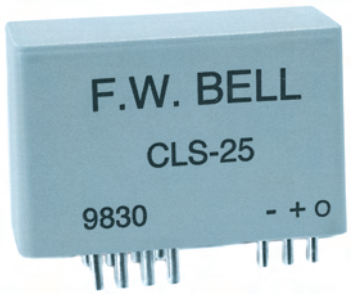
Model CLS-25 Closed Loop Hall Effect

Current Sensors

Description

The CLS-25 is a reduced size current transducer based on the principle of magnetic compensation. It provides electronic measurement of DC, AC or pulsed currents, and their combinations, with galvanic isolation between the primary (high current) and secondary circuits. It has four integral primary pins. This closed loop current sensor provides excellent performance at affordable prices.



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

Applications

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

Electrical Specifications

	CLS-25	
Nominal Current (I_N)	25 A.t RMS	
Measuring Range[1]	0 to ± 50 A.t (± 62 A.t)[2]	
Measuring Resistance	**R min.**	**R max.**
with ±15V at ±25 A.t Max.	54 ohm	360 ohm
at ±50 A.t Max.	54 ohm	150 ohm
at ±90 A.t Max.	54 ohm	54 ohm
Nominal Analog Output Current	25 mA	
Turns Ratio	1-2-3-4/1000	
Accuracy at +25°C[3][4]	0.5% of I_N Max.	
Supply Voltage	±15 Vdc (+5%)	
Galvanic Isolation	5 kV RMS/50 Hz/1 minute	
Zero Offset Current at + 25°C	better than ±0.15mA	
Thermal Drift of offset Current 0°C to 70°C	better than ±0.6mA	
Linearity	better than ±0.2%	
Response Time	less than 1 μs	
Bandwidth	DC to 200 kHz (-1dB)	

General Information

Operating/Storage Temperature	-40°C to + 85°C/-40°C to + 90°C
Current Consumption	10 mA plus output current
Secondary Internal Resistance (at + 70°C)	66 ohm
Primary Internal Resistance	<1.25 milliohm per turn
Weight	17 g maximum
Package	Insulated plastic case (UL94-VO)
Mounting	Designed to mount directly on PCB via hole connection pins.
Output Reference	To obtain a positive output on the terminal marked "O", current must flow from terminals 1,2,3,4 to terminals 8,7,6, and 5 (conventional flow).

Notes:

[1] = The CLS-25 offers a choice of 4 measuring ranges (refer to the mechanical dimensions on the following page)
[2] = For 2 seconds only
[3] = Excludes the effect of zero offset
[4] = Over the operating range ±50 A.t.

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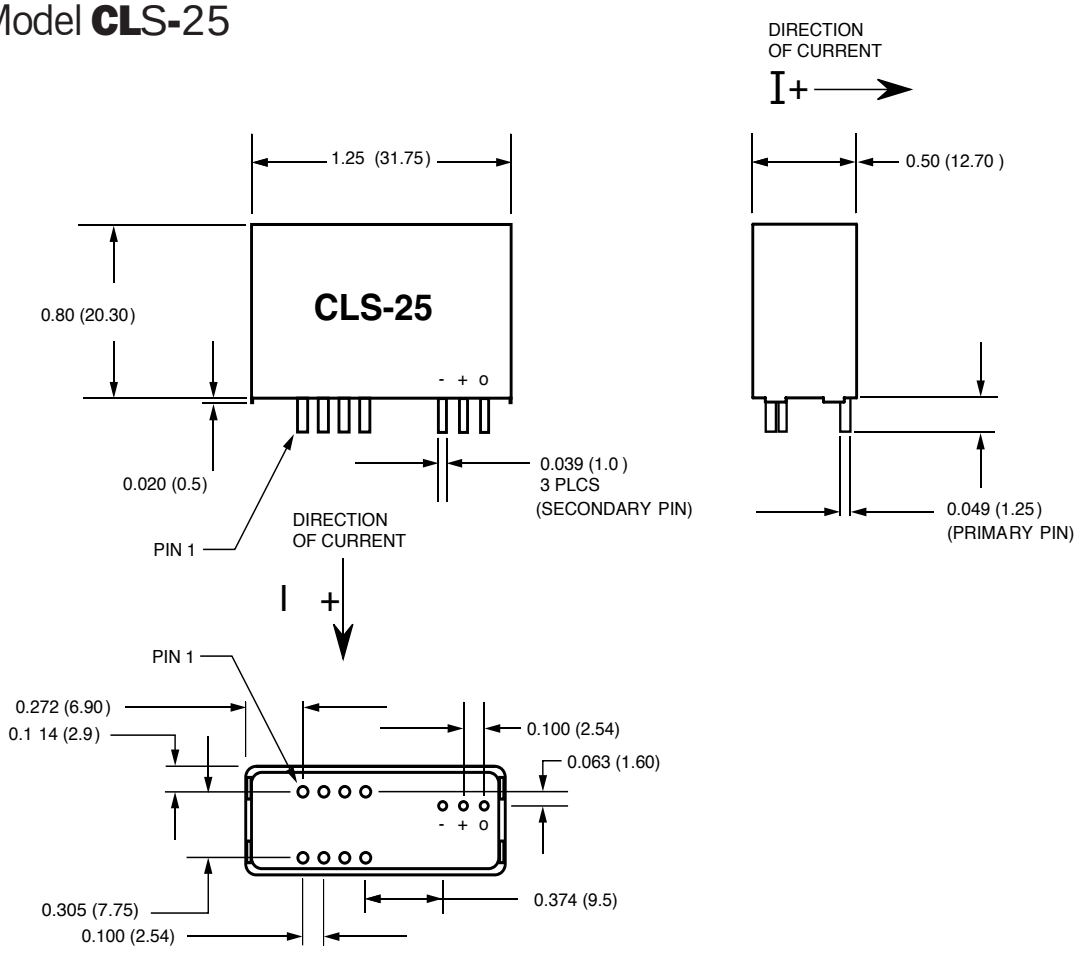
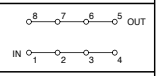
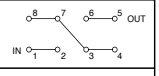
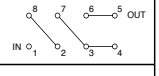
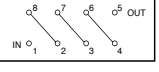
Mechanical **Dimensions**

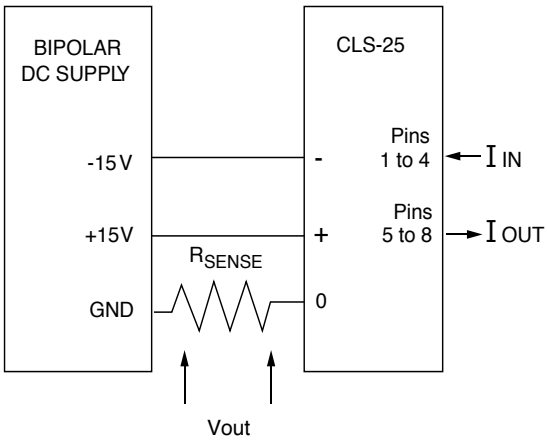
All dimensions are in inches (millimeters)

Model **CLS-**25



Primary Turns	Primary Current NOM. I_N	Primary Current MAX. I_N	Nominal Output Current (mA)	Pin Connections
1	25	44	25	
2	12	22	24	
3	8	14	24	
4	6	11	24	

Connection Schematic



Notes:
1. Mounting Holes - Primary Pins 0.057 (1.45)
2. Mounting Holes - Secondary Pins 0.047 (1.20)

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