



the sensor people





Figure can vary

Part no.: 50119137 CML730i-R05-640.R/L-M12 Light curtain receiver







# **Contents**

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- Electrical connection
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### **Technical data**

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		
Optical data			
Operating range	Guaranteed operating range		
Operating range	0.1 4.5 m		
Operating range, transparent media	0.1 1.75 m		
Operating range limit	Typical operating range		
Operating range limit	0.1 6 m		
Measurement field length	640 mm		
Number of beams	128 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 <sub>B</sub>	18 30 V , DC		
Residual ripple	0 15 % , From U <sub>B</sub>		
Open-circuit current	0 215 mA , The specified values refer to the entire package consisting of transmitter and receiver.		
Inputs/outputs selectable			
Output current, max.	100 mA		
Input resistance	6,000 Ω		
Number of inputs/outputs selectable	4 Piece(s)		
Туре	Inputs/outputs selectable		
Voltage type, outputs	DC		
Switching voltage, outputs	Typ. U <sub>B</sub> / 0 V		
Voltage type, inputs	DC		
Switching voltage, inputs	high: ≥6V low: ≤4V		
Input/output 1			
Activation/disable delay	0 1 ms		
Timing			
Readiness delay	450 ms		
Cycle time 1.43 ms			
	10 µs		



Туре	IO-Link		
IO-Link			
COM mode	COM2		
Specification	V1.0.1		
<u>'</u>	V1.1		
Min. cycle time	COM2 = 2.3 ms		
Service interface			
Туре	IO-Link		
IO-Link			
Function	Configuration via software Service		
Connection  Number of connections	2 Piece(s)		
Plug outlet	Rear side		
Connection 1	redi side		
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			
Function	Connection to transmitter		
Type of connection	Connector		
Thread size	M12		
Туре	Female		
Material	Metal		
No. of pins	5 -pin		
Encoding	A-coded		
Mechanical data			
Design	Cubic		
Dimension (W x H x L)	29 mm x 35.4 mm x 663 mm		
Housing material	Metal , Aluminum		
Lens cover material	Plastic		
Net weight	900 g		
Housing color	Silver		
Type of fastening	Groove mounting Via optional mounting device		
Operation and display			
Type of display	LED		
	OLED display		
Number of LEDs	2 Piece(s)		
Type of configuration Software Teach-in			

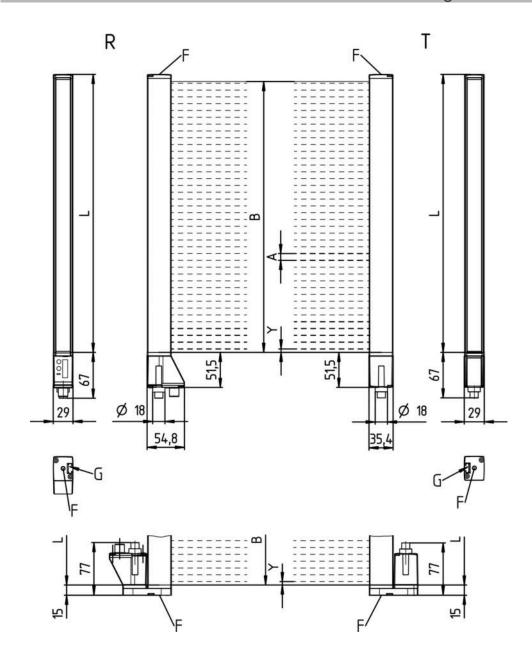


Operational controls	Membrane keyboard		
- Operational controls	Wellbrate Reyboard		
Environmental data			
Ambient temperature, operation	-30 60 °C		
Ambient temperature, storage	-40 70 °C	-40 70 °C	
Certifications			
Degree of protection	IP 65		
Protection class	III		
Certifications	c CSA US		
Standards applied	IEC 60947-5-2		
Classification			
Customs tariff number	90314990		
eCl@ss 8.0	27270910		
eCl@ss 9.0	27270910		
ETIM 5.0	EC002549		
ETIM 6.0	EC002549		

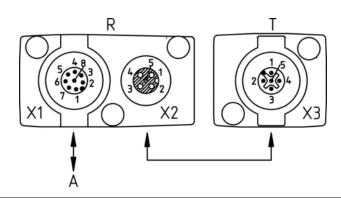
## **Dimensioned drawings**

All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 640 mm
- F M6 thread
- G Fastening groove L Profile length 648 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



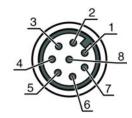


APWR / SW IN/OUT

### **Electrical connection**

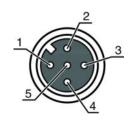
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

Pin	Pin assignment
1	V+
2	101
3	GND
4	IO-Link
5	102
6	103
7	IO4
8	GND



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**

### **LEDs**

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
		Measurement frequency display
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
50118919	CML730i- T05-640.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	
Υ	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: 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:	

A list with all available device types can be found on the Leuze electronic 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
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
5			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
 50142900	BT 700M.5-2SET	Mounting device set	Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws 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

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# Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	429046	BT-2R1	Mounting bracket set	Contains: 2x BT-R swivel mount, 1 cylinder for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

	Part no.	Designation	Article	Description
166	50121098	SET MD12-US2-IL1.1 + Zub.		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

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