

Technical data sheet Light curtain receiver Part no.: 50123402 CML730i-R10-2080.R/D3-M12



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 changes

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Technical data

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Basic data

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
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	2,080 mm
Number of beams	208 Piece(s)
Beam spacing	10 mm
Measurement data	
Minimum object diameter	20 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	0 435 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Inputs/outputs selectable	
Number of inputs/outputs selectable	
Number of inputs/outputs selectable Type	Inputs/outputs selectable
Number of inputs/outputs selectable Type Voltage type, outputs	Inputs/outputs selectable DC
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V
Number of inputs/outputs selectable Type Voltage type, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U _B / 0 V high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs	Inputs/outputs selectable DC Typ. U _B / 0 V high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior	Inputs/outputs selectable DC Typ. U _B / 0 V high: ≥6V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time	Inputs/outputs selectable DC Typ. U _B / 0 V high: ≥6V Iow: ≤ 4 V
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time Response time per beam	Inputs/outputs selectable DC Typ. $U_B / 0 V$ high: $\geq 6V$ low: $\leq 4 V$ 2.23 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time Response time per beam Interface	Inputs/outputs selectable DC Typ. $U_B / 0 V$ high: $\geq 6V$ low: $\leq 4 V$ 2.23 ms
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time Response time per beam Interface	Inputs/outputs selectable DC Typ. $U_B / 0 V$ high: $\geq 6V$ low: $\leq 4 V$ 2.23 ms 10 μ s
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time Response time per beam Interface Type	Inputs/outputs selectable DC Typ. $U_B / 0 V$ high: $\geq 6V$ low: $\leq 4 V$ 2.23 ms 10 μ s
Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Time behavior Cycle time Response time per beam Interface Type RS 485	Inputs/outputs selectable DC Typ. $U_B / 0 V$ high: $\ge 6V$ Iow: $\le 4 V$ 2.23 ms 10 μ s RS 485 Modbus

	IO-Link	Operfizzzetien vie optimise
	Function	Configuration via software Service
С	onnection	
Number of connections		2 Piece(s)
PI	ug outlet	Rear side
	O server at least 1	
	Connection 1 Function	Configuration interface
	Tunction	Connection to transmitter
		Signal IN
		Signal OUT
	Type of connection	Voltage supply Connector
	Type of connection Thread size	M12
		Male
	Type	Male
	Material	
	No. of pins	8 -pin A-coded
	Encoding	A-couleu
	Connection 2	
	Function	BUS IN
		BUS OUT
	Type of connection	Connector
	Thread size	M12
	Туре	Female
	Material	Metal
	No. of pins	5 -pin
	Encoding	B-coded
	Literating	2 00000
Μ	echanical data	
Design		Cubic
	eargin	04010
	mension (W x H x L)	29 mm x 35.4 mm x 2,103 mm
Di	-	
Di He	mension (W x H x L)	29 mm x 35.4 mm x 2,103 mm
Di He M	mension (W x H x L) ousing material	29 mm x 35.4 mm x 2,103 mm Metal
Di He M	mension (W x H x L) ousing material etal housing	29 mm x 35.4 mm x 2,103 mm Metal Aluminum
Di He M	mension (W x H x L) ousing material etal housing ens cover material	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic
Di He M Le He	mension (W x H x L) busing material etal housing ens cover material et weight	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g
Di He M Le He	mension (W x H x L) busing material etal housing ens cover material et weight busing color	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver
Di Ha Ma Le Na Ha Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting
Di Ha M La Na Ha Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color rpe of fastening peration and display	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device
Di Ha M La Na Ha Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device
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Di Ha Ma La Na Ha Ty O Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening peration and display ype of display umber of LEDs	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s)
Di Ha Ma La Na Ha Ty O Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening peration and display	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software
Di Ha M Le Na Ha Ty O Ty Nu Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color rpe of fastening peration and display rpe of display umber of LEDs rpe of configuration	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED LED OLED display 2 Piece(s) Software Teach-in
Di Ha M Le Na Ha Ty O Ty Nu Ty	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening peration and display ype of display umber of LEDs	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software
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	mension (W x H x L) busing material etal housing ens cover material et weight busing color repe of fastening peration and display rpe of display umber of LEDs repe of configuration perational controls	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED LED OLED display 2 Piece(s) Software Teach-in
	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening peration and display ype of display umber of LEDs ype of configuration perational controls	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in Membrane keyboard
	mension (W x H x L) busing material etal housing ens cover material et weight busing color repe of fastening peration and display rpe of display umber of LEDs repe of configuration perational controls nvironmental data mbient temperature, operation mbient temperature, storage	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in Membrane keyboard
	mension (W x H x L) busing material etal housing ens cover material et weight busing color ype of fastening peration and display ype of display umber of LEDs ype of configuration perational controls nvironmental data mbient temperature, operation mbient temperature, storage ertifications	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in Membrane keyboard -30 60 °C -40 70 °C
	mension (W x H x L) busing material etal housing ens cover material et weight busing color rpe of fastening peration and display rpe of display umber of LEDs rpe of configuration perational controls nvironmental data mbient temperature, operation mbient temperature, storage ertifications egree of protection	29 mm x 35.4 mm x 2,103 mm Metal Aluminum Plastic 2,250 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in Membrane keyboard -30 60 °C -40 70 °C
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Technical data

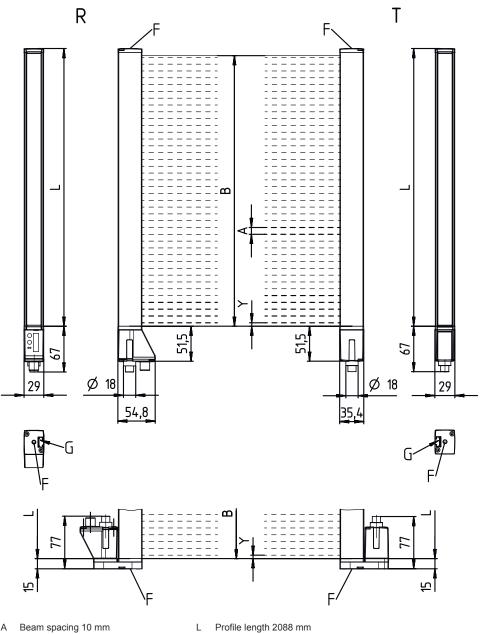
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ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ECLASS 15.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

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Dimensioned drawings

All dimensions in millimeters



- Beam spacing 10 mm А
- В Measurement field length 2080 mm
- F M6 thread G Fastening groove
- R Υ

Т

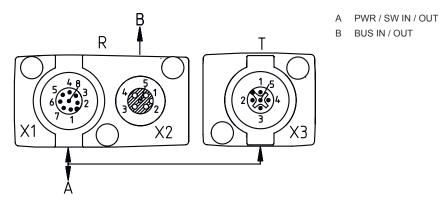
Receiver 5 mm

Transmitter

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Dimensioned drawings





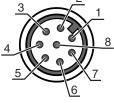
Electrical connection

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

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

Function	BUS IN
	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

Electrical connection

1 2

3

4

5

Pin Pin assignment V+ Tx-PB GND Tx+ FE/SHIELD



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
50118960	CML730i-T10- 2080.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
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: 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



Part number code



DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
	Note
A	∜ 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

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

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Accessories

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

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