Technical data sheet Light curtain receiver Part no.: 50119186 CML730i-R20-470.R/L-M12





Technical data

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	730
Operating principle	Throughbeam principle
Device type	Receiver
Contains	Accessories for the use of the BT-2R1
Application	Detection of transparent objects
	Object measurement
Special version	
Special version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning
	·
Optical data	
Operating range	0.3 9.5 m
Operating range	Guaranteed operating range
Operating range, transparent media	0.3 3.5 m
Operating range limit	0.2 12 m
Operating range limit	Typical operating range
Measurement field length	470 mm
Number of beams	24 Piece(s)
Beam spacing	20 mm
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
	18 30 V, DC 0 15 %, From U _B
Supply voltage U _B	0 15 %, From U _B 0 165 mA, The specified values refer
Supply voltage U _B Residual ripple Open-circuit current	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable	0 15 %, From U _B 0 165 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max.	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans mitter and receiver. 100 mA
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max.	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω 4 Piece(s)
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs	 0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of transmitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: 26V
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: 26V
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ Iow: $\leq 4 V$
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ Iow: $\leq 4 V$
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	0 15 %, From U_B 0 165 mA, The specified values refer to the entire package consisting of trans- mitter and receiver. 100 mA 6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤ 4 V 0 1 ms

Туре

IO-Link

	IO-Link	
	COM mode	COM2
	Min. cycle time	COM2 = 2.3 ms
	Specification	V1.0.1
		V1.1
Se	ervice interface	
т.		IO-Link
чy	ре	IO-LINK
	IO-Link	
	Function	Configuration via software
		Service
C	onnection	
_		
	umber of connections	2 Piece(s)
PI	ug outlet	Rear side
	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
	Connection 2	Opened the test of the second title of
	Function	Connection to transmitter
	Type of connection Thread size	Connector M12
	Type	Female
	Material	Metal
	No. of pins	5 -pin
	Encoding	A-coded
Μ	echanical data	
De	esign	Cubic
Di	mension (W x H x L)	29 mm x 35.4 mm x 503 mm
Но	ousing material	Metal
M	etal housing	Aluminum
Le	ens cover material	Plastic
Ne	et weight	750 g
	ousing color	Silver
Ту	pe of fastening	Groove mounting
		Via optional mounting device
0	peration and display	
Ти	pe of display	LED
• •	pe of display	OLED display
N	umber of LEDs	2 Piece(s)
	pe of configuration	Software
- 1		Teach-in
0	perational controls	Membrane keyboard
E	nvironmental data	
Ar	nbient temperature, operation	-30 60 °C
Ar	nbient temperature, storage	-40 70 °C

Technical data

Certifications

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

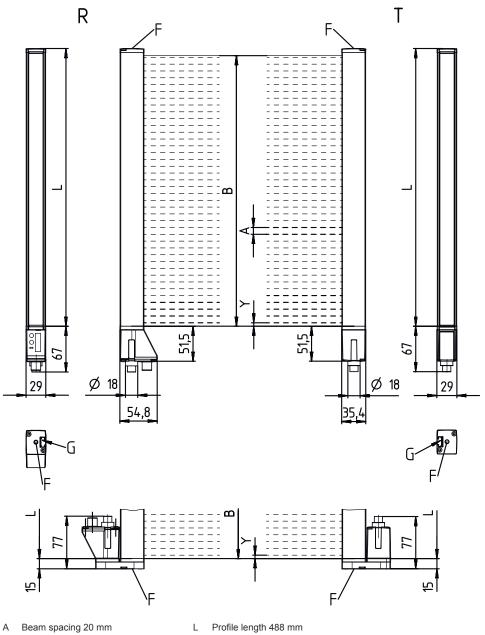
Classification

Customs tariff number	90314990
ECLASS 5.1.4	27270910
ECLASS 8.0	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ECLASS 15.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549



Dimensioned drawings

All dimensions in millimeters



В Measurement field length 470 mm

M6 thread

Fastening groove

F

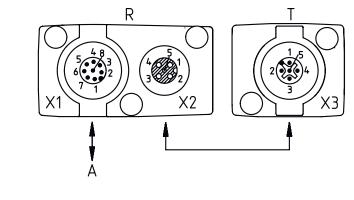
G

- Transmitter Т
 - Receiver
 - R
 - Υ 5 mm

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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 IO1 3 GND 4 IO-Link 5 IO2 6 IO3 7 IO4		
3 GND 4 IO-Link 5 IO2 6 IO3	1	V+
4 IO-Link 5 IO2 6 IO3	2	IO1
5 IO2 6 IO3	3	GND
6 IO3	4	IO-Link
	5	IO2
7 104	6	IO3
1 104	7	IO4
8 GND	8	GND



Connection 2

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	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
50118968	CML730i-T20-470.R- M12	Light curtain transmitter	Operating range: 0.3 9.5 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
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: Axial connector outlet 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	
6 A list wi	th all available device types can be found on the Leuze website at www.leuze.com.

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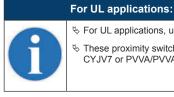
Notes

Observe intended use!

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

b The product may only be put into operation by competent persons.

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



b 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 unit

	Part no.	Designation	Article	Description
C. LEATING	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

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 Connector, LED: No
Ŭ				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: 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

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Accessories

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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.	429029	BT-2RG	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.
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.

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