



the sensor people





Figure can vary

Part no.: 50119156 CML730i-R05-2160.R/L-M12 Light curtain receiver







# **Contents**

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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	2,160 mm	
Number of beams	432 Piece(s)	
Beam spacing	5 mm	
Measurement data	40	
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	0 435 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	
<u> </u>	4.47 ms	
Cycle time		

Interface



COM2 V1.0.1 V1.1 COM2 = 2.3 ms	
V1.0.1 V1.1 COM2 = 2.3 ms	
V1.1 COM2 = 2.3 ms	
IO-Link	
Configuration via software Service	
2 Piece(s)	
Rear side	
Configuration interface Signal IN Signal OUT Voltage supply	
Connector	
M12	
Male	
Metal	
8 -pin	
A-coded	
Connection to transmitter	
Connector	
M12	
Female	
Metal	
5 -pin	
A-coded	
Cubic	
29 mm x 35.4 mm x 2,183 mm	
Metal , Aluminum	
Plastic	
2,300 g	
Silver	
Groove mounting Via optional mounting device	
LED	
OLED display	
2 Piece(s)	
Software Teach-in	

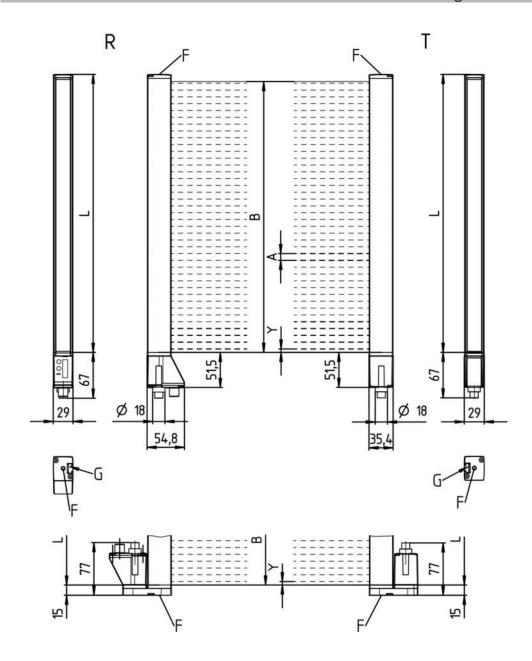


Operational controls	Membrane keyboard		
Environmental data			
Ambient temperature, operation	-30 60 °C	-30 60 °C	
Ambient temperature, storage	-40 70 °C	-40 70 °C	
Certifications			
Degree of protection	IP 65		
Protection class	III		
Certifications	c CSA US		
Standards applied	IEC 60947-5-2	IEC 60947-5-2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

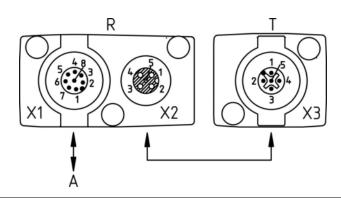
## **Dimensioned drawings**

All dimensions in millimeters





- A Beam spacing 5 mm B Measurement field length 2160 mm
- F M6 thread
- G Fastening groove
- L Profile length 2168 mm
- T Transmitter
- R Receiver
- Y 2.5 mm





APWR / SW IN/OUT

### **Electrical connection**

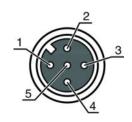
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

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
50118938	CML730i- T05-2160.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
	KDS DN-M12-5A- M12-5A-P3-050	Interconnection 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.