

# **Technical data sheet** Light curtain receiver Part no.: 50123435 CML730i-R40-1890.R/D3-M12



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#### **Technical data**

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#### Rasic 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
Special version	
Special version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning
Optical data	
Operating range	Guaranteed operating range
Operating range	0.3 9.5 m
Operating range, transparent media	0.3 3.5 m
Operating range limit	Typical operating range
Operating range limit	0.2 12 m
Measurement field length	1,890 mm
Number of beams	47 Piece(s)
Beam spacing	40 mm
Measurement data	
Minimum object diameter	50 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>
Open-circuit current	0 350 mA, The specified values refer to the entire package consisting of trans- mitter and receiver.
Inputs/outputs selectable	
Number of inputs/outputs selectable	2 Piece(s)
Туре	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	DC Typ. U <sub>B</sub> / 0 V
	DC Typ. U <sub>B</sub> / 0 V high: ≥6V
Switching voltage, outputs	DC Typ. U <sub>B</sub> / 0 V
Switching voltage, outputs	DC Typ. U <sub>B</sub> / 0 V high: ≥6V
Switching voltage, outputs Switching voltage, inputs Input/output 1	DC Typ. U <sub>B</sub> / 0 V high: ≥6V
Switching voltage, outputs Switching voltage, inputs Input/output 1	DC Typ. U <sub>B</sub> / 0 V high: ≥6V
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing	DC Typ. U <sub>B</sub> / 0 V high: ≥6V Iow: ≤4V
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time	DC Typ. U <sub>B</sub> / 0 V high: ≥6V Iow: ≤4V
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time Response time per beam	DC Typ. U <sub>B</sub> / 0 V high: ≥6V Iow: ≤4V
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time Response time per beam Interface Type	DC Typ. U <sub>B</sub> / 0 V high: ≥6V low: ≤4V 1 ms 10 μs
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time Response time per beam Interface	DC Typ. U <sub>B</sub> / 0 V high: ≥6V low: ≤4V 1 ms 10 μs
Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time Response time per beam Interface Type RS 485	DC Typ. U <sub>B</sub> / 0 V high: ≥6V low: ≤4V 1 ms 10 μs RS 485 Modbus

IO-Link	
Function	Configuration via software
	Service
Connection	
lumber of connections	2 Piece(s)
Plug 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
Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded
Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,943 mm
lousing material	Metal
letal housing	Aluminum
ens cover material	Plastic
Net weight	2,100 g
lousing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device
Dperation and display	
ype of display	LED
	OLED display
lumber of LEDs	2 Piece(s)
ype of configuration	Software
	Teach-in
Operational controls	Membrane keyboard
Environmental data	
	-30 60 °C
Ambient temperature, operation	-30 60 °C -40 70 °C
Ambient temperature, operation Ambient temperature, storage	
Ambient temperature, operation Ambient temperature, storage Certifications	-40 70 °C
Ambient temperature, operation Ambient temperature, storage Certifications Degree of protection	
Ambient temperature, operation Ambient temperature, storage Certifications Degree of protection Protection class	-40 70 °C IP 65
Environmental data Ambient temperature, operation Ambient temperature, storage Certifications Degree of protection Protection class Certifications Standards applied	-40 70 °C IP 65 III

### **Technical data**

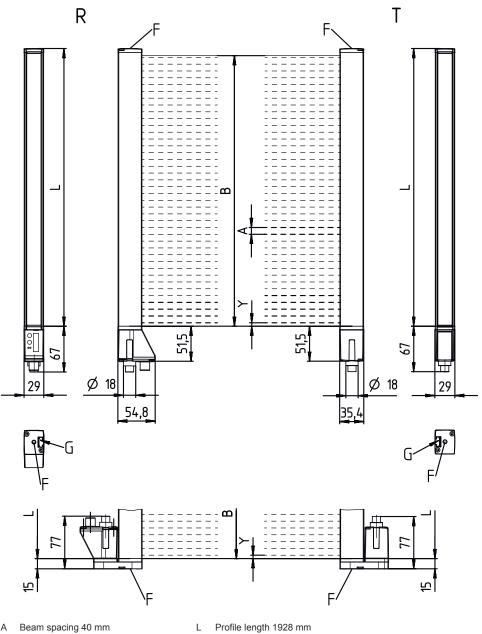
Customs tariff number	90314990
eCl@ss 5.1.4	27270910
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
eCl@ss 10.0	27270910
eCl@ss 11.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549

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#### **Dimensioned drawings**

All dimensions in millimeters



Beam spacing 40 mm А

Fastening groove

- В Measurement field length 1890 mm
- F M6 thread

G

R Receiver

Т

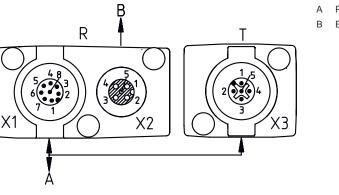
5 mm Υ

Transmitter



#### **Dimensioned drawings**





A PWR / SW IN / OUTB BUS IN / OUT

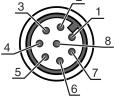
## **Electrical connection**

**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	B-coded

### **Electrical connection**

# Pin Pin assignment 2 1 V+ 2 Tx 2 Tx 3 PB GND 4 Tx+ 5 FE/SHIELD

## **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
50118989	CML730i-T40- 1890.R-M12	Light curtain transmitter	Operating range: 0.3 9.5 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	<b>Beam spacing</b> 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

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#### Part number code



7/8

DDD	Special equipment -PS: Power Setting	
EEE	Electrical connection M12: M12 connector	
FFF	-EX: Explosion protection	
	Note	
A	Section A list with all available device types can be found on the Leuze website at www.leuze.com.	

#### Notes

Observe intended use!
<ul> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>



#### 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

#### 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

#### Accessories

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	Part no.	Designation	Article	Description
	50123265	K-YPB M12A-5m- M12A-S-PUR	Interconnection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connection 2: Cable with connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Cable with connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Sheathing material: PUR

#### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
1 + 1 + 1 + 1 + 1	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
ęę.	429046	BT-2R1	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
y; U	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

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