

# **Technical data sheet** Light curtain receiver

Part no.: 50119096

CML730i-R10-1760.R/CN-M12



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# **Technical data**



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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-heam 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	1,760 mm
Number of beams	176 Piece(s)
Beam spacing	10 mm

#### Measurement data

Minimum object diameter	20 mr
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#### **Electrical data**

Protective circuit	Polarity reversal protection	
	Short circuit protected	
	Transient protection	

#### Performance data Supply voltage U.

Supply voltage U <sub>B</sub>	18 30 V, DC
Residual ripple	0 15 %, From U <sub>B</sub>
Open-circuit current	0 350 mA, The specified values to the entire package consisting of

mitter 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 <sub>B</sub> / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	high: ≥6V
	low: ≤4V

### Input/output 1 Activation/disable delay

# Tim

Readiness delay	450 ms
Cycle time	1.91 ms
Response time per beam	10 μs

### Interface

CANopen

CANopen	
Function	Process

#### Service interface

Туре	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

Connection 2	
Function	BUS IN
	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

# **Mechanical data**

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Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,783 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,950 g
Housing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device

### **Operation and display**

Type of display	LED
	OLED display
Number of LEDs	2 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

# **Technical data**



### Certifications

Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

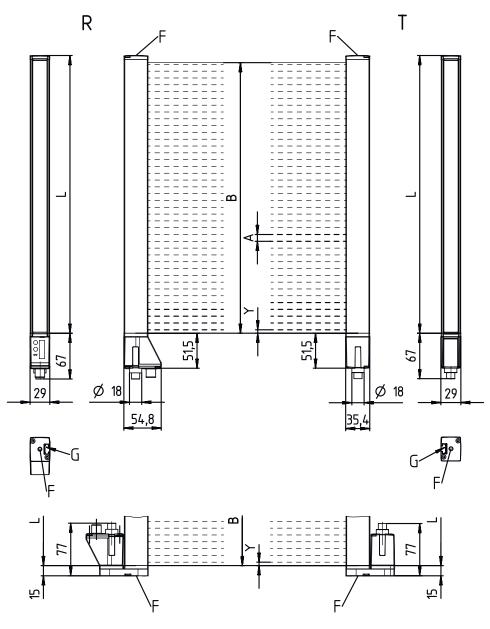
### Classification

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

# **Dimensioned drawings**



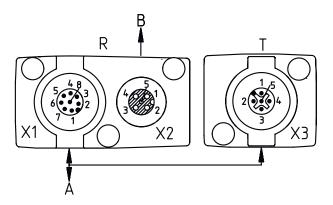
All dimensions in millimeters



- A Beam spacing 10 mm
- B Measurement field length 1760 mm
- F M6 thread
- G Fastening groove
- L Profile length 1768 mm
- T Transmitter
- R Receiver
- Y 5 mm

# **Dimensioned drawings**





- 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 Control of the Contro
1	V+
2	1/0 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	A-coded A-coded

# **Electrical connection**



Pin	Pin assignment	
1	FE/SHIELD	
2	n.c.	
3	CAN GND	
4	CAN H	
5	CAN L	



# **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
50118959	CML730i-T10- 1760.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					
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					

# Part number code



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 website at www.leuze.com.

# **Notes**



#### Observe intended use!



- by 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).
- \$\text{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 - Interconnection cables

	Part no.	Designation	Article	Description
	50129781	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

# **Accessories**



# 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
	50118185	K-YCN M12A-M12A- S-PUR	Interconnection cable	Suitable for interface: CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length fork 1: 250 mm Cable length fork 2: 350 mm Sheathing material: PUR

# Connection technology - Terminating resistors

Part no.	Designation	Article	Description
50040099	TS 01-5-SA	Terminator plug	Suitable for: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Male, A-coded, 5 -pin Function: Bus termination

# 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

# Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
gg.	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

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.			

# **Accessories**



Part no.	Designation	Article	Description
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 website in the Download tab of the article detailed page.