



Figure can vary

**Part no.: 50128899**  
**CSL710-R05-960.A/L-M12**  
**Light curtain receiver**



## Contents

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## Technical data

<b>Basic data</b>	
Series	710
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Precise object detection
<b>Optical data</b>	
Operating range	Guaranteed operating range
Operating range	0.1 ... 3.5 m
Operating range limit	Typical operating range
Operating range limit	0.1 ... 4.5 m
Measurement field length	960 mm
Number of beams	192 Piece(s)
Beam spacing	5 mm
<b>Measurement data</b>	
Minimum object diameter	10 mm
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected Transient protection
<b>Performance data</b>	
Supply voltage $U_B$	18 ... 30 V , DC
Residual ripple	0 ... 15 % , From $U_B$
Open-circuit current	0 ... 270 mA , The specified values refer to the entire package consisting of transmitter and receiver.
<b>Inputs/outputs selectable</b>	
Output current, max.	100 mA
Input resistance	6,000 $\Omega$
Number of inputs/outputs selectable	4 Piece(s)
Voltage type, outputs	DC
Switching voltage, outputs	Typ. $U_B / 0$ V
Voltage type, inputs	DC
Switching voltage, inputs	high: $\geq 6$ V low: $\leq 4$ V
<b>Input/output 1</b>	
Activation/disable delay	0 ... 1 ms
<b>Timing</b>	
Readiness delay	400 ms
Cycle time	6.16 ms
Response time per beam	30 $\mu$ s
<b>Interface</b>	
Type	IO-Link

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**IO-Link**

COM mode	COM2 COM3
Specification	V1.0.1 V1.1
Min. cycle time	COM2 = 2.3 ms

**Service interface**

Type	IO-Link
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**IO-Link**

Function	Configuration via software Service
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**Connection**

Number of connections	2 Piece(s)
Plug outlet	Axial

**Connection 1**

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

**Connection 2**

Type of connection	Connector
Function	Connection to transmitter
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

**Mechanical data**

Design	Cubic
Dimension (W x H x L)	29 mm x 54.8 mm x 1,033 mm
Housing material	Metal , Aluminum
Lens cover material	Plastic / PMMA
Net weight	1,100 g
Housing color	Red
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	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

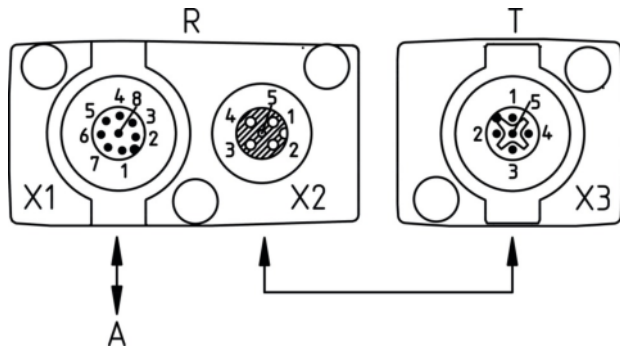
**Dimensioned drawings**

All dimensions in millimeters



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- A Beam spacing 5 mm
- B Measurement field length 960 mm
- F M6 thread
- G Fastening groove
- L Profile length 968 mm
- T Transmitter
- R Receiver
- Y



A PWR / SW IN/OUT

## Electrical connection

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

Pin	Pin assignment
1	V+
2	IO1
3	GND
4	IO-Link
5	IO2
6	IO3
7	IO4
8	GND



Connection 2	
Type of connection	Connector
Function	Connection to transmitter
Thread size	M12
Type	Female

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Connection 2	
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
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
	50128987	CSL710-T05-960.A-M12	Light curtain transmitter	Application: Precise object detection Operating range: 0.1 ... 3.5 m Connection: Connector, M12, 5 -pin

## Part number code

Part designation: **CSL710-XYZ-ZZZZ.A/B-CCC**

CSL710	<b>Operating principle:</b> CSL: switching light curtain of the 710 series
X	<b>Function classes:</b> T: transmitter R: receiver
YY	<b>Beam spacing:</b> 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
ZZZZ	<b>Measurement field length [mm], dependent on beam spacing:</b> Value, see technical data

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A	<b>Equipment:</b> A: connector outlet, axial
B	<b>Interface:</b> L: IO-Link
CCC	<b>Electrical connection:</b> M12: M12 connector

<b>Note</b>
A list with all available device types can be found on the Leuze electronic website at <a href="http://www.leuze.com">www.leuze.com</a> .

## Notes

<b>Observe intended use!</b>
<ul style="list-style-type: none"> <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>

<b>For UL applications:</b>
<ul style="list-style-type: none"> <li>For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</li> <li>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)</li> </ul>

## 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

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## Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
	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

### Note

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