

Model CLN-500

Closed Loop Hall Effect

Current Sensors

Description

Model CLN-500 is a closed loop current sensor that accurately measures DC and AC currents and provides 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



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-500	
Nominal current (I_N)	.....	500 A rms	
Measuring range	.....	0 to ± 1200 A	
Sense resistor	.....	R. min.	R. max.
with ± 12 V at ± 1000 A peak	.....	n/a	n/a
at ± 1200 A peak	.....	n/a	n/a
with ± 15 V at ± 500 A peak	.....	0 ohm	50 ohm
at ± 1000 A peak	.....	0 ohm	5 ohm
at ± 1500 A peak	.....	n/a	n/a
with ± 18 V at ± 1000 A peak	.....	n/a	n/a
at ± 1500 A peak	.....	n/a	n/a
with ± 24 V at ± 500 A peak	.....	10 ohm	130 ohm
at ± 1200 A peak	.....	10 ohm	25 ohm
Nominal analog output current	.....	100 mA	
Turns ratio	.....	1:5000	
Overall accuracy at 25°C	.....	$\pm 0.5\%$ of I_N	
Supply voltage (VDC)	± 15 to ± 24 ($\pm 5\%$)	
Dielectric strength	.....	6 kV rms/50 Hz/1 min.	
(between the current carrying conductor and the output of the sensor)			

Accuracy-Dynamic Performance

Zero current offset at 25°C	± 0.2 mA max.
Offset current temperature drift	± 0.2 mA typ., ± 0.3 mA max.
(between 0°C and +70°C)		
Linearity	.....	better than $\pm 0.1\%$
Response time	.....	less than 1 μ s
di/dt accurately followed	.....	better than 50 A/ μ s
Bandwidth	.....	0 to 100 kHz (-1dB)

General Information

Operating temperature	.....	-40°C to +85°C
Storage temperature	.....	-40°C to +90°C
Current drain (plus output current)	.....	22 mA (at ± 24 V)
Coil resistance	.....	50 ohm (at 70°C)
Package	.....	flame retardant plastic case
Weight	.....	340 grams
Mounting	.....	Panel mount via 4 slots
Aperture size	.....	1.02 inch dia. (26 mm)
Output connection	.....	3 Faston terminals
		0.248" x 0.031"
		(6.30mm 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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