

Technical data sheet Light curtain receiver Part no.: 50118997 CML730i-R05-480.R/CN-M12



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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
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	480 mm
Number of beams	96 Piece(s)
Beam spacing	5 mm
Measurement data	
Minimum object diameter	10 mm
	Polority reversal protection
	Polarity reversal protection
	Short circuit protected
	Short circuit protected Transient protection
Protective circuit Performance data Supply voltage U _B	Short circuit protected Transient protection 18 30 V, DC
Supply voltage U _B Residual ripple	Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B
Protective circuit Performance data Supply voltage U _B	Short circuit protected Transient protection 18 30 V, DC
Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current	Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 165 mA, The specified values refer to the entire package consisting of trans
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Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable	Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 165 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectab	Short circuit protected Transient protection 18 30 V, DC 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 ble 2 Piece(s)
Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectat	Short circuit protected Transient protection 18 30 V, DC 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 2 Piece(s) Inputs/outputs selectable
Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectate Type Voltage type, outputs	Short circuit protected Transient protection 18 30 V, DC 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 Dile 2 Piece(s) Inputs/outputs selectable DC
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Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectate Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	Short circuit protected Transient protection 18 30 V, DC 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 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4 V
Protective circuit Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectat Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	Short circuit protected Transient protection 18 30 V, DC 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 100 mA 6,000 Ω 100 mA 6,000 Ω 100 mA 6,000 Ω DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4 V 1 ms

Туре

CANopen

	CANopen Function	Process				
S	Service interface					
ту	vpe	IO-Link				
	IO-Link					
	Function	Configuration via software				
		Service				
С	onnection					
N	umber of connections	2 Piece(s)				
PI	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				
		BUS OUT				
	Type of connection	Connector				
	Thread size	M12				
	Туре	Female				
	Material No. of pins	Metal				
	Encoding	5 -pin A-coded				
	Liocanig	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Μ	echanical data					
	esign	Cubic				
	imension (W x H x L)	29 mm x 35.4 mm x 503 mm				
	ousing material	Metal				
	etal housing ens cover material	Aluminum Plastic				
	et weight	750 g				
	ousing color	Silver				
	/pe of fastening	Groove mounting				
-		Via optional mounting device				
0	peration and display					
-		LED				
1)	/pe of display	OLED display				
N	umber of LEDs	2 Piece(s)				
	/pe of configuration	Software				
		Teach-in				
0	perational controls	Membrane keyboard				
E	nvironmental data					
A	mbient temperature, operation	-30 60 °C				
A	mbient 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

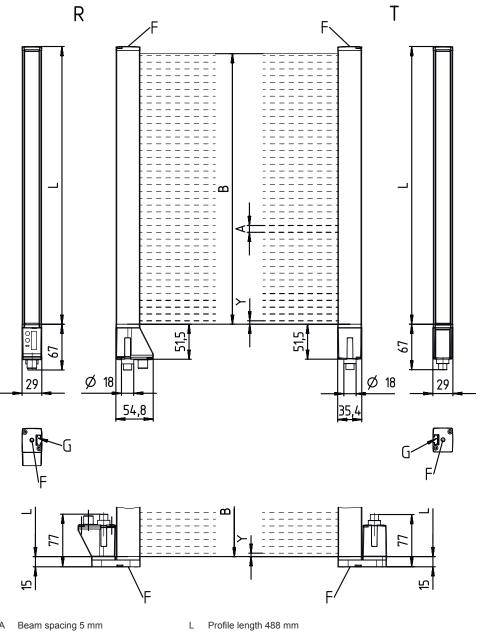
Classification

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



Beam spacing 5 mm А

- В Measurement field length 480 mm
- F M6 thread

G

- Fastening groove
- R Receiver

Т

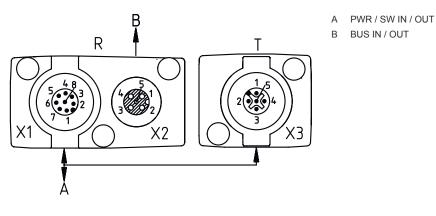
Υ 2.5 mm

Transmitter

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Dimensioned drawings





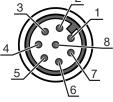
Electrical connection

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	A-coded

Electrical connection

Pin	Pin assignment	
1	FE/SHIELD	
2	n.c.	
3	CAN GND	
4	CAN H	
5	CAN L	

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
50118917	CML730i-T05-480.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

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. 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 - 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

Accessories

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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
	50118185	K-YCN M12A-M12A- S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

Connection technology - Terminating resistors

 Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Function: Bus termination Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin

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
æ.	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.

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Accessories Part no. Designation Article

 Part no.	Designation	Article	Description
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	Note: A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.