

Model CLN-50SP1/100SP1 Closed Loop Hall Effect

Description

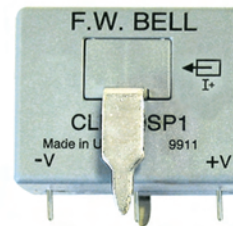
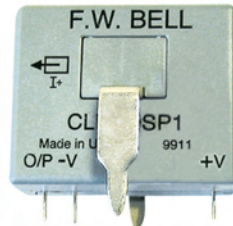
Models CLN-50SP1 and CLN-100SP1 are closed loop Hall effect current sensors that accurately measure DC and AC currents and provide electrical isolation between the current carrying conductor and the output of the sensor.

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
- PC board mount
- 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

Nominal current (I _N).....	50 A rms
Measuring range.....	0 to ±90 A
Sense resistor	R. min. R. max.
with ±12V at ±70 A peak	50 ohms — 90 ohms
at ±100 A peak	n/a — n/a
at ±150 A peak	n/a — n/a
with ±15V at ±90 A peak	70 ohms — 100 ohms
at ±100 A peak	n/a — n/a
at ±150 A peak	n/a — n/a
Nominal analog output current	50 mA
Turns ratio	1:1000
Overall accuracy at 25°C and ±12V	±0.9% of I _N
Overall accuracy at 25°C and ±15V	±0.5% of I _N
Supply voltage (Vdc)	±12 to ±15 (±5%)
Dielectric strength.....	3 kV rms/50 Hz/1 min.
(between the current carrying conductor and the output of the sensor)	

CLN-50SP1

CLN-100SP1

Accuracy-Dynamic Performance

Zero current offset at 25°C	±0.2 mA max.
Offset current temperature drift	
between 0°C and +70°C	±0.3 mA typ., ±0.6 mA max.
between -25°C and +85°C	±0.3 mA typ., ±0.8 mA max.
Linearity	better than ±0.1%
Response time	less than 500 ns
di/dt accurately followed.....	better than 100 A/μs
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).....	10 mA (at ±15V) 14 mA (at ±15V)
Coil resistance.....	30 ohms (at 70°C)
Package	Flame retardant plastic case
Weight	26 grams 27 grams
Mounting	Designed to mount directly on PCB via thru hole connect pins
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: - The temperature of the current carrying conductor should not exceed 90°C

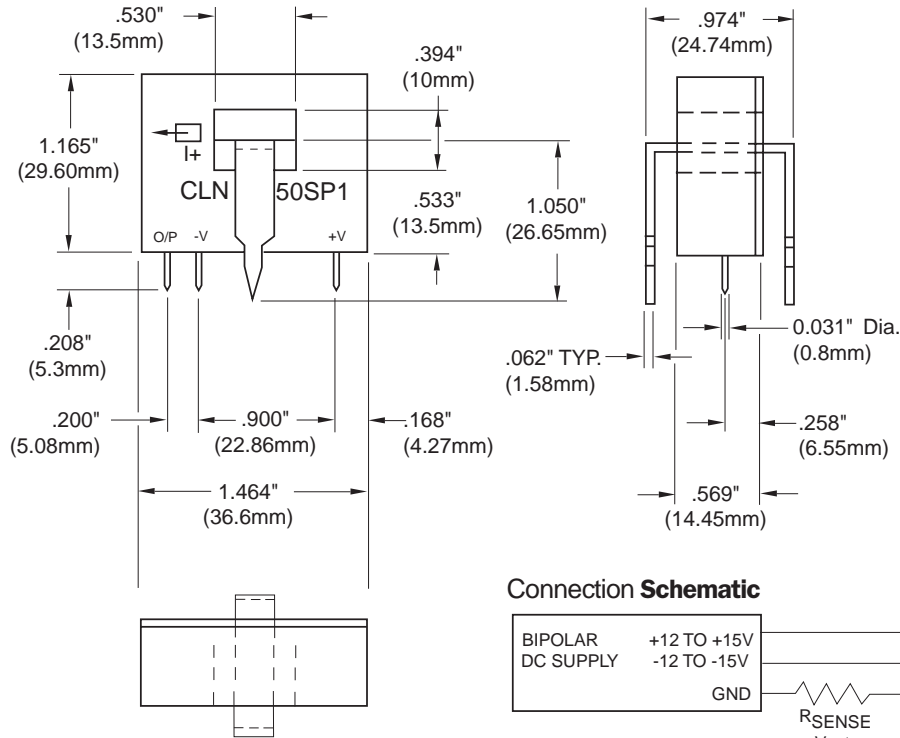
Current Sensors



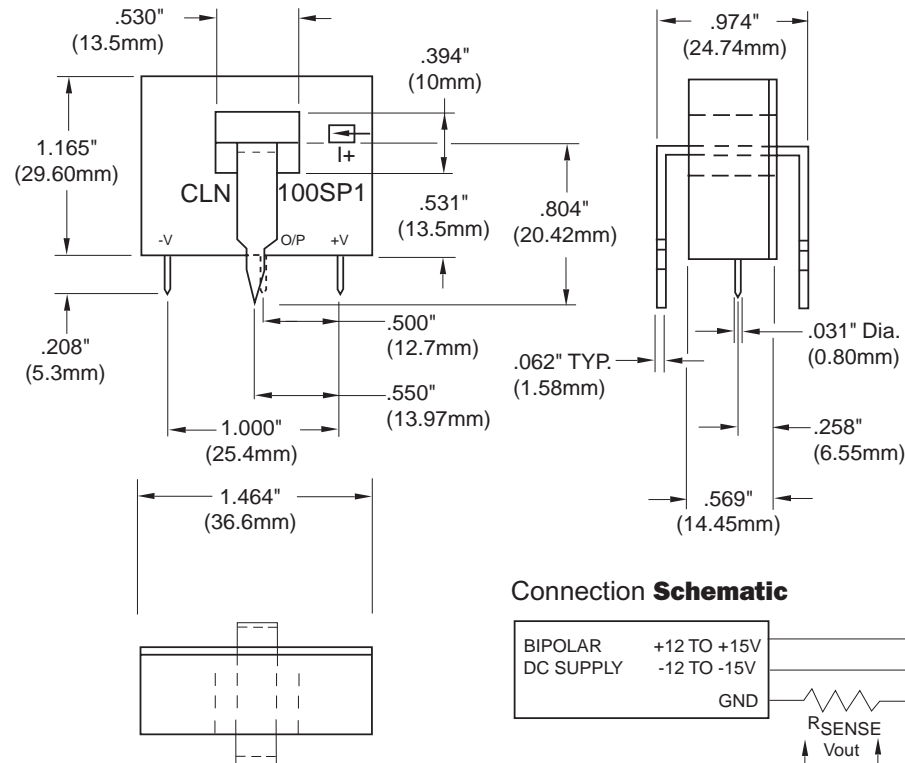
Mechanical Dimensions

All dimensions are in inches (millimeters)

Model **CLN-50SP1**



Model **CLN-100SP1**



Current Sensors