

## **Technical data sheet Light curtain receiver** Part no.: 50118744 CML730i-R05-640.A/L-M12



## **Technical data**

# Leuze

#### **Basic data** Series 730 **Operating principle** Throughbeam principle Device type Receiver Contains 2x BT-NC sliding block 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 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 0 ... 15 %, From U<sub>B</sub> **Residual ripple** 0 ... 215 mA, The specified values refer **Open-circuit current** to the entire package consisting of transmitter and receiver. Inputs/outputs selectable 100 mA Output current, max. 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: $\leq 4 \text{ V}$ Input/output 1 Activation/disable delay 0 ... 1 ms Time behavior Readiness delay 450 ms Cycle time 1.43 ms Response time per beam 10 µs Interface IO-Link Туре

	IO-Link	001/2			
	COM mode Min. cycle time				
	Specification				
	opecification				
		V 1. 1			
S	ervice interface				
Туре		IO-Link			
	IO-Link				
	Function				
		Service			
С	onnection				
Number of connections		2 Piece(s)			
P	ug outlet	Axial			
	Connection 1				
	Function	Configuration via software Service 2 Piece(s) Axial 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 715 mm Metal Aluminum Plastic 850 g Silver Groove mounting Via optional mounting device LED OLED display 2 Piece(s) Software Teach-in Membrane keyboard			
		-			
	Type of connection	0 11 9			
	Thread size				
	Туре				
	Material	Metal			
	No. of pins	8 -pin			
	Encoding	A-coded			
	Connection 2				
	Function				
	Type of connection Thread size				
	Туре				
	Material	Metal			
	No. of pins	5 -pin			
	Encoding	A-coded			
M	echanical data				
	esign	Cubic			
	imension (W x H x L)	29 mm x 35.4 mm x 715 mm			
	ousing material				
	etal housing ens cover material				
	et weight				
	ousing color	•			
	/pe of fastening				
-		Via optional mounting device			
_					
0	peration and display				
Ту	/pe of display	LED			
		OLED display			
	umber of LEDs	2 Piece(s)			
Ty	pe of configuration	Software			
0	norational controls				
Operational controls		Membrane Reybuard			
Е	nvironmental data				
A	mbient temperature, operation	-30 60 °C			
	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

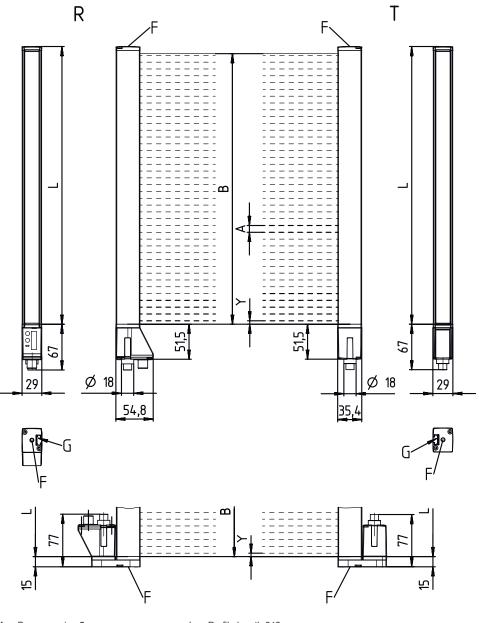
#### Classification

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 640 mm
- F M6 thread

G

Fastening groove

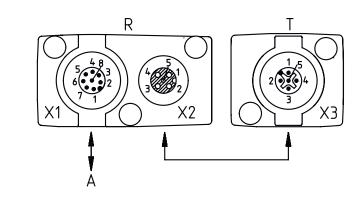
Profile length 648 mm L Т

- Transmitter
- R Receiver
- 2.5 mm Υ

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### **Dimensioned drawings**





A PWR / 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       IO1         3       GND         4       IO-Link         5       IO2         6       IO3         7       IO4		
3         GND           4         IO-Link           5         IO2           6         IO3	1	V+
4         IO-Link           5         IO2           6         IO3	2	IO1
5 IO2 6 IO3	3	GND
6 IO3	4	IO-Link
	5	IO2
7 104	6	IO3
1 104	7	IO4
8 GND	8	GND

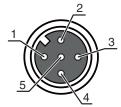


#### **Connection 2**

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**

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
50118583	CML730i-T05-640.A- M12	Light curtain transmitter	Operating range: 0.1 4 m Connection: Connector, M12, Axial, 5 -pin

#### Part number code

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

	Operating principle Measuring light curtain				
	Series 720i: 720i series 730i: 730i series				
	Device type T: transmitter R: receiver				
	Beam spacing           05: 5 mm           10: 10 mm           20: 20 mm           40: 40 mm				
AAAA	Measurement field length [mm], dependent on beam spacing				
	Equipment A: Axial connector outlet R: Rear connector outlet				
	Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus				
	Special equipment -PS: Power Setting				
	Electrical connection M12: M12 connector				
FFF	-EX: Explosion protection				
Note  A list with all available device types can be found on the Leuze website at www.leuze.com.					

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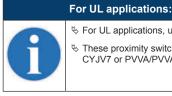
#### Notes

#### Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

b The product may only be put into operation by competent persons.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$  Only use the product in accordance with its intended use.



Ŕ,	> For UL	application	s, use	is only per	mitted in Class 2	circuits in ac	cordance w	vith the NEC	(Nationa	I 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 unit

	Part no.	Designation	Article	Description
C. LEATER	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

#### 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 Connector, LED: No
Ŭ				Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

#### 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

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#### Accessories

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## 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
P. C.	429393	BT-2HF	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

#### Services

	Part no.	Designation	Article	Description
ц.	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.

