



Figure can vary

Part no.: 50128914
CSL710-R05-2160.A/L-M12
Light curtain receiver



Contents

- Technical data
- Suitable transmitters
- Dimensioned drawings
- Electrical connection
- Operation and display
- Part number code
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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	0.1 ... 3.5 m
Operating range limit	Typical operating range
Operating range limit	0.1 ... 4.5 m
Measurement field length	2,160 mm
Number of beams	432 Piece(s)
Beam spacing	5 mm

Measurement data	
Minimum object diameter	10 mm

Electrical data	
Protective circuit	Short circuit protected Polarity reversal protection Transient 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	low: ≤ 4 V high: ≥ 6 V

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

Timing	
Readiness delay	400 ms
Cycle time	13.36 ms
Response time per beam	30 μ s

Interface	
Type	IO-Link

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IO-Link

COM mode	COM2 COM3
Specification	V1.1 V1.0.1
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 IN Configuration interface 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 2,233 mm
Housing material	Metal, Aluminum
Lens cover material	Plastic / PMMA
Net weight	2,200 g
Housing color	Red
Type of fastening	Via optional mounting device Groove mounting

Operation and display

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

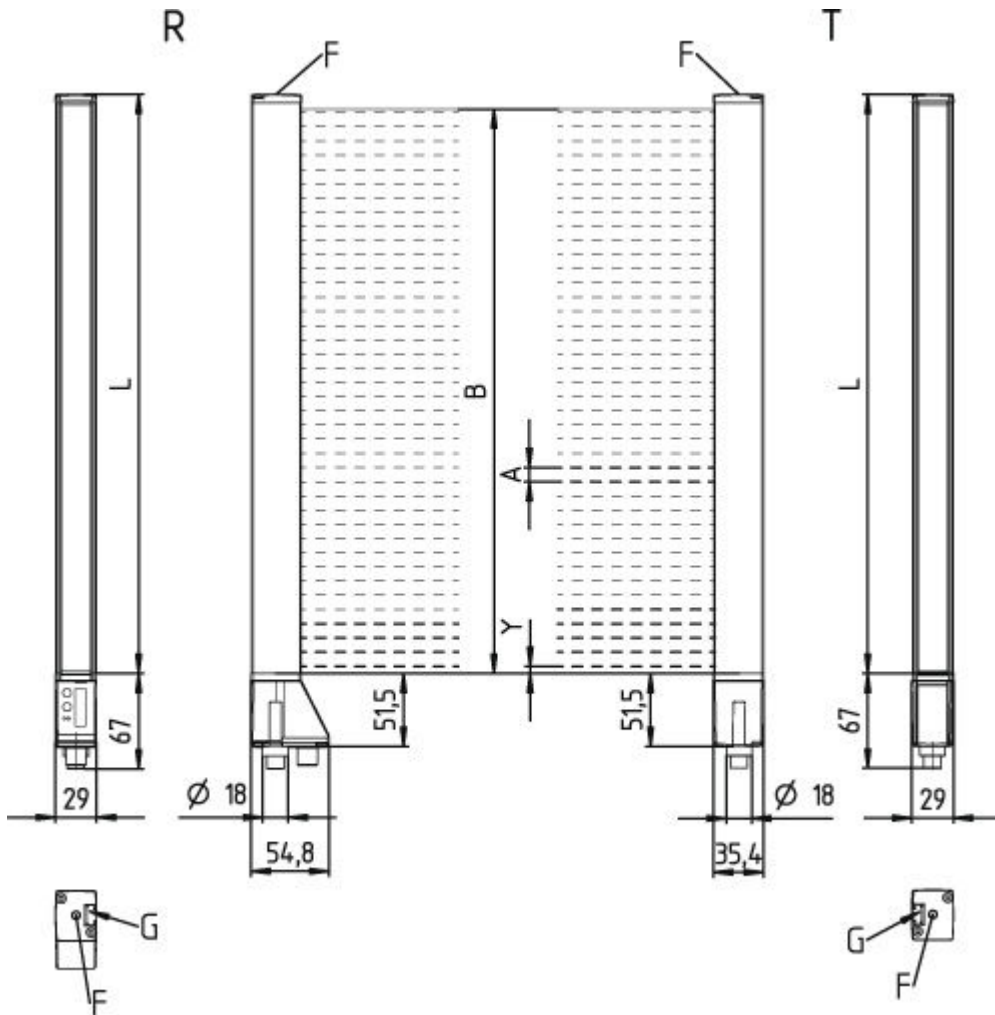
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eCl@ss 9.0	27270910
ETIM 5.0	EC002549

Suitable transmitters

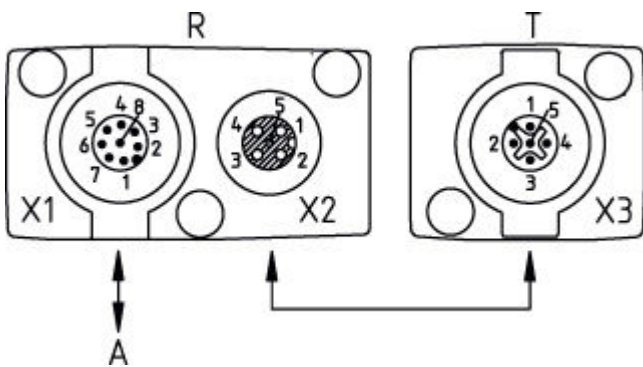
	Part no.	Designation	Article	Description
	50129002	CSL710-T05-2160.A-M12	Light curtain transmitter	Operating range: 0.1 ... 3.5 m Connection: Connector, M12, 5 -pin

Dimensioned drawings

All dimensions in millimeters



- A Beam spacing 5 mm
- B Measurement field length 2160 mm
- F M6 thread
- G Fastening groove
- L Profile length 2168 mm
- T Transmitter
- R Receiver
- Y

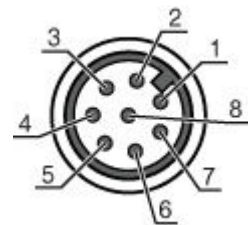


A PWR / SW IN/OUT

Electrical connection

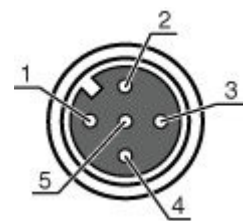
Connection 1	
Type of connection	Connector
Function	Signal IN Configuration interface Signal OUT Voltage supply
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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
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-AAAA.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: connector outlet, axial
B	Interface: L: IO-Link
CCC	Electrical connection: M12: M12 connector

Accessories

Connection technology - Connection cables

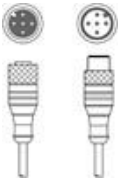
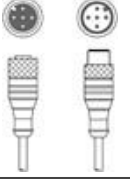
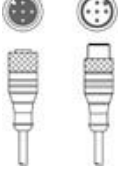
	Part no.	Designation	Article	Description
	50135127	KD S-M12-8A-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50135128	KD S-M12-8A-P1-050	Connection cable	Connection 1: Connector,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