

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

Nominal current (I_N)	300 A rms
Measuring range	0 to ± 600 A
Sense resistor	R. min. R. max.
with ± 12 V 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 ± 15 V 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 ± 18 V 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 ± 18 V)
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. (23 mm)
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:

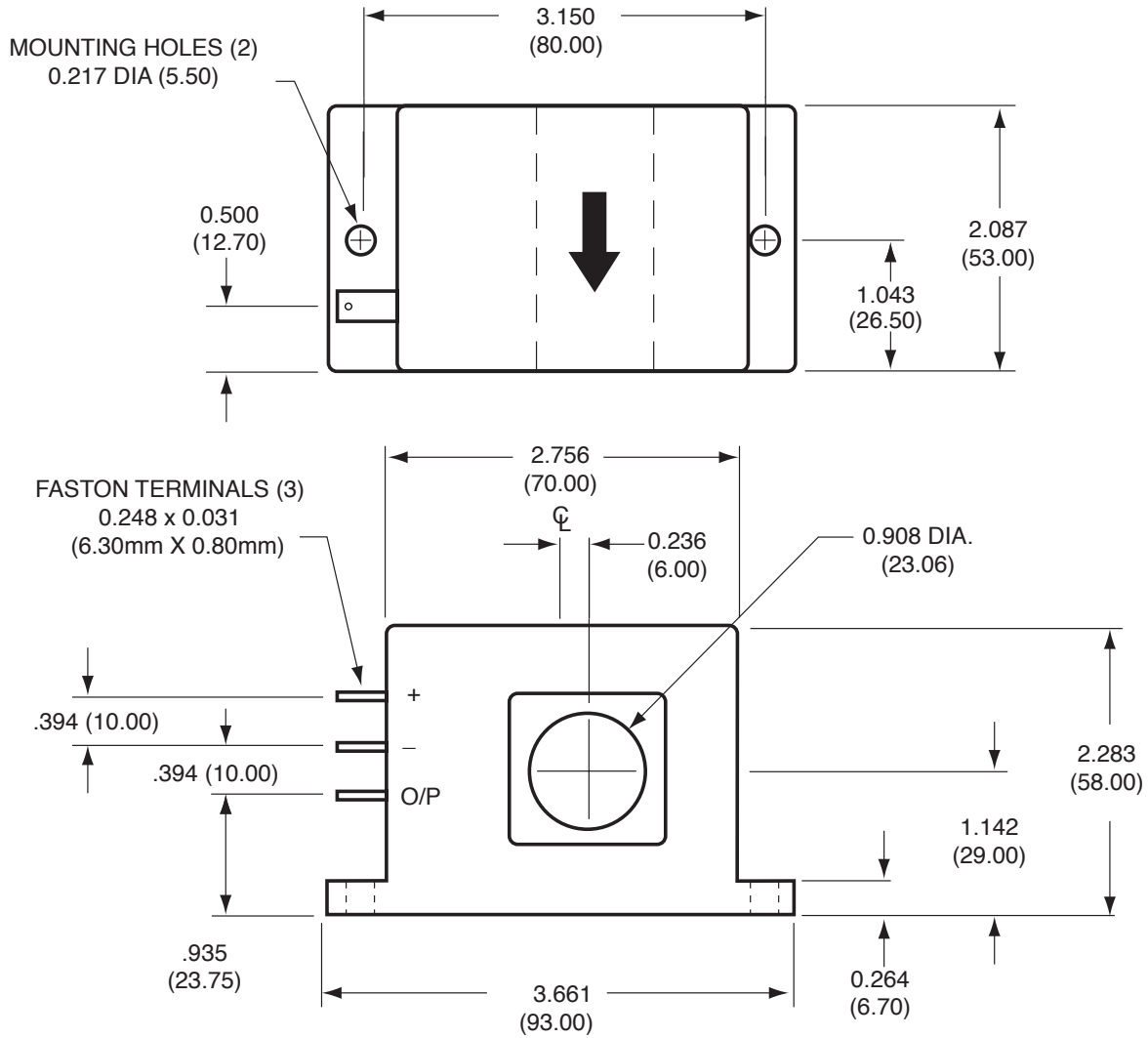
1. The temperature of the current carrying conductor should not exceed 100°C

Mechanical Dimensions

All dimensions are in inches (millimeters)

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Connection Schematic

