



the sensor people





Figure can vary

Part no.: 50129018 CSL710-T10-960.A-M12 Light curtain transmitter





Contents

- Technical data
- . Dimensioned drawings
- Electrical connection
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- · Part number code
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Technical data

Series 710 Operating principle Transmitter Operating principle Transmitter Contains 2x BT-NC sliding block Application Precise object detection Optical data Operating range Guaranteed operating range Operating range 3.37 m Operating range mot Typical operating range Operating range imit Operating range imit Operating range Imit Typical operating range Imit Operating range Imit Typical operating range Imit Operating Imit Operation Imit Operating Imit O	Basic data		
Device type Transmitter Contains 2x BT-NC siding block Application Precise object detection Optical data Operating range Operating range Operating range Operating range Operating range Operating range imit Operating range Operating r	Series	710	
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Application Precise object detection Coptical data Operating range Guaranteed operating range Operating range 0.37 m Operating range 10.37 m Operating range 10.37 m Operating range 10.37 m Operating range 10.3	Device type	Transmitter	
Optical data Operating range Operating range Operating range Operating range Operating range 0.3 7 m Operating range 17 m Operating range 18 m Operating range 18 m Operating range 19 m Operati	Contains	2x BT-NC sliding block	
Operating range Outranteed operating range Operating range limit Typical operating range Operating range limit 0.2 9 m Operating range limit 0.2 9 m Measurement field length 960 mm Number of beams 96 Piece(s) Beam spacing 10 mm Light source LED, Infrared LED light wavelength 940 nm Measurement date Minimum object diameter 20 mm Electrical data Protective circuit Polarity reversal protection Short circuit protected Short circuit protected Short circuit protected Residual ripple 0 15 %, From U-sub-8-/sub-> Open-circuit current 0 270 mA. The specified values refer to the entire package consisting of transmitter and receiver. Timing Readiness delay 400 ms Cycle time 3.28 ms Connection Plug outlet Axial Connection 1 Type of connection Connection to receiver Sync-input yottage supply Male <td>Application</td> <td>Precise object detection</td>	Application	Precise object detection	
Operating range Outranteed operating range Operating range limit Typical operating range Operating range limit 0.2 9 m Operating range limit 0.2 9 m Measurement field length 960 mm Number of beams 96 Piece(s) Beam spacing 10 mm Light source LED, Infrared LED light wavelength 940 nm Measurement date Minimum object diameter 20 mm Electrical data Protective circuit Polarity reversal protection Short circuit protected Short circuit protected Short circuit protected Residual ripple 0 15 %, From U-sub-8-/sub-> Open-circuit current 0 270 mA. The specified values refer to the entire package consisting of transmitter and receiver. Timing Readiness delay 400 ms Cycle time 3.28 ms Connection Plug outlet Axial Connection 1 Type of connection Connection to receiver Sync-input yottage supply Male <td></td> <td></td>			
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Minimum object diameter 20 mm Electrical data Protective circuit Performance data Supply voltage UB 18 30 V, DC Residual ripple 0 15 %, From U _{8 Transient protection Residual ripple 0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver. Timing Readiness delay 400 ms Cycle time 3.28 ms Connection Number of connections 1 Piece(s) Plug outlet Axial Connection 1 Type of connection Connection Connector Function Connection Connect}	LED light wavelength	940 nm	
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Protective circuit Polarity reversal protection Short circuit protected Transient protection Performance data Supply voltage UB Residual ripple Open-circuit current Open-circuit current Timing Readiness delay Cycle time Connection Number of connections Plug outlet Axial Connection Type of connection Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins S-pin	Minimum object diameter	20 mm	
Protective circuit Polarity reversal protection Short circuit protected Transient protection Performance data Supply voltage UB Residual ripple Open-circuit current Open-circuit current Timing Readiness delay Cycle time Connection Number of connections Plug outlet Axial Connection Type of connection Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins S-pin			
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Timing Readiness delay Cycle time 3.28 ms Connection Number of connections Plug outlet Axial Connection Type of connection Thread size Type Male Material No. of pins Salan A00 ms 400 ms 40	Residual ripple	0 15 %, From U _B	
Readiness delay 400 ms Cycle time 3.28 ms Connection Number of connections 1 Piece(s) Plug outlet Axial Connection 1 Type of connection Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins 5 -pin	Open-circuit current	 270 mA, The specified values refer to the entire package consisting of transmitter and receiver. 	
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Number of connections 1 Piece(s) Plug outlet Axial Connection 1 Type of connection Connector Function Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins 5 -pin	Connection		
Plug outlet Axial Connection 1 Type of connection Connector Function Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins 5 -pin		1 Piece(s)	
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Function Connection to receiver Sync-input Voltage supply Thread size M12 Type Male Material Metal No. of pins Connection to receiver Sync-input Voltage supply M12 Male		Connector	
Thread size M12 Type Male Material Metal No. of pins 5 -pin		Connection to receiver Sync-input	
Material Metal No. of pins 5 -pin	Thread size		
Material Metal No. of pins 5 -pin	Type Male		
Encoding A-coded	No. of pins	5 -pin	
	Encoding	A-coded	



Mechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,033 mm
Housing material	Metal, Aluminum
Lens cover material	Plastic / PMMA
Net weight	1,100 g
Housing color	Red
Type of fastening	Groove mounting Via optional mounting device
Operation and display	
Type of display	LED
Number of LEDs	1 Piece(s)
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

Classification	
Customs tariff number	90314990
eCl@ss 8.0	27270910
eCl@ss 9.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549

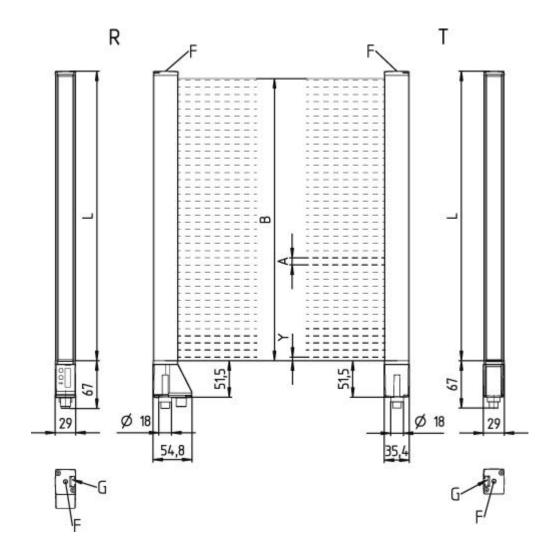
IEC 60947-5-2

Dimensioned drawings

All dimensions in millimeters

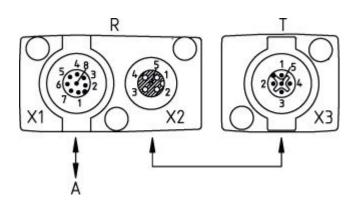
Standards applied





- A Beam spacing 10 mm
- B Measurement field length 960 mm
- F M6 thread
- G Fastening groove
- L Profile length 968 mm
- T Transmitter
- R Receiver





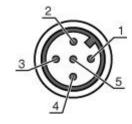
APWR / SW IN/OUT



Electrical connection

Connection 1	
Type of connection	Connector
Function	Connection to receiver Sync-input Voltage supply
Thread size	M12
Туре	Male
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	Continuous mode
1		Off	No communication with the receiver / waiting for trigger
		green, flashing in sync with the measurement	Measurement frequency display

Suitable receivers

Part no.	Designation	Article	Description
50128934	CSL710-R10-960.A/ L-M12	Light curtain receiver	Application: Precise object detection Operating range: 0.3 7 m Selectable inputs/outputs: 4 Piece(s) Service interface: IO-Link Connection: Connector, M12, 8 -pin

Part number code

Part designation: CSL710-XYY-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
А	Equipment: A: connector outlet, axial
В	Interface: /L: IO-Link
CCC	Electrical connection: M12: M12 connector

Note

A list with all available device types can be found on the Leuze electronic 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 - Interconnection cables

	Part no.	Designation	Article	Description
	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
(i)	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

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Part no.	Designation	Article	Description
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
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
84	429056	BT-2L	Mounting bracket set	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Material: Metal



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

Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
EE.	429046	BT-2R1		Contains: 2x BT-R 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

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 Fastening, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
	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 Fastening, 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 Fastening, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
al all	424417	BT-2P40	Mounting bracket set	Contains: BT-P40 clamp bracket, 2x Bore hole 1: M6 Bore hole 2: M6 Design of mounting device: Mounting clamp Fastening, at system: Groove mounting Mounting bracket, at device: Groove mounting Type of mounting device: Clampable Material: Metal
To the second	424422	BT-2SB10	Mounting bracket set	Contains: 2x BT-SB10 Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable, On the lateral C- groove Type of mounting device: Swiveling Swivel range: -8 8 ° Material: Metal
The state of the s	424423	BT-2SB10-S	Mounting bracket set	Contains: 2x BT-SB10-S Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable, On the lateral C- groove Type of mounting device: Swiveling with vibration damper Swivel range: -8 8 ° Material: Metal Shock absorber: Yes



	Part no.	Designation	Article	Description
	429058	BT-2SSD	Mounting bracket set	Fastening, 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	Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Clampable, Groove mounting Type of mounting device: Swiveling Material: Metal
	425725	BT-4NC	Sliding block set	Contains: 4x BT-NC sliding block Bore hole 1: Ø 4.7 mm Bore hole 2: M6 Design of mounting device: Sliding block Fastening, at system: Mounting thread Mounting bracket, at device: Groove mounting Material: Metal
9999	429059	BT-4SSD	Mounting bracket set	Contains: 4x Fastening, 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
166	50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20