

Model CLN-300

Closed Loop Hall Effect

Current Sensors

Description

The CLN-300 is a closed loop Hall effect current sensor that accurately measures DC and AC currents and provide electrical isolation between the current carrying conductor and the output of the sensor.

Features

- Noncontact measurement of high current
- Measures DC, AC and impulse currents
- Current sensing up to 400A peak
- Very fast response and high accuracy
- High overload capacity
- Light duty industrial housing
- Solid core with aperture
- CLN-300: integrated bus bar

Applications

- Variable speed drives for motors
- Welding Equipment
- Power supply Equipment
- Measure and control system
- Over current protection
- Protection of power semiconductors



Electrical Specifications

	CLN-300	
Nominal current (I_N)	300 A rms	
Measuring range	0 to ± 600 A	
Sense resistor	R. min.	R. max.
with $\pm 12V$ at ± 200 A peak	0 ohm	30 ohm
at ± 300 A peak	0 ohm	30 ohm
at ± 600 A peak	0 ohm	5 ohm
with $\pm 15V$ at ± 200 A peak	5 ohm	50 ohm
at ± 300 A peak	5 ohm	50 ohm
at ± 600 A peak	5 ohm	15 ohm
with $\pm 18V$ at ± 200 A peak	20 ohm	70 ohm
at ± 300 A peak	20 ohm	70 ohm
at ± 600 A peak	20 ohm	25 ohm
Nominal analog output current	150 mA	
Turns ratio	1:2000	
Overall accuracy at 25°C	$\pm 0.5\%$ of I_N	
Supply voltage (VDC)	± 12 to ± 18 ($\pm 5\%$)	
Dielectric strength	7.5 kV rms/50Hz/1 min.	
(between the current carrying conductor and the output of the sensor)		

Accuracy-Dynamic Performance

Zero current offset at 25°C	± 0.3 mA max.
Offset current temperature drift	± 0.3 mA typ., ± 0.5 mA max.
(between 0°C and +70°C)	
Linearity	better than $\pm 0.1\%$
Response time	less than 500 ns
di/dt accurately followed	better than 50 A/ μ s
Bandwidth	0 to 150 kHz (-1dB)

General Information

Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +90°C
Current drain (plus output current)	14 mA (at $\pm 18V$)
Coil resistance	25 ohms (at 70°C)
Package	flame retardant plastic case
Weight	340 grams
Mounting	Panel mount via 2 holes
Aperture size	0.900 inch dia. (23mm)
Output connection	3 Faston terminals 0.248" x 0.031" (6.30 mm x 0.80mm)
Output reference	To obtain a positive output on the terminal marked "O/P", aperture current must flow in the direction of the arrow (conventional flow)

Notes:

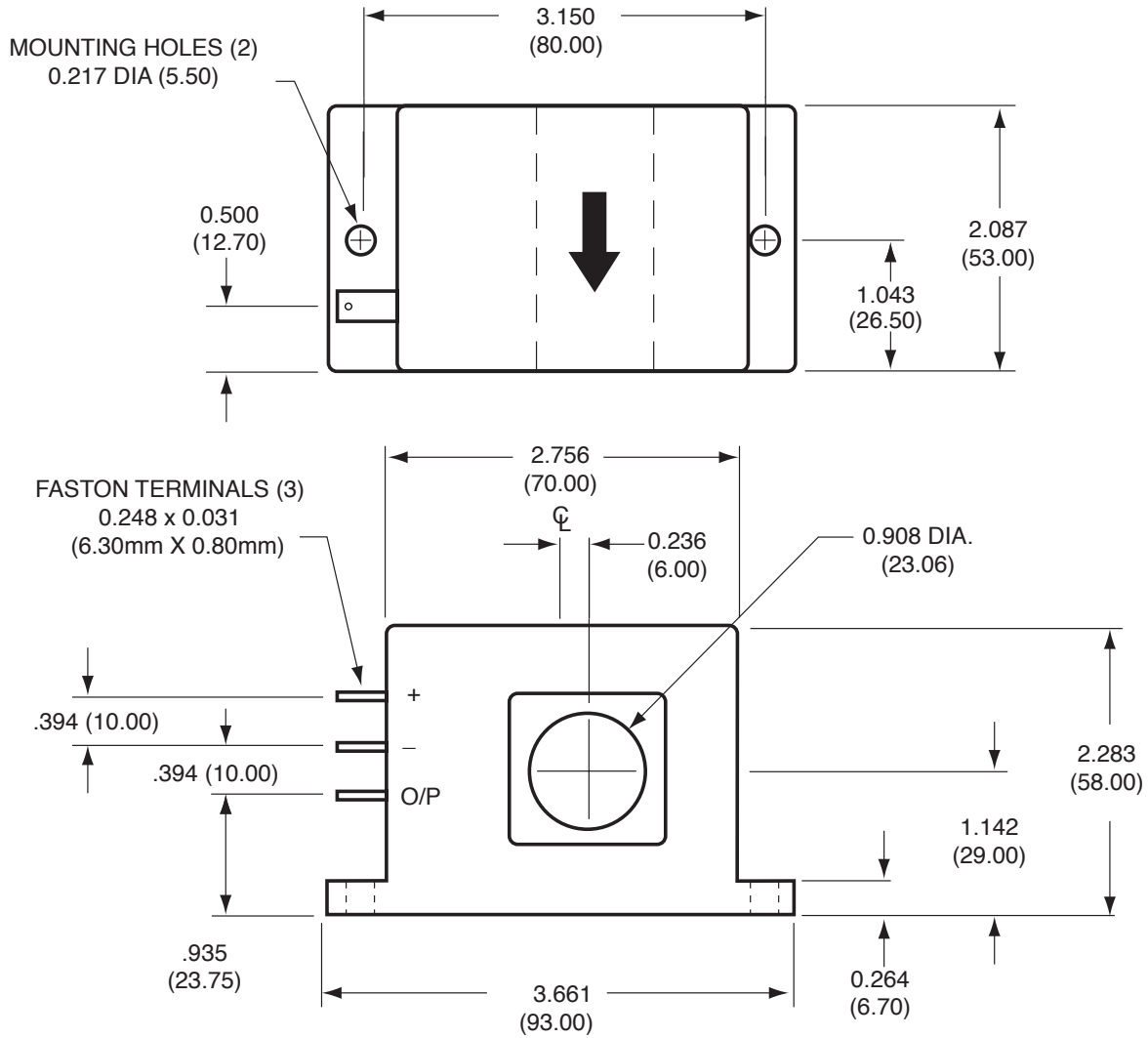
1. The temperature of the current carrying conductor should not exceed 100°C

Mechanical Dimensions

All dimensions are in inches (millimeters)

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Connection Schematic

