



the sensor people





Figure can vary

Part no.: 50131720 CML730i-R05-2480.A/PN-M12 Light curtain receiver





Contents

- Technical data
- . Dimensioned drawings
- Electrical connection
- · Operation and display
- Suitable transmitters
- · Part number code
- Notes
- Accessories



Technical data

Basic data	
Series	730
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
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	2,480 mm
Number of beams	496 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 _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 transmitter and receiver.
Inputs/outputs selectable	
Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	2 Piece(s)
Туре	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Typ. U _B / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	high: ≥6V
_	low: ≤4V
Input/output 1	4
Activation/disable delay	1 ms
Timing	
Readiness delay	1,500 ms
Cycle time	5.11 ms



Configuration via software Service	Туре	PROFINET
December 2015 B	Profinet	
Protocol PROFINET RT Switch functionality Integrated Transmission speed 19 Mbb/s 100 Mbb/s Service interface Type IO-Link Function Configuration via software Service Prunction Sarvice Connection Number of connections 3 Piecote) Play quitet Astal Connection Connections Connection Connection Transmiter Signal IN Signal Connection Connection Connection Connection Connection Connection Transmiter Signal IN Signal Connection	Function	Process
Switch functionality	Conformance class	В
Transmission speed	Protocol	PROFINET RT
Service Interface Type	Switch functionality	Integrated
Configuration via software	Transmission speed	
Type		100 Mbit/s
Configuration via software Service	Service interface	
Function Connection Number of connections 3 Piece(s) Plug outlet Axial Connection 1 Function Connection 1 Function Type of connection Thread size Function Acoded Connector 2 Function Bus IN Type of connection Connector 3 Function Bus IN Type of connection Thread size Material No. of pins Bus IN Type of connection Thread size Material No. of pins Bus IN Type of connection Thread size Material Bus IN Connector 2 Function Bus IN Type of connection Thread size Material Metal Decoded Connector Thread size Mf2 Type Female Metal	Туре	IO-Link
Service	IO-Link	
Number of connections 3 Piece(s) Plug outlet Axial Connection 1 Configuration interface Connection to transmitter Signal OUT Voltage supply Type of connection Connector Thread size M12 Type Male Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 Encoding Function BUS IN Type of connection Connector Type of connection Connector Type Female Metal No. of pins 4 -pin Encoding D-coded Connection 3 BUS OUT Function BUS OUT Type of connection Connector	Function	Configuration via software Service
Number of connections 3 Piece(s) Plug outlet Axial Connection 1 Configuration interface Connection to transmitter Signal OUT Voltage supply Type of connection Connector Thread size M12 Type Male Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 Encoding Function BUS IN Type of connection Connector Type of connection Connector Type Female Metal No. of pins 4 -pin Encoding D-coded Connection 3 BUS OUT Function BUS OUT Type of connection Connector	Connection	
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Function Configuration interface Connection to transmitter Signal I N Signal OUT Voltage supply Type of connection Connector Thread size M12 Type Male Material Metal No. of pins 8 - pin Encoding A-coded Connection European M12 Type of connection BUS IN Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 - pin Encoding D-coded Connection BUS OUT Type of connection Connector Function BUS OUT Type of connection D-coded Connection BUS OUT Type of connection Connector Thread size M12 Function BUS OUT Type of connection D-coded Connection BUS OUT Type of connection Connector Thread size M12 Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 - pin Encoding D-coded		
Thread size M12 Type Male Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 *** Function BUS IN Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 *** Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm		Connection to transmitter Signal IN Signal OUT
Type Male Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 Type Function BUS IN Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Type of connection	Connector
Material Metal No. of pins 8 -pin Encoding A-coded Connection 2 Eunction Function BUS IN Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Thread size	M12
No. of pins 8 -pin Encoding A-coded Connection 2 Tunction Function BUS IN Type of connector Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Function BUS OUT Type of connector Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Туре	Male
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Function BUS IN Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Encoding	A-coded
Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Function BUS OUT Type of connector Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Connection 2	
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Type Female Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Type of connection	Connector
Material Metal No. of pins 4 -pin Encoding D-coded Connection 3 Function Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Thread size	M12
No. of pins 4 -pin Encoding D-coded Connection 3 BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Туре	Female
Encoding D-coded Connection 3 BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Material	Metal
Connection 3 Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	No. of pins	4 -pin
Function BUS OUT Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Encoding	D-coded
Type of connection Connector Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Connection 3	
Thread size M12 Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Function	BUS OUT
Type Female Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Type of connection	Connector
Material Metal No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Thread size	M12
No. of pins 4 -pin Encoding D-coded Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Туре	Female
Encoding D-coded Mechanical data Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Material	Metal
Mechanical data Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	No. of pins	4 -pin
Design Cubic Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Encoding	D-coded
Dimension (W x H x L) 29 mm x 35.4 mm x 2,555 mm	Mechanical data	
	Design	Cubic
Housing material Metal , Aluminum	Dimension (W x H x L)	29 mm x 35.4 mm x 2,555 mm
	Housing material	Metal , Aluminum

Plastic

Lens cover material



Net weight	2,550 g
Housing color	Silver
Type of fastening	Groove mounting Via optional mounting device
Onevetion and display	
Operation and display	
Type of display	LED OLED display
Number of LEDs	4 Piece(s)
Type of configuration	Software Teach-in
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C
Ambient temperature, storage	-40 70 °C
Certifications	
Degree of protection	IP 65
Protection class	III

Classification		
Customs tariff number	90314990	
eCl@ss 8.0	27270910	
eCl@ss 9.0	27270910	
ETIM 5.0	EC002549	
ETIM 6.0	EC002549	

c CSA US IEC 60947-5-2

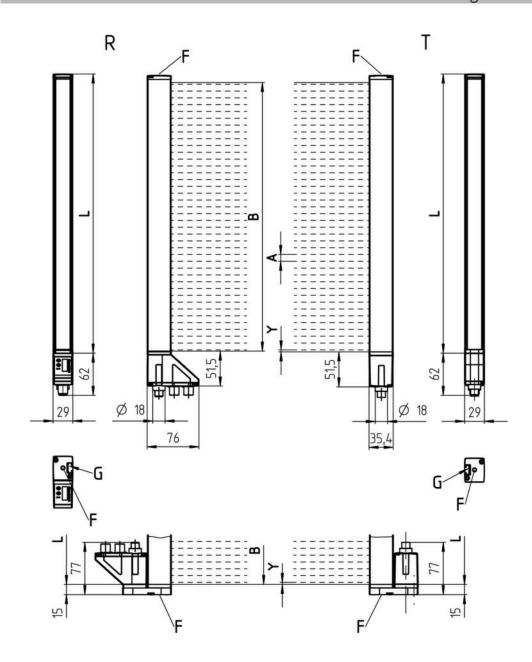
Dimensioned drawings

All dimensions in millimeters

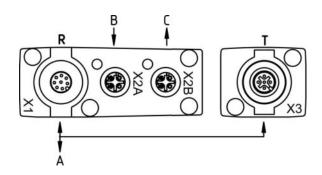
Certifications

Standards applied





- A Beam spacing 5 mm B Measurement field length 2480 mm
- F M6 thread
- G Fastening groove
- L Profile length 2488 mm
- T Transmitter
- R Receiver
- Y 2.5 mm



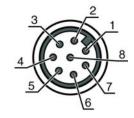


A PWR / SW IN/OUT B BUS IN C BUS OUT

Electrical connection

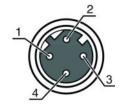
Connection 1	X1	
Function	Configuration interface Connection to transmitter Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

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	X2A
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-

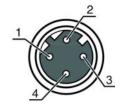


Connection 3	X2B
Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female



Connection 3	X2B
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-



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
3	Green, continuous light (at the X2A / X2B connector)	Link
4	Yellow, continuous light (at the X2A / X2B connector)	Activity

Suitable transmitters

Part no.	Designation	Article	Description
50118606	CML730i- T05-2480.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

CML	Operating principle: Measuring light curtain
7XXi	Series: 720i: 720i series 730i: 730i series
Y	Device type: T: transmitter R: receiver

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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:

Note

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
	50132079	KD U-M12-5A- V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

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Part no.	Designation	Article	Description
50135074	KS ET-M12-4A- P7-050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Connection technology - Interconnection cables

Part no.	Designation	Article	Description
50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

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

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

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
50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

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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.