## SMART SENSOR BUSINESS

## Leuze electronic

the sensor people



Part no.: 50119841 CML720i-R10-1440.A/CV-M12 Light curtain receiver





# Contents

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

## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

#### **Technical data**

Basic data	
Series	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
Application	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	1,440 mm
Number of beams	144 Piece(s)
Beam spacing	10 mm
Measurement data	
Minimum object diameter	20 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	0 350 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	V (alterna
Турс	Voltage
Analog output 2	voitage

## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

Inputs/outputs scientable			
Inputs/outputs selectable	100 mA		
Output current, max.			
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 Iow: ≤4V		
Input/output 1			
Activation/disable delay	1 ms		
ïming			
Readiness delay	450 ms		
Cycle time	4.72 ms		
Response time per beam	30 µs		
Service interface			
уре	IO-Link		
IO-Link			
Function	Configuration via software Service		
Connection			
lumber of connections	2 Piece(s)		
Plug outlet	Axial		
Connection 1			
Function	Configuration interface		
T unction	Signal IN		
	Signal OUT		
Tuno of connection	Voltage supply		
Type of connection	Voltage supply Connector		
Thread size	Voltage supply Connector M12		
Thread size Type	Voltage supply Connector M12 Male		
Thread size Type Material	Voltage supply Connector M12 Male Metal		
Thread size Type Material No. of pins	Voltage supply Connector M12 Male Metal 8 -pin		
Thread size Type Material No. of pins Encoding	Voltage supply Connector M12 Male Metal		
Thread size Type Material No. of pins Encoding Connection 2	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded		
Thread size Type Material No. of pins Encoding Connection 2 Function	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type         Material	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal		
Thread sizeTypeMaterialNo. of pinsEncodingConnection 2FunctionType of connectionThread sizeTypeMaterialNo. of pins	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type         Material	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type         Material         No. of pins         Encoding	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin         A-coded		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type         Material         No. of pins         Encoding	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin         A-coded         Cubic		
Thread size         Type         Material         No. of pins         Encoding         Connection 2         Function         Type of connection         Thread size         Type         Material         No. of pins         Encoding	Voltage supply         Connector         M12         Male         Metal         8 -pin         A-coded         Connection to transmitter         Connector         M12         Female         Metal         5 -pin         A-coded		

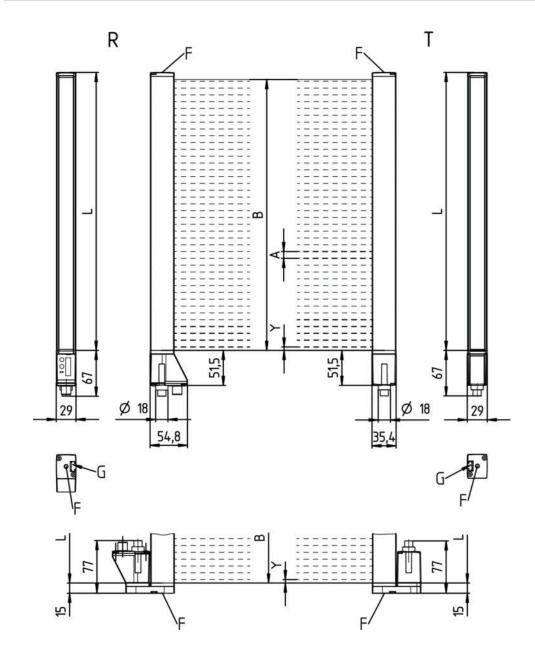
## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

Lens cover material	Plastic		
Net weight	1,600 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		
Certifications			
Degree of protection	IP 65		
Protection class			
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		

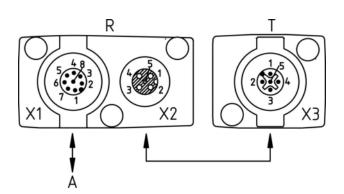
### **Dimensioned drawings**

All dimensions in millimeters

Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver



- A Beam spacing 10 mm B Measurement field length 1440 mm
- F M6 thread
- G Fastening groove
- L Profile length 1448 mm
- T Transmitter
- R Receiver
- Y 5 mm



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

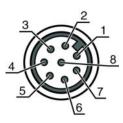
## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

A PWR / 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-



## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

#### **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

#### Suitable transmitters

Part no.	Designation	Article	Description
50119413	CML720i- T10-1440.A-M12	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	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			
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.

#### Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

#### 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 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

## Part no.: 50119841 – CML720i-R10-1440.A/CV-M12 – Light curtain receiver

## Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
RR.	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

Part no.	Designation	Article	Description
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.