

闭环霍尔效应电流传感器 CLN-500



简述:

型号为 CLN-500 的电流传感器是闭环霍尔电流/电压传感器，能够精确测量直流和交流的电流或者电压，并提供被测电流或电压和输出信号之间的电气隔离。

特点:

- 非接触测量高电流(Noncontact measurement of high current);
- 高过载能力(High overload capacity);
- 测量直流、交流和脉冲电流(Measure DC, AC and impulse currents);
- 轻型工业封装(Light duty industrial housing);
- 电流感应高达 400A 峰值(Current sense to 400A peak);
- Solid core with aperture;
- 响应快速和高精度(Very fast response and high accuracy);

应用场合:

- 电机的变速驱动(Variable speed drives for motors);
- 测量和控制系统(Measure and control system);
- 焊接设备(Welding Equipment);
- 过流保护(Over current protection);
- 电源设备(Power supply Equipment);
- 功率半导体的保护(Protection of power semiconductors);

电气规格:

| | | |
|--------------------------|--------------|--------------|
| 额定电流(I _N) | 500A rms | |
| 测量范围 | 0 至 ±1200A | |
| 感应电阻 | R.min | R.max |
| with ±12V at ±1000A peak | n/a | n/a |
| at ±1200A peak | n/a | n/a |
| with ±15V at ±500A peak | 0 ohm | 50 ohm |
| at ±1000A peak | 0 ohm | 5 ohm |

| | | |
|--------------------------|-------------------------|---------|
| at ±1500A peak | n/a | n/a |
| with ±18V at ±1000A peak | n/a | n/a |
| at ±1500A peak | n/a | n/a |
| with ±24V at ±500A peak | 10 ohm | 130 ohm |
| at ±1200A peak | 10 ohm | 25 ohm |
| 标称模拟输出电流 | 100 mA | |
| 匝数比 | 1 : 5000 | |
| 整体精度(25°C) | ±0.5% of I _N | |
| 电源电压(VDC) | ±15 至 ±24(±5%) | |
| (载流导体和传感器的输出之间) 绝缘强度 | 6 kV rms/50 Hz/1 min | |

精度-动态性能:

| | |
|---------------------------|----------------------------|
| 零电流偏移量(25 °C) | ±0.2 mA max. |
| 偏移电流的温度漂移(0 °C- +70 °C) | ±0.2 mA typ., ±0.3 mA max. |
| 线性度 | 优于±0.1% |
| 响应时间 | 小于 1µs |
| di/dt accurately followed | 优于 50A/µs |
| 带宽 | 0 至 100kHz(-1dB) |

一般规格:

| | |
|-------------|--------------------------------|
| 工作温度 | -40 °C 至 +85 °C |
| 储存温度 | -40 °C 至 +90 °C |
| 漏电流(加上输出电流) | 22 mA(在 ±24V) |
| 线圈电阻 | 50 ohm(在 70 °C) |
| 封装 | 阻燃塑料外壳 |
| 重量 | 340g |
| 安装 | 通过 4 个插槽面板安装 |
| 孔径大小 | 直径 1.02 inch(约 26mm) |
| 输出连接 | 3 个快速连接端口 (6.30mm x 0.80mm) |

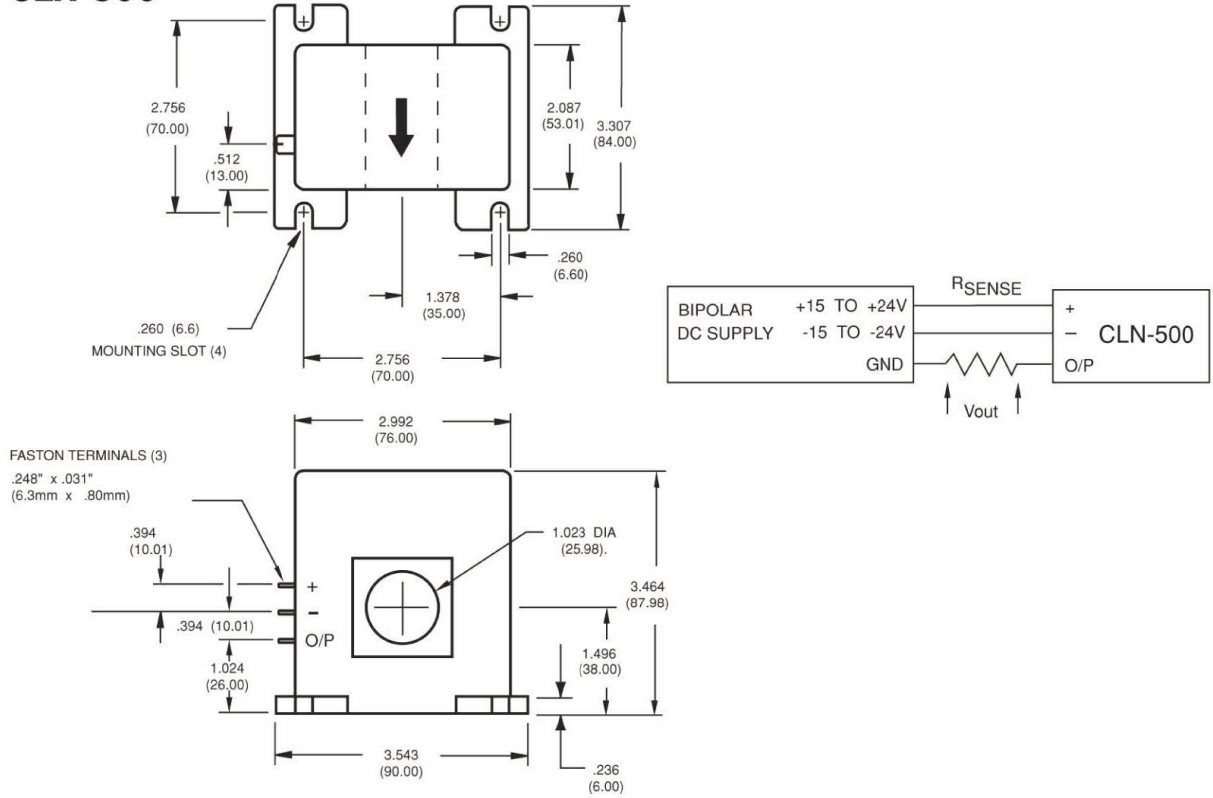
注: 载流导体的温度不应超过 100 °C

机械尺寸



更多产品信息, 详见<http://www.gaussmeter.com.cn>

CLN-500



Note: Due to continuous process improvement, all specifications are subject to change without notice.

英文资料:

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 | (between the current carrying conductor and the output of the sensor) | 6 kV rms/50 Hz/1 min. | |

Accuracy-Dynamic Performance

| | | |
|----------------------------------|----------------------------------|--------------------------------------|
| Zero current offset at 25°C | | ± 0.2 mA max. |
| Offset current temperature drift | (between 0°C and +70°C) | ± 0.2 mA typ., ± 0.3 mA max. |
| 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.
2. Due continuous process improvement, all specifications are subject to change without notice.

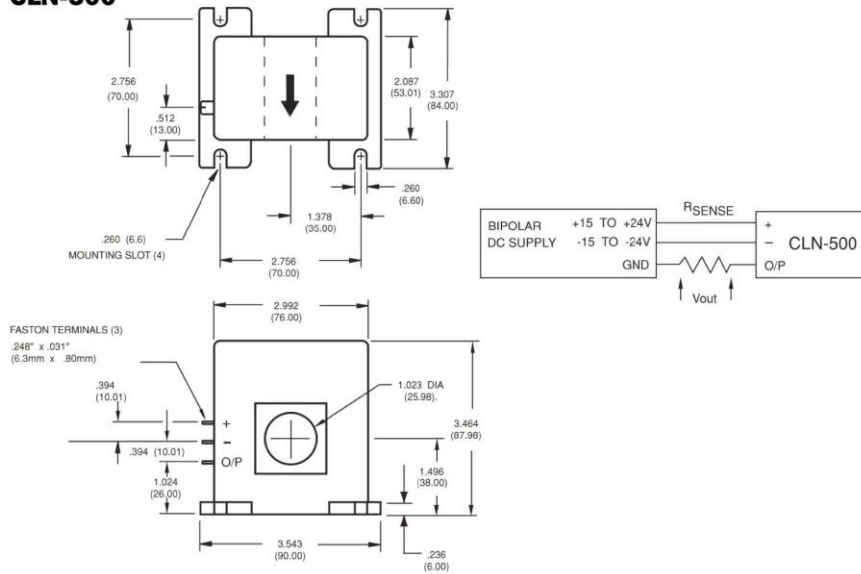
Mechanical Dimensions

All dimensions are in inches (millimeters)

Model **CLN-500**

Current Sensors

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