

## **Technical data sheet** Light curtain receiver Part no.: 50119670 CML720i-R20-1590.A/CN-M12



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We reserve the right to make technical changes eng • 2020-12-17

#### **Technical data**

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series     720       perating principle     Throughbeam principle       evice type     Receiver       pontains     2x BT-NC sliding block       opplication     Object measurement       opecial version     Crossed-beam scanning       Diagonal-beam scanning     Diagonal-beam scanning
evice type     Receiver       pontains     2x BT-NC sliding block       opplication     Object measurement       opecial version     Crossed-beam scanning
pontains     2x BT-NC sliding block       opplication     Object measurement       opecial version     Crossed-beam scanning
oplication     Object measurement       opecial version     Crossed-beam scanning
Decial version     Crossed-beam scanning
Crossed-beam scanning
Diagonal-beam scanning
Parallel-beam scanning
ptical data
Guaranteed operating range
berating range 0.3 7 m
perating range limit Typical operating range
perating range limit 0.2 9 m
easurement field length 1,590 mm
umber of beams80 Piece(s)
eam spacing 20 mm
easurement data
inimum object diameter 30 mm
ectrical data
otective circuit Polarity reversal protection
Short circuit protected
Transient protection
Performance data
Supply voltage U <sub>B</sub> 18 30 V, DC
Residual ripple 0 15 %, From U <sub>B</sub>
Open-circuit current 0 350 mA, The specified values re to the entire package consisting of tra mitter and receiver.
Inputs/outputs solostable
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 <sub>R</sub> / 0 V
Voltage type, inputs DC
Voltage type, inputs         DC           Switching voltage, inputs         high: ≥6V
Switching voltage, inputs     high: ≥6V       low: ≤4V
Switching voltage, inputs     high: ≥6∨       low: ≤4∨       Input/output 1
Switching voltage, inputs     high: ≥6V       low: ≤4V
Switching voltage, inputs         high: ≥6∨           low: ≤4∨           Input/output 1
Switching voltage, inputs       high: ≥6∨         low: ≤4∨         Input/output 1         Activation/disable delay       1 ms
Switching voltage, inputs     high: ≥6V       low: ≤4V       Input/output 1       Activation/disable delay     1 ms
Switching voltage, inputs     high: ≥6∨       low: ≤4∨       Input/output 1       Activation/disable delay     1 ms       ming       eadiness delay     450 ms
Switching voltage, inputs     high: ≥6∨       Input/output 1     Imput/output 1       Activation/disable delay     1 ms       ming     450 ms       vcle time     2.8 ms
Switching voltage, inputs     high: ≥6∨       Input/output 1     Input/output 1       Activation/disable delay     1 ms       ming     450 ms       eadiness delay     450 ms       oppose time per beam     30 μs
Switching voltage, inputs       high: ≥6∨         Input/output 1       Input/output 1         Activation/disable delay       1 ms         ming       2.8 ms         vcle time       2.8 ms         asponse time per beam       30 μs
Switching voltage, inputs     high: ≥6∨       Input/output 1     Input/output 1       Activation/disable delay     1 ms       ming     450 ms       eadiness delay     450 ms       oppose time per beam     30 μs

Service interface				
Туре		IO-Link		
	IO-Link			
	Function	Configuration via software Service		
C	onnection			
N	umber of connections	2 Piece(s)		
PI	ug outlet	Axial		
	Connection 1			
	Function	Configuration interface		
		Connection to transmitter		
		Signal IN		
		Signal OUT		
	<b>T</b>	Voltage supply		
	Type of connection	Connector		
	Thread size	M12		
	Туре	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		
	Туре	Female		
	Material	Metal		
	No. of pins	5 -pin		
	Encoding	A-coded		
М	echanical data			
De	esign	Cubic		
Di	mension (W x H x L)	29 mm x 35.4 mm x 1,675 mm		
Housing material		Metal		
M	etal housing	Aluminum		
Le	ens cover material	Plastic		
	et weight	1,750 g		
	ousing color	Silver		
Ту	pe of fastening	Groove mounting		
		Via optional mounting device		
0	peration and display			
Ту	pe of display	LED		
		OLED display		
N	umber of LEDs	2 Piece(s)		
Ту	pe of configuration	Software		
		Teach-in		
0	perational controls	Membrane keyboard		
E	nvironmental data			
A	nbient temperature, operation	-30 60 °C		
A	nbient temperature, storage	-40 70 °C		

### **Technical data**

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#### Certifications

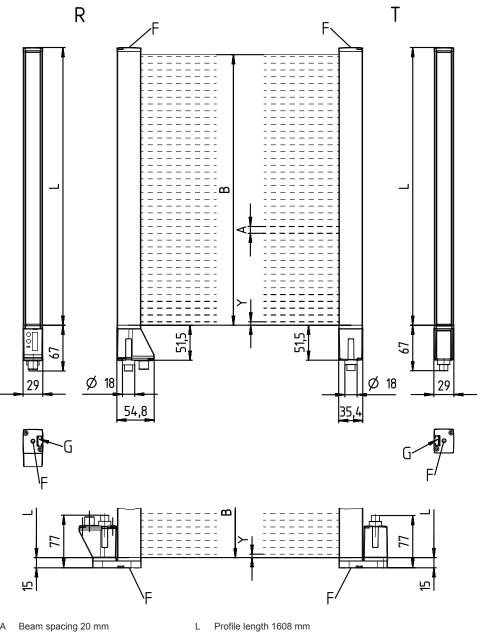
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

#### Classification

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

#### **Dimensioned drawings**

All dimensions in millimeters



Beam spacing 20 mm А

Fastening groove

- В Measurement field length 1590 mm
- F M6 thread

G

R Receiver

Т

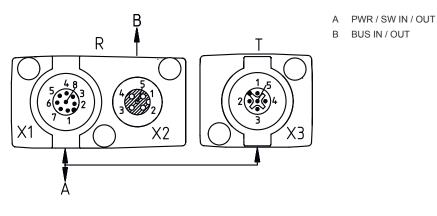
5 mm Υ

Transmitter



#### **Dimensioned drawings**





## **Electrical connection**

**Connection 1** 

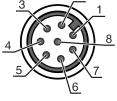
Function	Configuration interface
	Connection to transmitter
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

#### Pin Pin assignment

1	V+		
2	I/O 1		
3	GND		
4	IO-Link		
5	I/O 2		
6	RS 485 Tx-		
7	RS 485 Tx+		
8	FE/SHIELD		



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



### **Electrical connection**

Pin	Pin assignment	
1	FE/SHIELD	
2	n.c.	
3	CAN GND	
4	CAN H	
5	CAN L	

### **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
50119432	CML720i-T20- 1590.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
22	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

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#### Part number code



DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
	Note
A	∜ A list with all available device types can be found on the Leuze website at www.leuze.com.

#### Notes

Observe intended use!
<ul> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>



#### 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

#### 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

#### Accessories

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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
	50118185	K-YCN M12A-M12A- S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

### Connection technology - Terminating resistors

 Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Function: Bus termination

#### 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

#### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęę.	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

#### 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.

#### Accessories

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 Part no.	Designation	Article	Description
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
1	to A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.

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