SMART SENSOR BUSINESS

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Part no.: 50123365 CML730i-R05-1040.R/D3-M12 Light curtain receiver



Figure can vary

Contents

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Part no.: 50123365 – CML730i-R05-1040.R/D3-M12 – Light curtain receiver

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
Special design	
Special design	Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning
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	1,040 mm
Number of beams	208 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	
Performance data Supply voltage U _B	
	Transient protection
Supply voltage U _B	Transient protection 18 30 V , DC
Supply voltage U _B Residual ripple	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package con-
Supply voltage U _B Residual ripple Open-circuit current	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package con-
Supply voltage U _B Residual ripple Open-circuit current <i>Inputs/outputs selectable</i>	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver.
Supply voltage U _B Residual ripple Open-circuit current <i>Inputs/outputs selectable</i> Number of inputs/outputs selectable Type Voltage type, outputs	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC
Supply voltage UB Residual ripple Open-circuit current <i>Inputs/outputs selectable</i> Number of inputs/outputs selectable Type	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable
Supply voltage U _B Residual ripple Open-circuit current <i>Inputs/outputs selectable</i> Number of inputs/outputs selectable Type Voltage type, outputs	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC
Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC Typ. UB / 0 V high: ≥6V
Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC Typ. UB / 0 V high: ≥6V
Supply voltage UB Residual ripple Open-circuit current <i>Inputs/outputs selectable</i> Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs <i>Input/output 1</i>	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC Typ. UB / 0 V high: ≥6V
Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC Typ. UB / 0 V high: ≥6V low: ≤4V
Supply voltage UB Residual ripple Open-circuit current Inputs/outputs selectable Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Switching voltage, inputs Input/output 1 Timing Cycle time	Transient protection 18 30 V , DC 0 15 % , From UB 0 270 mA , The specified values refer to the entire package consisting of transmitter and receiver. 2 Piece(s) Inputs/outputs selectable DC Typ. UB / 0 V high: ≥6V Iow: ≤4V

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Part no.: 50123365 – CML730i-R05-1040.R/D3-M12 – Light curtain receiver

RS 485			
Function	Process		
Service interface			
Гуре	IO-Link		
IO-Link			
Function	Configuration via software		
	Service		
Connection			
Number 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 BUS OUT		
Type of connection	Connector		
Thread size	M12		
Туре	Female		
Material	Metal		
No. of pins	5 -pin		
Encoding	B-coded		
Mechanical data	Outria		
Dimension (W x H x L)	29 mm x 35.4 mm x 1,063 mm		
Housing material	Metal , Aluminum		
ens cover material	Plastic		
Net weight	1,300 g		
Housing color	Silver		
Гуре of fastening	Groove mounting Via optional mounting device		
One metion and align to a			
Operation and display			
Type of display LED OLED display			
Number of LEDs	2 Piece(s)		
Type of configuration	Software Teach-in		

Environmental data

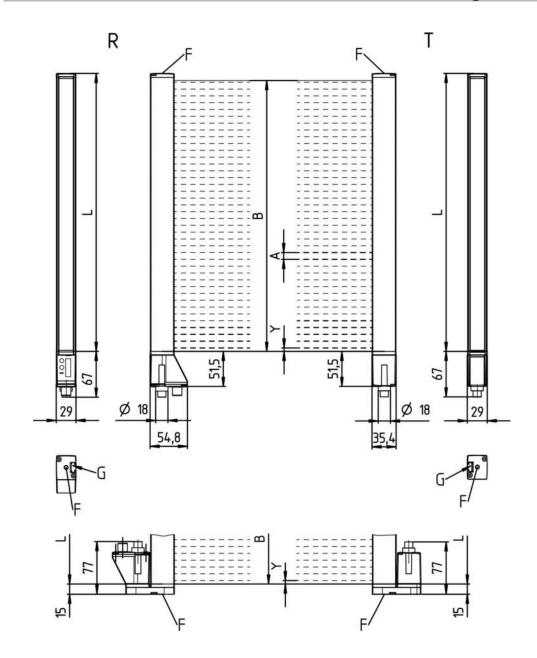
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Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	
Certifications		
Degree of protection	IP 65	
Protection class	III	
Certifications	c CSA US	
Standards applied	IEC 60947-5-2	
Classification		
Classification		
Customs 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

Part no.: 50123365 – CML730i-R05-1040.R/D3-M12 – Light curtain receiver



A Beam spacing 5 mm B Measurement field length 1040 mm

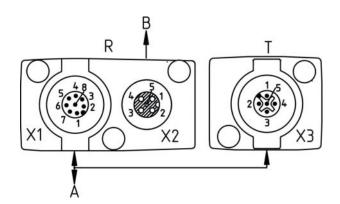
F M6 thread

- G Fastening groove
- L Profile length 1048 mm

T Transmitter

- R Receiver
- Y 2.5 mm

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A PWR / SW IN/OUT B 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	

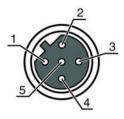
Pin	Pin assignment			
1	V+			
2	I/O 1			
3	GND			
4	IO-Link			
5	I/O 2			
6	RS 485 Tx+			
7	RS 485 Tx+			
8	FE/SHIELD			



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	

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



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 fur		Light path free, with function reserve
	Yellow, flashing	No function reserve
	Off	Object detected

Suitable transmitters

Part no.	Designation	Article	Description
	CML730i- T05-1040.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			
Y	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			

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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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Connection technology - Y distribution cables

	Part no.	Designation	Article	Description
		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
	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: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 250 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
ęł.	429046	BT-2R1	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

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