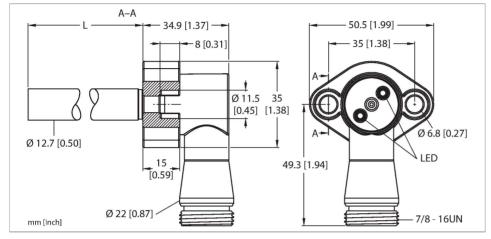


# BI1.5-CRS959C-ADZ30X2-B1131 Inductive Sensor – For High Pressures



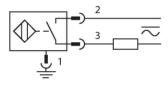
### Features

- Smooth barrel, stainless steel, 1.4305
- ■Ø 12.7 mm
- Housing, GD-Zn, chromated
- Special high pressure seal and active
- ceramic surface Permissible dynamic pressure 206 bar; static
- overpressure 310 bar
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NO contact
- 7/8" male connector

### Wiring diagram

### Technical data

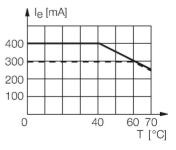
ID4279094General data	Туре	BI1.5-CRS959C-ADZ30X2-B1131
Rated switching distance1.5 mmMounting conditionsFlushSecured operating distance $\leq (0.81 \times Sn)$ mmCorrection factorsSt37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4Repeat accuracy $\leq 2 \%$ of full scaleStatic pressure $\leq 310$ barDynamic pressure $\leq 206$ barPermissible contact mediumelectrically conductiveTemperature drift $\leq \pm 10 \%$ Hysteresis $315 \%$ Electrical data $0250 \text{ VAC}$ Operating voltage U <sub>B</sub> $0300 \text{ VDC}$ AC rated operational current $\leq 400 \text{ mA}$ PC rated operating current I <sub>6</sub> $\leq 300 \text{ mA}$ Frequency $\geq 50 \le 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 A (\leq 20 \text{ ms max. 5 Hz})$	ID	4279094
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$= 0.4$ Repeat accuracy $\leq 2 \%$ of full scaleStatic pressure $\leq 310$ barDynamic pressure $\leq 206$ barPermissible contact mediumelectrically conductiveTemperature drift $\leq \pm 10 \%$ Hysteresis $315 \%$ Electrical data $20250$ VACOperating voltage Us $10300$ VDCAC rated operational current Is $\leq 300$ mADC rated operating current Is $\leq 50\leq 60$ HzResidual current $\leq 1.7$ mAIsolation test voltage $1.5$ kVSurge current $\leq 3 A$ ( $\leq 20$ ms max. 5 Hz)	Secured operating distance	≤ (0.81 × Sn) mm
Static pressure $\leq$ 310 barDynamic pressure $\leq$ 206 barPermissible contact mediumelectrically conductiveTemperature drift $\leq \pm 10 \%$ Hysteresis $315 \%$ Electrical data $20250 VAC$ Operating voltage Us $10300 VDC$ AC rated operational current $\leq 400 mA$ DC rated operating current Is $\leq 300 mA$ Frequency $\geq 50 \leq 60 Hz$ Residual current $\leq 1.7 mA$ Isolation test voltage $1.5 kV$ Surge current $\leq 3 A (\leq 20 ms max. 5 Hz)$	Correction factors	
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Permissible contact mediumelectrically conductiveTemperature drift $\leq \pm 10 \%$ Hysteresis $315 \%$ Electrical data $20250 \text{ VAC}$ Operating voltage Us $10300 \text{ VDC}$ AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current Is $\leq 300 \text{ mA}$ Frequency $\geq 50\leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$	Static pressure	≤ 310 bar
Temperature drift $\leq \pm 10 \%$ Hysteresis $315 \%$ Electrical data $20250 \text{ VAC}$ Operating voltage Us $20250 \text{ VAC}$ Operating voltage Us $10300 \text{ VDC}$ AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current Is $\leq 300 \text{ mA}$ Frequency $\geq 50 \le 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3A (\leq 20 \text{ ms max. 5 Hz})$	Dynamic pressure	≤ 206 bar
Hysteresis $315 \ \%$ Electrical data $20250 \ VAC$ Operating voltage Us $20250 \ VAC$ Operating voltage Us $10300 \ VDC$ AC rated operational current $\leq 400 \ mA$ DC rated operating current Is $\leq 300 \ mA$ Frequency $\geq 50\leq 60 \ Hz$ Residual current $\leq 1.7 \ mA$ Isolation test voltage $1.5 \ kV$ Surge current $\leq 3 \ A \ (\leq 20 \ ms \ max. 5 \ Hz)$	Permissible contact medium	electrically conductive
Bit is the second of the seco	Temperature drift	≤ ±10 %
Operating voltage $U_{B}$ 20250 VACOperating voltage $U_{B}$ 10300 VDCAC rated operational current $\leq$ 400 mADC rated operating current $I_{0}$ $\leq$ 300 mAFrequency $\geq$ 50 $\leq$ 60 HzResidual current $\leq$ 1.7 mAIsolation test voltage1.5 kVSurge current $\leq$ 3 A ( $\leq$ 20 ms max. 5 Hz)	Hysteresis	315 %
Operating voltage $U_{B}$ 10300 VDCAC rated operational current $\leq 400 \text{ mA}$ DC rated operating current $I_{a}$ $\leq 300 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$	Electrical data	
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DC rated operating current I. $\leq 300 \text{ mA}$ Frequency $\geq 50\leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$	Operating voltage U <sub>B</sub>	10300 VDC
Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$	AC rated operational current	≤ 400 mA
Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $1.5 \text{ kV}$ Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$	DC rated operating current $I_{\scriptscriptstyle e}$	≤ 300 mA
Isolation test voltage1.5 kVSurge current≤ 3 A (≤ 20 ms max. 5 Hz)	Frequency	≥ 50≤ 60 Hz
Surge current $\leq$ 3 A ( $\leq$ 20 ms max. 5 Hz)	Residual current	≤ 1.7 mA
	Isolation test voltage	1.5 kV
Short-circuit protection yes/Latching	Surge current	≤ 3 A (≤ 20 ms max. 5 Hz)
	Short-circuit protection	yes/Latching



## Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.

Pressure-resistant inductive sensors withstand high pressures which makes them perfectly suited for position control in hydraulic cylinders.





### Technical data

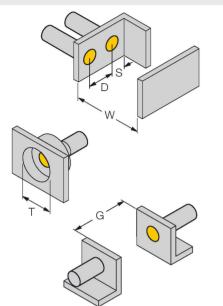
Voltage drop at I。	≤ 6 V
Wire break/reverse polarity protection	yes/Complete
Output function	2-wire, NO contact, 2-wire
Smallest operating current	≥ 3 mA
Switching frequency	0.02 kHz
Mechanical data	
Design	Smooth barrel, 12.7 mm
Probe length	95.9 mm, probe length x
Housing material	Metal, 1.4305 (AISI 303)
Active area material	Ceramic
Connector housing	metal, GdZn, chromated
Tightening torque fixing screw	7.3 Nm
Electrical connection	Connector, 7/8"
Environmental conditions	
Ambient temperature	-25+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Red
Included in delivery	2 x socket head screw 1/4"-20 NPT, 5/8" long

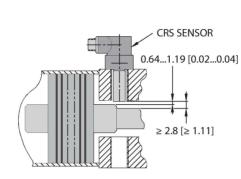
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### Mounting instructions

#### Mounting instructions/Description





mm [Inch]

Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 12.7 mm

The mounting receptacle and the O-ring supplied with the sensor are approved for high static and dynamic pressure. To ensure that the application is pressure-resistant, the mounting surface must also be designed accordingly. Ensure that the mounting surface is dry and free of dust during installation. Please also consider that oil can be displaced from the hydraulic system when the sensor probe is introduced, in which case the mounting surface will be moistened. Should this occur, a proper seal will not be established.

Recommended clearances:

0.64...1.19 mm to the hydraulic cylinder end position buffers being detected to allow for tolerances and wear.

>2.8 mm to the hydraulic cylinder piston rod to ensure that the sensor output switches off.