SMART SENSOR BUSINESS

Leuze electronic

the sensor people



Part no.: 50131913 CML720i-R05-960.R/PN-M12 Light curtain receiver



Figure can vary

Contents

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

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

Technical data

720 Throughbeam principle Receiver Accessories for the use of the BT-2R1
Throughbeam principle Receiver
Receiver
Object measurement
Object measurement
Guaranteed operating range
0.1 3.5 m
Typical operating range
0.1 4.5 m
960 mm
192 Piece(s)
5 mm
10 mm
Polarity reversal protection
Short circuit protected Transient protection
18 30 V , DC
0 15 % , From U _B
0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver.
100 mA
6,000 Ω
2 Piece(s)
Inputs/outputs selectable
DC
Тур. U _B / 0 V
DC
high: ≥6V Iow: ≤4V
1 ms
1,500 ms
6.16 ms
30 µs
PROFINET

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

Profinet		
Function	Process	
Conformance class	В	
Protocol	PROFINET RT	
Switch functionality	Integrated	
Transmission speed	10 Mbit/s 100 Mbit/s	
ervice interface		
ре	IO-Link	_
IO-Link		
Function	Configuration via software Service	_
onnection		
umber of connections	3 Piece(s)	
ug outlet	Rear side	
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	
Connection 2		
Function	BUS IN	
Type of connection	Connector	
Thread size	M12	
Туре	Female	
Material	Metal	
No. of pins	4 -pin	
Encoding	D-coded	
Connection 3		
Function	BUS OUT	
Type of connection	Connector	
Thread size	M12	
Туре	Female	
Material	Metal	
No. of pins	4 -pin	
Encoding	D-coded	_

Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 983 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic
Net weight	1,200 g

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199

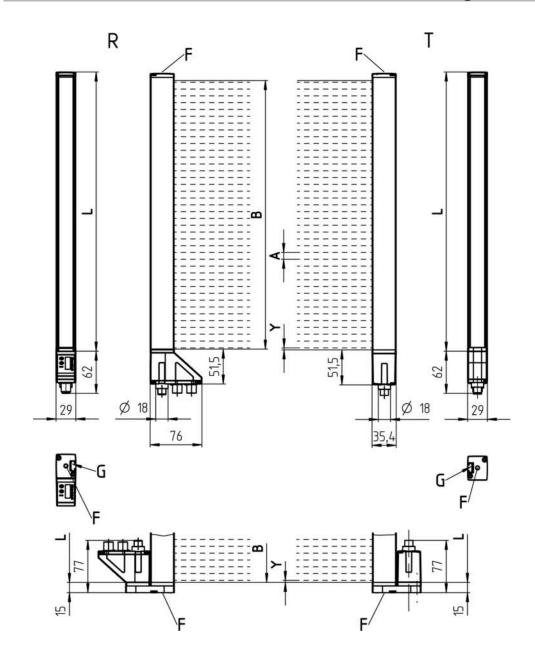
Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

Housing color	Silver	
Type of fastening	Groove mounting Via optional mounting device	
Operation and display		
Type of display	LED OLED display	
Number of LEDs	4 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		
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	

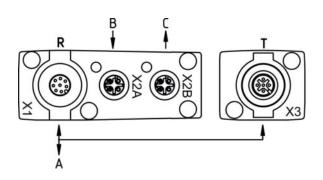
Dimensioned drawings

All dimensions in millimeters

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver



- A Beam spacing 5 mm B Measurement field length 960 mm
- F M6 thread
- G Fastening groove
- L Profile length 968 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



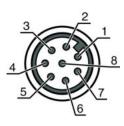
Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

A PWR / SW IN/OUT B BUS IN C BUS OUT

Electrical connection

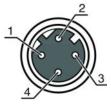
Connection 1	X1	
Function	Configuration interface Connection to transmitter Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

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



Connection 2	X2A
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-

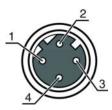


Connection 3	X2B
Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

Connection 3	Х2В
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-



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
3	Green, continuous light (at the X2A / X2B connector)	Link
4	Yellow, continuous light (at the X2A / X2B connector)	Activity

Suitable transmitters

Part no.	Designation	Article	Description
50119460	CML720i- T05-960.R-M12	Light curtain transmitter	Operating range: 0.1 3.5 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

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain 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
ССС	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.

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
50132079	KD U-M12-5A- V1-050		Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

Part no	. Designation	Article	Description
5013507	4 KS ET-M12-4A- P7-050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Connection technology - Interconnection cables

Part no.	Designation	Article	Description
50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Connection technology - Y distribution cables

Part no.	Designation	Article	Description
	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

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
ę.	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.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

Part no.: 50131913 – CML720i-R05-960.R/PN-M12 – Light curtain receiver

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.