



Figure can vary

**Part no.: 50119519**  
**CML720i-T20-2390.R-M12**  
**Light curtain transmitter**



## Contents

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

## Technical data

<b>Basic data</b>	
Series	720
Operating principle	Throughbeam principle
Device type	Transmitter
Contains	Accessories for the use of the BT-2R1
Application	Object measurement
<b>Optical data</b>	
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	2,390 mm
Number of beams	120 Piece(s)
Beam spacing	20 mm
Light source	LED , Infrared
LED light wavelength	940 nm
<b>Measurement data</b>	
Minimum object diameter	30 mm
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected Transient protection
<b>Performance data</b>	
Supply voltage $U_B$	18 ... 30 V , DC
Residual ripple	0 ... 15 % , From $U_B$
Open-circuit current	0 ... 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.
<b>Timing</b>	
Readiness delay	450 ms
Cycle time	4 ms
<b>Connection</b>	
Number of connections	1 Piece(s)
Plug outlet	Rear side
<b>Connection 1</b>	
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 2,423 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
Net weight	2,450 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 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549

## Dimensioned drawings

All dimensions in millimeters



- A Beam spacing 20 mm
- B Measurement field length 2390 mm
- F M6 thread
- G Fastening groove
- L Profile length 2408 mm
- T Transmitter
- R Receiver
- 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




### LEDs

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
	50119973	CML720i-R20-2390.R/CN-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: CANopen Connection: Connector, M12, Rear side, 8 -pin
	50120192	CML720i-R20-2390.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
	50123644	CML720i-R20-2390.R/D3-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: RS 485 Connection: Connector, M12, Rear side, 8 -pin

**Part no.: 50119519 – CML720i-T20-2390.R-M12 – Light curtain transmitter**

	Part no.	Designation	Article	Description
	50120109	CML720i-R20-2390.R/L-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: IO-Link Connection: Connector, M12, Rear side, 8 -pin
	50123030	CML720i-R20-2390.R/PB-M12	Light curtain receiver	Operating range: 0.3 ... 7 m Interface: PROFIBUS DP Connection: Connector, M12, Rear side, 8 -pin
	50131969	CML720i-R20-2390.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**

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

### Note

A list with all available device types can be found on the Leuze electronic 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	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

### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
	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.: 50119519 – CML720i-T20-2390.R-M12 – Light curtain transmitter

	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 electronic website in the Download tab of the article detailed page.