

## Technical data sheet

### Light curtain transmitter

Part no.: 50119514  
CML720i-T20-1590.R-M12



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## Technical data

### Basic data

Series	720
Operating principle	Throughbeam principle
Device type	Transmitter
Contains	Accessories for the use of the BT-2R1
Application	Object measurement

### Special version

Special version	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	1,590 mm
Number of beams	80 Piece(s)
Beam spacing	20 mm
Light source	LED, Infrared
LED light wavelength	940 nm

### Measurement data

Minimum object diameter	30 mm
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### 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 ... 350 mA, The specified values refer to the entire package consisting of transmitter and receiver.

### Timing

Readiness delay	450 ms
Cycle time	2.8 ms

### Connection

Number of connections	1 Piece(s)
Plug outlet	Rear side

### Connection 1

Function	Connection to receiver
	Sync-input
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
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 1,623 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,750 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device

### Operation and display

Type of display	LED
Number of LEDs	1 Piece(s)

### 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 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

# Dimensioned drawings

All dimensions in millimeters



- |   |                                  |   |                        |
|---|----------------------------------|---|------------------------|
| A | Beam spacing 20 mm               | L | Profile length 1608 mm |
| B | Measurement field length 1590 mm | T | Transmitter            |
| F | M6 thread                        | R | Receiver               |
| G | Fastening groove                 | Y | 5 mm                   |



# Electrical connection

## Connection 1

Function	Connection to receiver Sync-input Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
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

LED	Display	Meaning
1	Green, continuous light	Continuous mode
	Off	No communication with the receiver / waiting for trigger
	green, flashing in sync with the measurement	Measurement frequency display

# Suitable receivers

	Part no.	Designation	Article	Description
	50119968	CML720i-R20-1590.R/CN-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: CANopen Connection: Connector, M12, Rear side, 8 -pin
	50120187	CML720i-R20-1590.R/CV-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Analog outputs: 2 Piece(s), Voltage, Current Connection: Connector, M12, Rear side, 8 -pin
	50123639	CML720i-R20-1590.R/D3-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: RS 485 Modbus Connection: Connector, M12, Rear side, 8 -pin
	50120103	CML720i-R20-1590.R/L-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: IO-Link Connection: Connector, M12, Rear side, 8 -pin

## Suitable receivers

	Part no.	Designation	Article	Description
	50123025	CML720i-R20-1590.R/PB-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: PROFIBUS DP Connection: Connector, M12, Rear side, 8 -pin
	50131959	CML720i-R20-1590.R/PN-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: PROFINET Connection: Connector, M12, Rear side, 8 -pin

## Part number code

Part designation: CML7XXi-YYZ-AAAA.BCCDDDD-EEEEFF

<b>CML</b>	<b>Operating principle</b> Measuring light curtain
<b>7XXi</b>	<b>Series</b> 720i: 720i series 730i: 730i series
<b>Y</b>	<b>Device type</b> T: transmitter R: receiver
<b>ZZ</b>	<b>Beam spacing</b> 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
<b>AAAA</b>	Measurement field length [mm], dependent on beam spacing
<b>B</b>	<b>Equipment</b> A: connector outlet, axial R: rear connector outlet
<b>CCC</b>	<b>Interface</b> L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus
<b>DDD</b>	<b>Special equipment</b> -PS: Power Setting
<b>EEE</b>	<b>Electrical connection</b> M12: M12 connector
<b>FFF</b>	<b>-EX: Explosion protection</b>

### Note



A list with all available device types can be found on the Leuze website at [www.leuze.com](http://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.

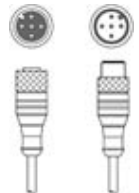
### For UL applications:




- ⌘ 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 - 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	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	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

## Accessories

### Configuration devices

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