



the sensor people





Figure can vary

Part no.: 50119877 CML720i-R40-2850.A/CV-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	720			
Operating principle	Throughbeam principle			
Device type	Receiver			
Contains	2x BT-NC sliding block			
Application	-			
oplication Object measurement				
Special design				
Special design	Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning			
Optical data				
Operating range	Guaranteed operating range			
Operating range	0.3 7 m			
Operating range limit	Typical operating range			
Operating range limit	0.2 9 m			
Measurement field length	2,850 mm			
Number of beams	71 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			
Residual ripple	0 15 % , From U <sub>B</sub>			
Open-circuit current	0 435 mA , The specified values refer to the entire package consisting of transmitter and receiver.			
Outputs				
Number of analog outputs	2 Piece(s)			
Analog outputs				
Current 0 24 mA				
Voltage	0 11 V			
Analog output 1				
Туре	Voltage			
Analog output 2				
Туре	Current			



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	Typ. U <sub>B</sub> / 0 V		
Voltage type, inputs	DC			
Switching voltage, inputs	high: ≥6V low: ≤4V			
Input/output 1				
Activation/disable delay	1 ms			
ming				
eadiness delay	450 ms			
/cle time	2.53 ms			
esponse time per beam	30 µs			
ervice interface				
ре	IO-Link			
IO-Link				
Function	Configuration via software Service			
onnection				
umber of connections	2 Piece(s)			
	211000(0)			
ug outlet	Axial			
ug outlet  Connection 1	Axial			
ug outlet				
ug outlet  Connection 1	Axial  Configuration interface Signal IN Signal OUT			
ug outlet  Connection 1  Function	Axial  Configuration interface Signal IN Signal OUT Voltage supply			
Type of connection	Axial  Configuration interface Signal IN Signal OUT Voltage supply Connector			
Type of connection Thread size	Axial  Configuration interface Signal IN Signal OUT Voltage supply Connector M12			
Type of connection Thread size Type	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male			
Type of connection Thread size Type Material	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal			
Type of connection Thread size Type Material No. of pins	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
Type of connection Thread size Type Material No. of pins Encoding	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin			
Type of connection Thread size Type Material No. of pins Encoding Connection 2	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded			
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded  Connection to transmitter			
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded  Connection to transmitter Connector			
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded  Connection to transmitter Connector M12			
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded  Connection to transmitter Connector M12 Female			
Type of connection Thread size Type Material No. of pins Encoding Connection 2 Function Type of connection Type of connection	Configuration interface Signal IN Signal OUT Voltage supply Connector M12 Male Metal 8 -pin A-coded  Connection to transmitter Connector M12 Female Metal  Metal Metal			



Lens cover material	Plastic	
Net weight	2,900 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)	
ype of configuration Software Teach-in		
Operational controls	Membrane keyboard	
Environmental data		
Ambient temperature, operation	-30 60 °C	
Ambient temperature, storage	-40 70 °C	

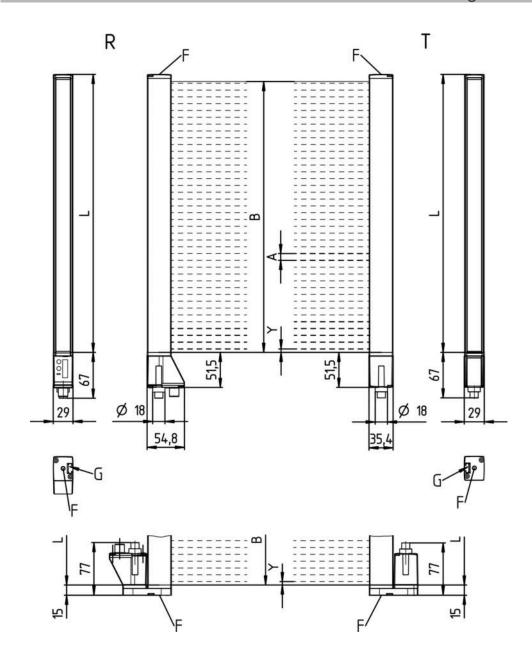
Certifications	
Degree of protection	IP 65
Protection class	III
Certifications	c CSA US
Standards applied	IEC 60947-5-2

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

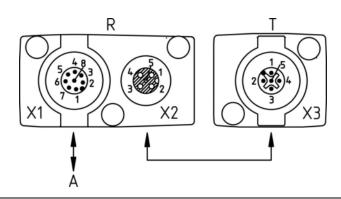
# **Dimensioned drawings**

All dimensions in millimeters





- A Beam spacing 40 mm B Measurement field length 2850 mm
- F M6 thread
- G Fastening groove L Profile length 2888 mm
- T Transmitter
- R Receiver
- Y 5 mm





APWR / SW IN/OUT

### **Electrical connection**

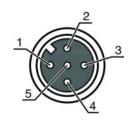
Connection 1		
Function	Configuration interface Signal IN Signal OUT Voltage supply	
Type of connection	Connector	
Thread size	M12	
Туре	Male	
Material	Metal	
No. of pins	8 -pin	
Encoding	A-coded	

Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	OUT V
7	OUT mA
8	AGND



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**

### **LEDs**

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
		Measurement frequency display
2 Yellow, continuous light Light path free,		Light path free, with function reserve
	Yellow, flashing	No function reserve
	Off	Object detected

### Suitable transmitters

Part no.	Designation	Article	Description
50119449		Light curtain transmitter	Operating range: 0.3 6 m Connection: Connector, M12, Axial, 5 -pin

### Part number code

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

CML	Operating principle: Measuring light curtain
7XXi	<b>Series:</b> 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
DDD	Special equipment: -PS: Power Setting
EEE	Electrical connection: M12: M12 connector
FFF	-EX: Explosion protection:

N	_	4	c
14	v	·	C

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
50135128	KD S-M12-8A- P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin 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: 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

# 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

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen Phone: +49 7021 573-0, Fax: +49 7021 573-199



# 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
165	50121098	SET MD12-US2-IL1.1 + Zub.		Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

### 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.