

Technical data sheet Light curtain receiver Part no.: 50120184 CML720i-R20-1110.R/CV-M12



The Sensor People In der Braike 1, 73277 Owen

Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com

Technical data

Basic data

Basic data	
Series	720
Operating principle	Throughbeam principle
Device type	Receiver
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 0.2 9 m
Operating range limit Measurement field length	
Number of beams	1,110 mm 56 Piece(s)
Beam spacing	20 mm
Beam spacing	201111
Measurement data	
Minimum object diameter	30 mm
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	0 270 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Outputs	
Outputs Number of analog outputs	2 Piece(s)
Number of analog outputs	2 Piece(s)
	2 Piece(s) 0 24 mA
Number of analog outputs Analog outputs	
Number of analog outputs Analog outputs Current Voltage	0 24 mA
Number of analog outputs Analog outputs Current Voltage Analog output 1	0 24 mA 0 11 V
Number of analog outputs Analog outputs Current Voltage	0 24 mA
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type	0 24 mA 0 11 V
Number of analog outputs Analog outputs Current Voltage Analog output 1	0 24 mA 0 11 V
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2	0 24 mA 0 11 V Voltage
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2	0 24 mA 0 11 V Voltage
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type	0 24 mA 0 11 V Voltage
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable	0 24 mA 0 11 V Voltage Current
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max.	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC
Number of analog outputs Analog outputs Current Voltage Analog output 1 Type Analog output 2 Type Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	0 24 mA 0 11 V Voltage Current 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. $U_{\rm B}$ / 0 V

1 ms
450 ms
2.08 ms
30 µs
IO-Link
Configuration via software
Service
2 Piece(s)
Rear side
Configuration interface
Signal IN
Signal OUT
Voltage supply
Connector
M12
Male
Metal
8 -pin
A-coded
Connection to transmitter
Connector
M12
Female
Metal
5 -pin
A-coded
A-coded
Cubic
29 mm x 35.4 mm x 1,143 mm
Metal
Aluminum
Plastic
1,350 g
Silver
Groove mounting
Via optional mounting device
LED
OLED display
2 Piece(s)
Software
Teach-in
Membrane keyboard

Leuze

 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 We reserve the rig

 The Sensor People
 In der Braike 1, 73277 Owen
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 We reserve the rig

We reserve the right to make technical changes

Technical data

Leuze

Environmental data

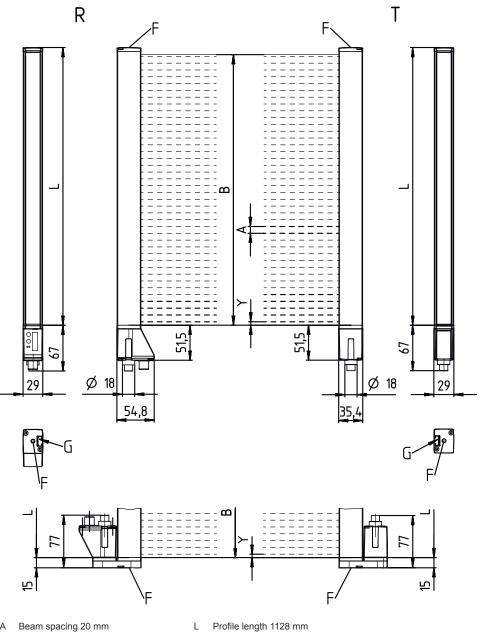
Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	
Certifications		
Degree of protection	IP 65	
Degree of protection Protection class	IP 65 III	
• •		

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



Beam spacing 20 mm А

Fastening groove

- В Measurement field length 1110 mm
- F M6 thread

G

R Receiver

Т

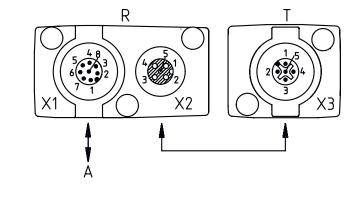
Υ 5 mm

Transmitter



Dimensioned drawings





A PWR / SW IN / OUT

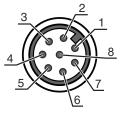
Electrical connection

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	I/O 1		
3	GND		
4	IO-Link		
5	I/O 2		
6	OUT V		
7	OUT mA		
8	AGND		



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-



Operation and display

Constitution and display		Leuze
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
50119511	CML720i-T20- 1110.R-M12	Light curtain transmitter	Operating range: 0.3 6 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
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
DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
Note	th all available device types can be found on the Leuze website at www.leuze.com.

Notes

Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

 ${\ensuremath{\,\textcircled{\tiny \ensuremath{\,\Downarrow}}}}$ The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ Only use the product in accordance with its intended use.

	For UL applications:
A	 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
	50135128	KD S-M12-8A-P1-050	Connection cable	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
1 + 1 + + + + + + + + + + + + + + + + +	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

7/8

Leuze

Accessories

Leuze

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęł.	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

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

the A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.