

Technical data sheet

Light curtain receiver

Part no.: 50128890
CSL710-R05-240.A/L-M12

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- Electrical connection
- Operation and display
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For illustration purposes only



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

Measurement field length	240 mm
Number of beams	48 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	1.84 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 313 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic / PMMA
Net weight	400 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

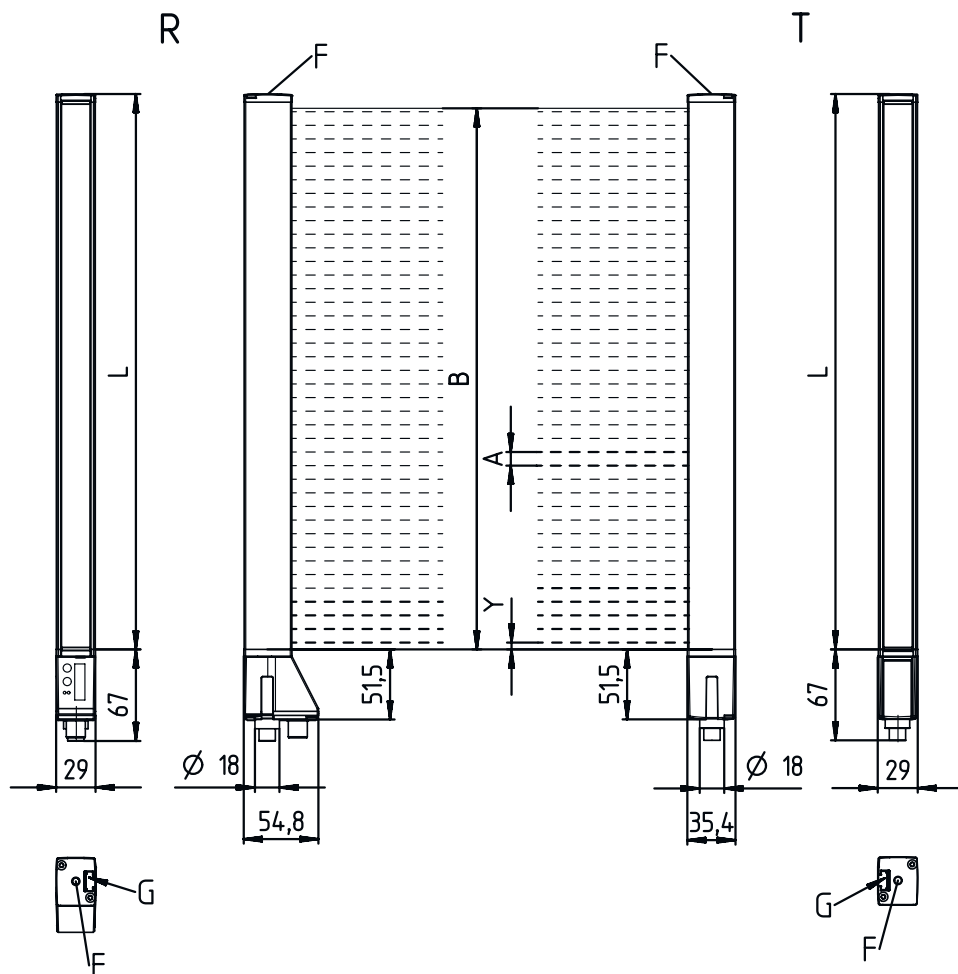
Degree of protection	IP 65
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

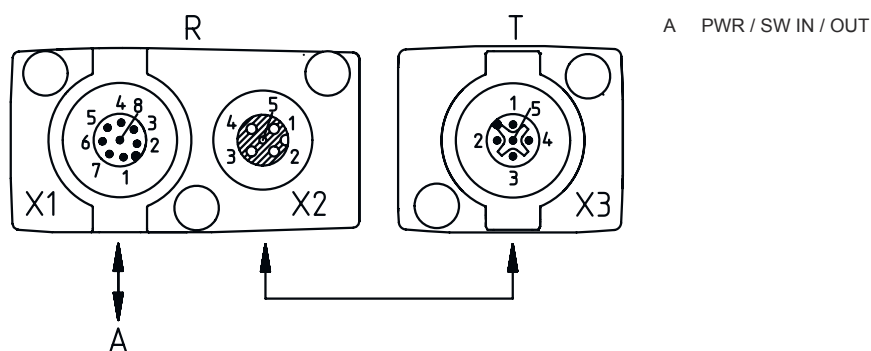
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ECLASS 15.0	27270910
ECLASS 16.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

Dimensioned drawings

All dimensions in millimeters



- | | | | |
|---|---------------------------------|---|-----------------------|
| A | Beam spacing 5 mm | L | Profile length 248 mm |
| B | Measurement field length 240 mm | T | Transmitter |
| F | M6 thread | R | Receiver |
| G | Fastening groove | Y | |



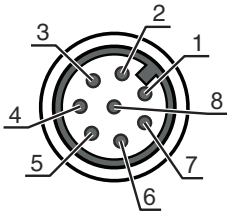
Electrical connection

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

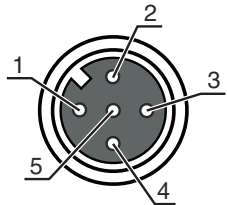


Connection 2

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	Operating range Operating range limit	Description
	50128978	CSL710-T05-240.A-M12	0.1 ... 3.5 m 0.1 ... 4.5 m	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-XXY-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.

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

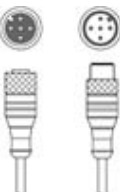
Connection technology - Connection unit

	Part no.	Designation	Article	Description
	50144900	MD 798i-11-82/L5-2222	IO-Link master	Current consumption, max.: 11,000 mA Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 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	Application: Oil and lubricant resistant 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	Application: Oil and lubricant resistant 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

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	429393	BT-2HF	Mounting bracket set	Contains: 2x BT-HF 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 website in the Download tab of the article detailed page.