

Technical data sheet

Light curtain receiver

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



For illustration purposes only

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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

Characteristic parameters

Optical data

Operating range	0.1 ... 3.5 m
Operating range	Guaranteed operating range
Operating range limit	0.1 ... 4.5 m
Operating range limit	Typical operating range
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 Ω
Number of inputs/outputs selectable	4 Piece(s)
Type	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Typ. U_B / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	high: $\geq 6V$ low: $\leq 4 V$

Input/output 1

Activation/disable delay	0 ... 1 ms
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Time behavior

Readiness delay	400 ms
Cycle time	1.36 ms
Response time per beam	30 μs

Interface

Type	IO-Link
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IO-Link

COM mode	COM2
	COM3
Min. cycle time	COM2 = 2.3 ms
Specification	V1.0.1
	V1.1
Process data IN	2 bytes
Process data OUT	2 bytes

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 UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	90314990
ECLASS 5.1.4	27270910
ECLASS 8.0	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549

Dimensioned drawings

All dimensions in millimeters



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|---|---------------------------------|---|-----------------------|
| 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

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

Pin Pin assignment

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



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

Pin Pin assignment


1	FE/SHIELD
2	V+
3	GND
4	RS 485 Tx+
5	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**

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

Note

	↪ A list with all available device types can be found on the Leuze website at www.leuze.com .
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Notes

Observe intended use!

	<ul style="list-style-type: none"> ↪ 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.
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For UL applications:


	<ul style="list-style-type: none"> ↪ 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)
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Accessories


Connection technology - Connection unit

	Part no.	Designation	Article	Description
	50144900	MD 798i-11-82/L5-2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K


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 Connector, LED: No 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: 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

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.