

Technical data sheet Light curtain receiver Part no.: 50131751 CML730i-R05-960.R/PN-M12



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 changes

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 eng • 2024-06-21

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Technical data

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Series	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	
	r didiici beam seaming	
Optical data		
Operating range	0.1 4.5 m	
Operating range	Guaranteed operating range	
Operating range, transparent media	0.1 1.75 m	
Operating range limit	0.1 6 m	
Operating range limit	Typical operating range	
Measurement field length	960 mm	
Number of beams	192 Piece(s)	
Beam spacing	5 mm	
Measurement data		
Minimum object diameter	10 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.	
Inputs/outputs selectable		
Output current, max.	100 mA	
Input resistance	6,000 Ω	
Number of inputs/outputs selectable		
Туре	Inputs/outputs selectable	
	DC	
Voltage type, outputs	DC Tvp. U _p / 0 V	
Voltage type, outputs Switching voltage, outputs	Тур. U _B / 0 V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Typ. U _B / 0 V DC	
Voltage type, outputs Switching voltage, outputs	Тур. U _В / 0 V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Typ. U _B / 0 V DC high: ≥6V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Typ. U _B / 0 V DC high: ≥6V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	Typ. U _B / 0 ∨ DC high: ≥6∨ low: ≤ 4 ∨ 1 ms	
Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	Typ. U _B / 0 ∨ DC high: ≥6∨ low: ≤ 4 ∨ 1 ms 1,500 ms	

Туре

PROFINET

PROFINET	
Function	Process
Conformance class	В
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s
	100 Mbit/s
Service interface	
уре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
lumber of connections	3 Piece(s)
lug 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
Ū	
Connection 2	
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
0	
Connection 3 Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
lechanical data	2 00000
	Qubin
esign	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 983 mm
lousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
et weight	1,200 g
lousing color	Silver
ype of fastening	Groove mounting
	Via optional mounting device

Technical data

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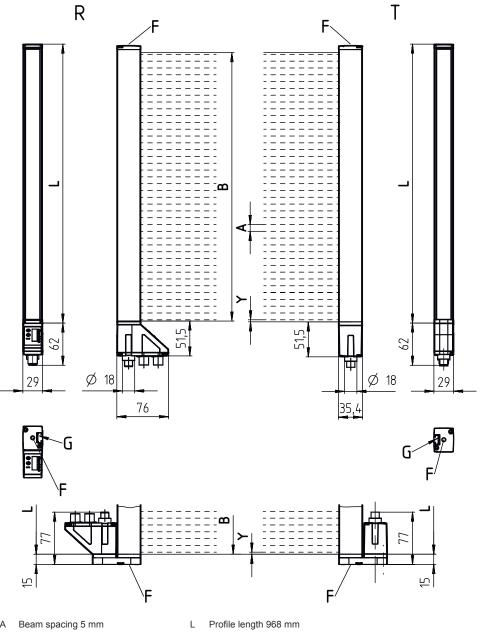
Operation and display

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	III
Certifications	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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549

Dimensioned drawings

All dimensions in millimeters



- Transmitter Т
 - Receiver
- F M6 thread G Fastening groove
- R 2.5 mm Υ

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Dimensioned drawings

В С А В BUS IN R С BUS OUT Ο

- PWR / SW IN / OUT

Electrical connection Connection 1

A

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

X1

Pin Pin assignment

Connection 2

Encoding

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

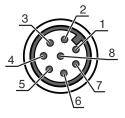
X2A

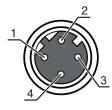
D-coded

Function BUS IN Type of connection Connector Thread size M12 Female Туре Material Metal No. of pins 4 -pin

Pin Pin assignment

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







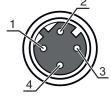
Electrical connection

Connection 3

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

X2B

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



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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
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
50118923	CML730i-T05-960.R- M12	Light curtain transmitter	Operating range: 0.1 4 m Connection: Connector, M12, Rear side, 5 -pin

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

berating principle easuring light curtain
rries 0i: 720i series 0i: 730i series
transmitter receiver
xam spacing : 5 mm : 10 mm : 20 mm : 40 mm
easurement field length [mm], dependent on beam spacing
juipment Axial connector outlet Rear connector outlet

Part number code



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
Not	le
	A list with 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. 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 cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
50135074	KS ET-M12-4A-P7- 050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

Accessories

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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
	50118183	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	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
RR.	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

Accessories

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