## SMART SENSOR BUSINESS

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Part no.: 50120173 CML720i-R10-2240.R/CV-M12 Light curtain receiver



Figure can vary

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## Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver

#### **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	0.3 7 m
Operating range limit	Typical operating range
Operating range limit	0.2 9 m
Measurement field length	2,240 mm
Number of beams	224 Piece(s)
Beam spacing	10 mm
Measurement data	
Minimum object diameter	20 mm
Electrical data	
Protective circuit	Polarity reversal protection Short circuit protected Transient protection
Performance data	
Supply voltage UB	18 30 V , DC
Residual ripple	0 15 % , From U <sub>B</sub>
Open-circuit current	0 435 mA , The specified values refer to the entire package con- sisting 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	
Туре	Voltage
Analog output 2	
Туре	Current

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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 <sub>B</sub> / 0 V				
Voltage type, inputs	DC				
Switching voltage, inputs	high: ≥6V low: ≤4V				
Input/output 1					
Activation/disable delay	1 ms				
iming					
i <i>ming</i> eadiness delay	450 ms				
ycle time	7.12 ms				
esponse time per beam					
בסטטוסל וווול אבו אלמוו	30 µs				
ervice interface					
/pe	IO-Link				
IO-Link					
Function	Configuration via software Service				
umber of connections ug outlet	2 Piece(s) Rear side				
lug outlet	Rear side				
O - mar a firm A					
Connection 1					
<i>Connection 1</i> Function	Configuration interface Signal IN Signal OUT Voltage supply				
	Signal IN				
Function	Signal IN Signal OUT Voltage supply				
Function Type of connection	Signal IN Signal OUT Voltage supply Connector				
Function Type of connection Thread size	Signal IN Signal OUT Voltage supply Connector M12				
Function Type of connection Thread size Type	Signal IN Signal OUT Voltage supply Connector M12 Male				
Function Type of connection Thread size Type Material	Signal IN Signal OUT Voltage supply Connector M12 Male Metal				
Function Type of connection Thread size Type Material No. of pins	Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin				
Function Type of connection Thread size Type Material No. of pins Encoding	Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2	Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection	Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded Connection to transmitter Connector				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection Thread size	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connector to transmitter         Connector         M12         Female				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connector to transmitter         Connector         M12         Female         Metal				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material No. of pins	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connector to transmitter         Connector         M12         Female         Metal				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material No. of pins	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material No. of pins Encoding Encoding	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin				
Function Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Thread size Type Material No. of pins Encoding Rechanical data	Signal IN         Signal OUT         Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connector to transmitter         Connector         M12         Female         Metal         A-coded				

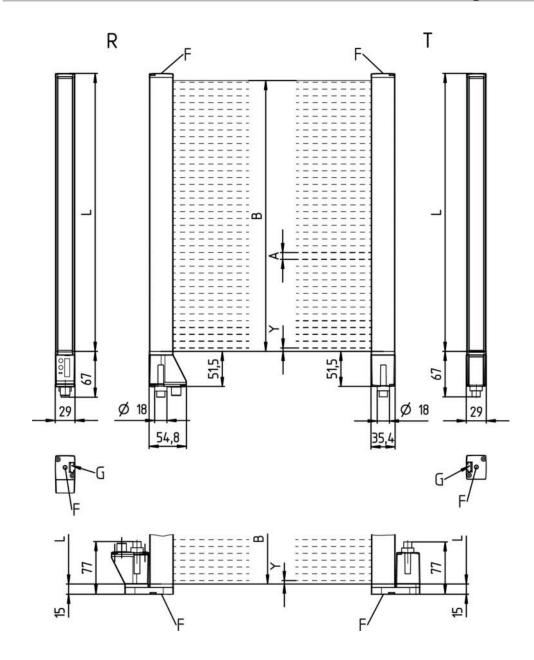
## Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver

Lens cover material	Plastic		
Net weight	2,350 g		
Housing color	Silver		
Type of fastening	Groove mounting Via optional mounting device		
Operation and display			
	LED		
Type of display	OLED display		
Number of LEDs	2 Piece(s)		
Type of configuration	Software Teach-in		
Operational controls	Membrane keyboard		
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		

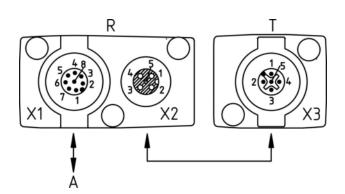
### **Dimensioned drawings**

All dimensions in millimeters

Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver



- A Beam spacing 10 mm B Measurement field length 2240 mm
- F M6 thread
- G Fastening groove
- L Profile length 2248 mm
- T Transmitter
- R Receiver
- Y 5 mm



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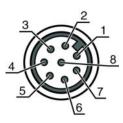
## Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver

A PWR / SW IN/OUT

### **Electrical connection**

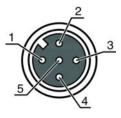
Connection 1			
Function	Configuration interface Signal IN Signal OUT Voltage supply		
Type of connection	Connector		
Thread size	M12		
Туре	Male		
Material	Metal		
No. of pins	8 -pin		
Encoding	A-coded		

Pin	Pin assignment
1	V+
2	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-



## Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver

#### **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
50119500	CML720i- T10-2240.R-M12	Light curtain transmitter	Operating range: 0.3 6 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			
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:			

#### Note

A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

### Part no.: 50120173 – CML720i-R10-2240.R/CV-M12 – Light curtain receiver

#### 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
5		KD S-M12-8A- P1-050		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	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
ęł.	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

Part no.	Designation	Article	Description
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.