



Figure can vary

Part no.: 50128942
CSL710-R10-2240.A/L-M12
Light curtain receiver



Contents

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

Technical data

Basic data	
Series	710
Operating principle	Throughbeam principle
Device type	Receiver
Application	Precise object detection

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	2,240 mm
Number of beams	224 Piece(s)
Beam spacing	10 mm

Measurement data	
Minimum object diameter	20 mm

Electrical data	
Protective circuit	Short circuit protected Transient protection Polarity reversal protection

Performance data	
Supply voltage	18 ... 30 V, DC
Residual ripple	0 ... 15 %, From U_B
Open-circuit current	0 ... 435 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)
Voltage type	DC
Switching voltage, outputs	Typ. $U_B / 0$ V
Voltage type	DC
Switching voltage, inputs	high: ≥ 6 V low: ≤ 4 V

Input/output 1	
Activation/disable delay	0 ... 1 ms

Timing	
Readiness delay	400 ms
Cycle time	7.12 ms
Response time per beam	30 μ s

Interface	
Type	IO-Link

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IO-Link

COM mode	COM3 COM2
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	Signal OUT Configuration interface Signal IN 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 2,313 mm
Housing material	Metal, Aluminum
Lens cover material	Plastic / PMMA
Net weight	2,250 g
Housing color	Red
Type of fastening	Groove mounting Via optional mounting device

Operation and display

Type of display	OLED display LED
Number of LEDs	2 Piece(s)
Type of configuration	Software Teach-in
Operational controls	Membrane keyboard

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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

eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549

Suitable transmitters

	Part no.	Designation	Article	Description
	50129026	CSL710-T10-2240.A-M12	Light curtain transmitter	Operating range: 0.3 ... 7 m Connection: Connector, M12, 5 -pin

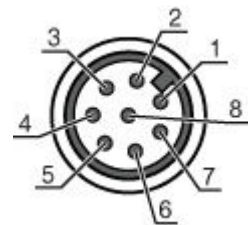
Dimensioned drawings

All dimensions in millimeters

Electrical connection

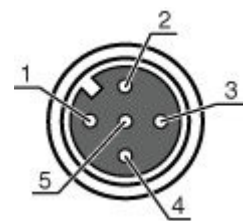
Connection 1	
Type of connection	Connector
Function	Signal OUT Configuration interface Signal IN Voltage supply
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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
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

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LED	Display	Meaning
	Off	Object detected




Part number code

Part designation: **CSL710-XYZ-XXXX.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
XXXX	Measurement field length [mm], dependent on beam spacing: Value, see technical data
A	Equipment: A: connector outlet, axial
B	Interface: L: IO-Link
CCC	Electrical connection: M12: M12 connector

Accessories

Connection technology - Connection cables

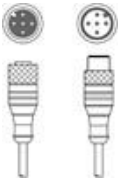
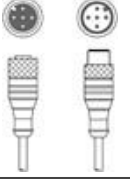
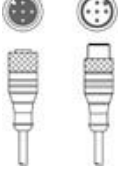
	Part no.	Designation	Article	Description
	50135127	KD S-M12-8A-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
	50135129	KD S-M12-8A-P1-100	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 10,000 mm Sheathing material: PUR

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Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50120999	K-DS M12A-8P-4P-2m- L-PUR	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 4 -pin Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50121000	K-DS M12A-8P-4P-5m- L-PUR	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 4 -pin Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
	50114691	KB DN/CAN-1000 SBA	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: 1,000 mm Sheathing material: PUR
	50122338	KB DN/ CAN-10000 SBA	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: 10,000 mm Sheathing material: PUR
	50114694	KB DN/CAN-2000 SBA	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: 2,000 mm Sheathing material: PUR
	50122339	KB DN/ CAN-20000 SBA	Interconnection cable	Suitable for interface: CANopen, DeviceNet Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length: 20,000 mm Sheathing material: PUR
	50114698	KB DN/CAN-5000 SBA	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
	50129779	KDS DN-M12-5A- M12-5A-P3-010	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: 1,000 mm Sheathing material: PUR
	50129780	KDS DN-M12-5A- M12-5A-P3-020	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: 2,000 mm Sheathing material: PUR


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	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
	50129782	KDS DN-M12-5A-M12-5A-P3-100	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: 10,000 mm Sheathing material: PUR
	50129783	KDS DN-M12-5A-M12-5A-P3-200	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: 20,000 mm Sheathing material: PUR


Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	429056	BT-2L	Mounting bracket set	Design of mounting device: Angle, L-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal
	429057	BT-2Z	Mounting bracket set	Design of mounting device: Angle, Z-shape Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal

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 Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

Mounting technology - Other





	Part no.	Designation	Article	Description
	425740	BT-10NC60	Sliding block set	Contains: 10x BT-NC sliding block Bore hole 1: Ø 4.7 mm Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal

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	Part no.	Designation	Article	Description
	425741	BT-10NC64	Sliding block set	Contains: 10x BT-NC-M4-M6 sliding block Bore hole 1: M4 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	425742	BT-10NC65	Sliding block set	Contains: 10x BT-NC-M5-M6 sliding block Bore hole 1: M5 Bore hole 2: M6 Design of mounting device: Sliding block Mounting bracket, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	424417	BT-2P40	Mounting bracket set	Contains: 2x BT-P40 clamp bracket Design of mounting device: Mounting clamp Mounting bracket, at system: Groove mounting Mounting bracket, at device: Groove mounting Type of mounting device: Clampable Material: Metal
	424422	BT-2SB10	Mounting bracket set	Contains: 2x BT-SB10 Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Type of mounting device: Swiveling Swivel range: -8 ... 8 ° Material: Metal
	424423	BT-2SB10-S	Mounting bracket set	Contains: 2x BT-SB10-S Design of mounting device: Mounting clamp Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Clampable, an der seitlichen C-Nut Swivel range: -8 ... 8 ° Material: Metal Shock absorber: Yes
	429058	BT-2SSD	Mounting bracket set	Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Groove mounting, Clampable, Screw type Type of mounting device: Swiveling Material: Metal
	429049	BT-2SSD-270	Mounting bracket set	Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Screw type, Clampable, Groove mounting Type of mounting device: Swiveling Material: Metal
	429059	BT-4SSD	Mounting bracket set	Contains: 4x Mounting bracket, at system: Through-hole mounting Mounting bracket, at device: Groove mounting, Clampable, Screw type Type of mounting device: Swiveling Material: Metal

	Part no.	Designation	Article	Description
	50131483	MD 248i-12-8K/L4-2R2K	Distribution box	Type: IO-Link master Supply voltage: 18 ... 30 V Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP / NPN reversible Interface: PROFINET, IO-Link Connections: 14 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 4 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67

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	Part no.	Designation	Article	Description
	50131485	MD 258i-12-8K/ L4-2R2K	Distribution box	Type: IO-Link master Supply voltage: 18 ... 30 V Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP / NPN reversible Interface: EtherNet IP, IO-Link, Modbus TCP Connections: 14 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 4 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67
	50131482	MD 748i-11-42/ L5-2222	Distribution box	Type: IO-Link master Supply voltage: 18 ... 30 V Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP / NPN reversible Interface: PROFINET, IO-Link Connections: 8 Piece(s) Sensor connections: 4 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67
	50131484	MD 758i-11-42/ L5-2222	Distribution box	Type: IO-Link master Supply voltage: 18 ... 30 V Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP / NPN reversible Interface: EtherNet IP, IO-Link, Modbus TCP Connections: 8 Piece(s) Sensor connections: 4 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67
	50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

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)