	2 Piece(s)
Type	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Typ. U_B / 0 V
Switching voltage, inputs	high: ≥6V low: ≤4V

Input/output 1	
Activation/disable delay	1 ms

Timing	
Cycle time	8.08 ms
Response time per beam	30 µs

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Interface	
Type	RS 485

RS 485	
Function	Process

Service interface	
Type	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 Connection to transmitter Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

Connection 2	
Function	BUS IN BUS OUT
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,303 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
Net weight	1,500 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

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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
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549

Dimensioned drawings

All dimensions in millimeters

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A Beam spacing 5 mm
B Measurement field length 1280 mm
F M6 thread
G Fastening groove
L Profile length 1288 mm
T Transmitter
R Receiver
Y 2.5 mm

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A PWR / SW IN/OUT
B BUS 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
Type	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	RS 485 Tx+
7	RS 485 Tx+
8	FE/SHIELD

Connection 2	
Function	BUS IN BUS OUT
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

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Pin	Pin assignment
1	V+
2	Tx-
3	PB GND
4	Tx+
5	FE/SHIELD

Operation and display

LEDs

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
		Measurement frequency display
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
	50119464	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
ZZ	**Beam spacing:** 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
AAAA	Measurement field length [mm], dependent on beam spacing
B	**Equipment:** A: connector outlet, axial R: rear connector outlet

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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
A list with all available device types can be found on the Leuze electronic 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 Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

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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
	50123265	K-YPB M12A-5m-M12A-S-PUR	Interconnection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 250 mm Sheathing material: PUR

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50142900	BT 700M.5-2SET	Mounting device set	Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws 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
	429046	BT-2R1	Mounting bracket set	Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

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 electronic website in the Download tab of the article detailed page.