



the sensor people





Figure can vary

Part no.: 50120138 CML720i-R05-1360.R/CV-M12 Light curtain receiver





Contents

- Technical data
- . Dimensioned drawings
- Electrical connection
- · Operation and display
- Suitable transmitters
- · Part number code
- Notes
- Accessories



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	1,360 mm		
Number of beams	272 Piece(s)		
Beam spacing	5 mm		
Beam spacing	311111		
Measurement data			
Minimum object diameter	10 mm		
Electrical data			
Protective circuit	Polarity reversal protection		
Protective circuit	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.		
Outputs			
Number of analog outputs	2 Piece(s)		
Analog outputs			
Current	0 24 mA		
Voltage	0 11 V		
Analog output 1			
Type Voltage			
Analog output 2			
Type	Current		
.71-			



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 DC		
Voltage type, outputs			
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	1 ms		
ming			
eadiness delay	450 ms		
/cle time	8.56 ms		
esponse time per beam	30 µs		
ervice interface			
pe	IO-Link		
IO-Link			
Function	Configuration via software Service		
onnection			
onnection umber of connections	2 Piece(s)		
umber of connections	2 Piece(s) Rear side		
umber of connections ug outlet	2 Piece(s) Rear side		
umber of connections			
umber of connections ug outlet Connection 1	Rear side Configuration interface Signal IN Signal OUT		
umber of connections ug outlet Connection 1 Function	Rear side Configuration interface Signal IN Signal OUT Voltage supply		
umber of connections ug outlet Connection 1 Function Type of connection	Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector		
umber of connections ug outlet Connection 1 Function Type of connection Thread size	Configuration interface Signal IN Signal OUT Voltage supply Connector M12		
umber of connections ug outlet Connection 1 Function Type of connection Thread size Type	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male		
Type of connection Type Material	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal		
Type of connection Thread size Type Material No. of pins	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin		
Type of connection Type Material No. of pins Encoding	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin		
Type of connection Thread size Type Material No. of pins Encoding Connection 2	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded		
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter		
Type of connection Type Material No. of pins Encoding Connection 2 Function	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector		
Type of connection Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size	Rear side Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12		
Type of connection Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector M12 Female		



Lens cover material	Plastic		
Net weight	1,550 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		
Environmental data			
Ambient temperature, operation	-30 60 °C		
Ambient temperature, storage	-40 70 °C		
Certifications			
Degree of protection	IP 65		

Classification		
Customs tariff number	90314990	
eCl@ss 8.0	27270910	
eCl@ss 9.0	27270910	
ETIM 5.0	EC002549	
ETIM 6.0	EC002549	

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c CSA US IEC 60947-5-2

Dimensioned drawings

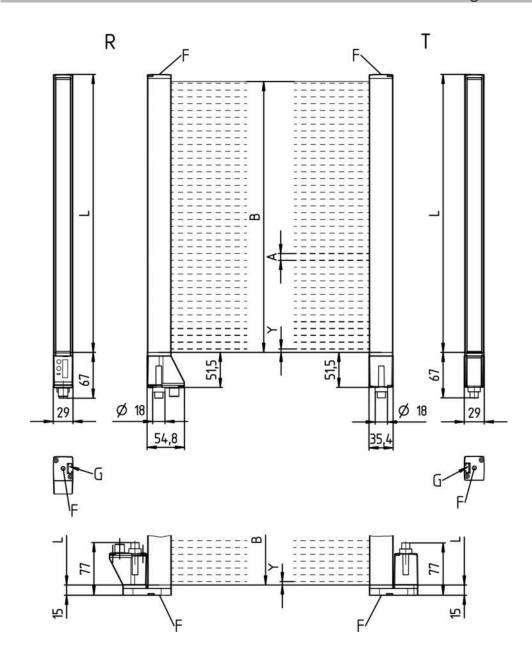
All dimensions in millimeters

Protection class

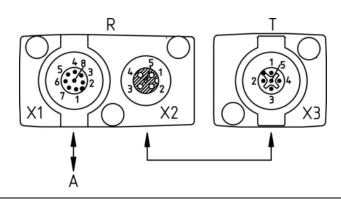
Standards applied

Certifications





- A Beam spacing 5 mm B Measurement field length 1360 mm
- F M6 thread
- G Fastening groove
- L Profile length 1368 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



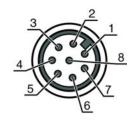


APWR / SW IN/OUT

Electrical connection

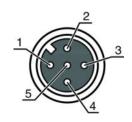
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

Pin	Pin assignment
1	V+
2	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

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
50119465	CML720i- T05-1360.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			
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:			

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
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
5			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	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

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Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	429046	BT-2R1	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

	Part no.	Designation	Article	Description
166	50121098	SET MD12-US2-IL1.1 + Zub.		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 electronic website in the Download tab of the article detailed page.