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Part no.: 50119763 CML720i-R10-1920.A/L-M12 Light curtain receiver



Figure can vary

# Contents

- Technical data
- Dimensioned drawings
- · Electrical connection
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- Part number code
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## Part no.: 50119763 – CML720i-R10-1920.A/L-M12 – Light curtain receiver

#### **Technical data**

Basic data	
Series	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
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	1,920 mm
Number of beams	192 Piece(s)
Beam spacing	10 mm
Measurement data	
Minimum object diameter	20 mm
Electrical data	
Electrical data Protective circuit	Polarity reversal protection Short circuit protected Transient protection
Electrical data	Polarity reversal protection Short circuit protected
<i>Electrical data</i> Protective circuit	Polarity reversal protection Short circuit protected
Electrical data Protective circuit Performance data	Polarity reversal protection Short circuit protected Transient protection
Electrical data Protective circuit Performance data Supply voltage U <sub>B</sub>	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC
Electrical data Protective circuit Performance data Supply voltage UB Residual ripple	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con-
Electrical data Protective circuit Performance data Supply voltage UB Residual ripple Open-circuit current	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con-
Electrical data Protective circuit Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con- sisting of transmitter and receiver.
Electrical data Protective circuit Performance data Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Output current, max.	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con- sisting of transmitter and receiver.
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con- sisting of transmitter and receiver.
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con- sisting of transmitter and receiver. 100 mA 6,000 Ω 4 Piece(s)
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type	Polarity reversal protection         Short circuit protected         Transient protection         18 30 V , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs	Polarity reversal protection         Short circuit protected         Transient protection         18 30 V , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs	Polarity reversal protection Short circuit protected Transient protection 18 30 V , DC 0 15 % , From U <sub>B</sub> 0 435 mA , The specified values refer to the entire package con- sisting of transmitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Voltage type, inputs	Polarity reversal protection         Short circuit protected         Transient protection         18 30 ∨ , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC         Typ. U <sub>B</sub> / 0 ∨         DC         high: ≥6V
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Voltage type, inputs         Switching voltage, inputs	Polarity reversal protection         Short circuit protected         Transient protection         18 30 ∨ , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC         Typ. U <sub>B</sub> / 0 ∨         DC         high: ≥6V
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Switching voltage, inputs         Switching voltage, inputs         Input/output 1         Activation/disable delay	Polarity reversal protection Short circuit protected Transient protection         18 30 V , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC         Typ. U <sub>B</sub> / 0 V         DC         high: ≥6V low: ≤4V
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Switching voltage, inputs         Switching voltage, inputs         Input/output 1         Activation/disable delay	Polarity reversal protection Short circuit protected Transient protection         1830 V , DC         015 % , From UB         0435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC         Typ. U <sub>B</sub> / 0 V         DC         high: ≥6V         low: ≤4V
Electrical data         Protective circuit         Performance data         Supply voltage UB         Residual ripple         Open-circuit current         Inputs/outputs selectable         Output current, max.         Input resistance         Number of inputs/outputs selectable         Type         Voltage type, outputs         Switching voltage, outputs         Switching voltage, inputs         Switching voltage, inputs         Input/output 1         Activation/disable delay	Polarity reversal protection Short circuit protected Transient protection         18 30 V , DC         0 15 % , From UB         0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.         100 mA         6,000 Ω         4 Piece(s)         Inputs/outputs selectable         DC         Typ. U <sub>B</sub> / 0 V         DC         high: ≥6V low: ≤4V

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## Part no.: 50119763 – CML720i-R10-1920.A/L-M12 – Light curtain receiver

Interface					
Туре	IO-Link				
IO-Link					
COM mode	COM2				
Specification	V1.0.1				
	V1.1				
Min. cycle time	COM2 = 2.3 ms				
Service interface					
Туре	IO-Link				
IO-Link					
Function	Configuration via software				
	Service				
Connection					
Number of connections	2 Piece(s)				
Plug outlet	Axial				
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 1,995 mm				
Housing material	Metal , Aluminum				
Lens cover material	Plastic				
Net weight	2,050 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)				

## Part no.: 50119763 – CML720i-R10-1920.A/L-M12 – Light curtain receiver

Software			
Teach-in			
Membrane keyboard			
-30 60 °C			
-40 70 °C			
IP 65			
III			
c CSA US			
IEC 60947-5-2			
90314990			
27270910			
27270910	27270910		
EC002549	EC002549		
	Teach-in         Membrane keyboard         -30 60 °C         -40 70 °C         IP 65         III         c CSA US         IEC 60947-5-2         90314990         27270910         27270910		

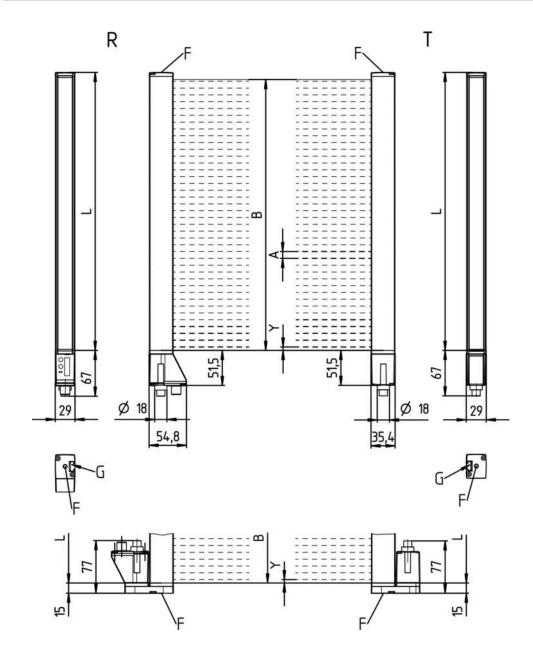
EC002549

#### **Dimensioned drawings**

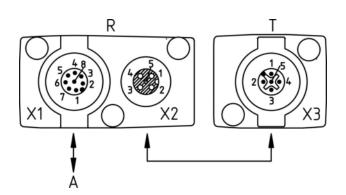
All dimensions in millimeters

ETIM 6.0

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- A Beam spacing 10 mm B Measurement field length 1920 mm
- F M6 thread
- G Fastening groove
- L Profile length 1928 mm
- T Transmitter
- R Receiver
- Y 5 mm



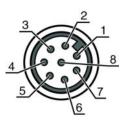
### Part no.: 50119763 – CML720i-R10-1920.A/L-M12 – Light curtain receiver

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	101
3	GND
4	IO-Link
5	102
6	103
7	IO4
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-



## Part no.: 50119763 – CML720i-R10-1920.A/L-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
50119416	CML720i- T10-1920.A-M12	Light curtain transmitter	Operating range: 0.3 6 m Connection: Connector, M12, Axial, 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.

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#### 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

I	Part no.	Designation	Article	Description
50		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.