

## Technical data sheet

### Light curtain receiver

Part no.: 50128889  
CSL710-R05-160.A/L-M12

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- Electrical connection
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Figure can vary



## Technical data

### Basic data

Series	710
Operating principle	Throughbeam principle
Device type	Receiver
Contains	2x BT-NC sliding block
Application	Precise object detection

### Special version

Special version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning

### Optical data

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	160 mm
Number of beams	32 Piece(s)
Beam spacing	5 mm

### Measurement data

Minimum object diameter	10 mm
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### Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected
	Transient protection

### Performance data

Supply voltage $U_B$	18 ... 30 V, DC
Residual ripple	0 ... 15 %, From $U_B$
Open-circuit current	0 ... 135 mA, The specified values refer to the entire package consisting of transmitter and receiver.

### Inputs/outputs selectable

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

### Input/output 1

Activation/disable delay	0 ... 1 ms
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### Timing

Readiness delay	400 ms
Cycle time	1.36 ms
Response time per beam	30 $\mu$ s

### Interface

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
IO-Link	
Function	Configuration via software
	Service

### Connection

Number of connections	2 Piece(s)
Plug outlet	Axial

### Connection 1

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

### Connection 2

Function	Connection to transmitter
Type of connection	Connector
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 233 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Net weight	300 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

## Technical data

### 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 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 5 mm               | L | Profile length 168 mm |
| B | Measurement field length 160 mm | T | Transmitter           |
| F | M6 thread                       | R | Receiver              |
| G | Fastening groove                | Y |                       |



## Electrical connection

### Connection 1

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

### Pin Pin assignment

<b>1</b>	V+
<b>2</b>	IO1
<b>3</b>	GND
<b>4</b>	IO-Link
<b>5</b>	IO2
<b>6</b>	IO3
<b>7</b>	IO4
<b>8</b>	GND



### Connection 2

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

### Pin Pin assignment


<b>1</b>	FE/SHIELD
<b>2</b>	V+
<b>3</b>	GND
<b>4</b>	RS 485 Tx+
<b>5</b>	RS 485 Tx-



## 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
	50128977	CSL710-T05-160.A-M12	Light curtain transmitter	Application: Precise object detection Special version: Parallel-beam scanning, Crossed-beam scanning, Diagonal-beam scanning Operating range: 0.1 ... 3.5 m Connection: Connector, M12, 5 -pin

## Part number code

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

<b>CSL710</b>	<b>Operating principle</b> CSL: switching light curtain of the 710 series
<b>X</b>	<b>Function classes</b> T: transmitter R: receiver
<b>YY</b>	<b>Beam spacing</b> 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
<b>ZZZZ</b>	<b>Measurement field length [mm], dependent on beam spacing</b> Value, see technical data
<b>A</b>	<b>Equipment</b> A: connector outlet, axial
<b>B</b>	<b>Interface</b> L: IO-Link
<b>CCC</b>	<b>Electrical connection</b> M12: M12 connector

### Note



A list with all available device types can be found on the Leuze website at [www.leuze.com](http://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:



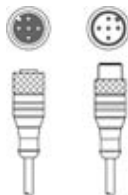
- ⌘ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- ⌘ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/ CYJV7 or PVVA/PVVA7)

## 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 - Swivel mounts

	Part no.	Designation	Article	Description
	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

### Configuration devices

	Part no.	Designation	Article	Description
	50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

#### Note



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