

# Model CLSM-25M

# Closed Loop Hall Effect

## Description

The Model CLSM-25M is a closed loop Hall effect 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

- Fast Response
- Small Size, Low Cost
- High Overload Capacity
- Moistureproof, Shockproof
- Measures DC, AC and pulsed currents

## Applications

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



## Electrical Specifications

### CLSM-25M

Nominal current (I <sub>N</sub> )	±25A.t rms
Current range <sup>(2)</sup>	0 to ±50A.t (±200A.t Peak) <sup>(3)</sup>
Nominal output current (I <sub>M</sub> )	±25 mA
Turns Ratio	1-2-3-4-/1000
Measuring Resistance (R <sub>M</sub> )	refer to table 1
Overall accuracy at 25°C	±0.5 % of I <sub>N</sub> Max.
Supply voltage (V <sub>dc</sub> )	±12 to ±18
Isolation voltage	5kV/50Hz/min.

## Accuracy-Dynamic Performance

Zero current offset at 25°C	< ±0.15 mA
Offset current temperature drift <sup>(1)</sup> (between 0°C and +70°C)	< ±0.3 mA
Linearity	better than ±0.1%
Response time	less than 1µs
di / dt	better than 50A/µs
Frequency range	DC to 200KHz (-3dB)

## General Information

Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +90°C
Current consumption	10 mA + output current
Secondary Internal Resistance (at 25°C)	48Ω
Package	flame retardant plastic case, UL94V-0
Weight	17 grams
Mounting	Designed to mount directly on PCB via through hole connection pins
Output reference	To obtain a positive output on terminal M, input current must flow in the direction of the arrow (conventional flow)

## Notes:

1. Excludes zero current offset
2. The sensor offers a choice of 4 measuring ranges (refer to table 2 and mechanical dimensions)
3. With ±18V R<sub>M</sub>, <1Ω, at +25°C, for 3 seconds only.
4. Due to continuous process improvement, all specifications are subject to change without notice.

# Mechanical Dimensions

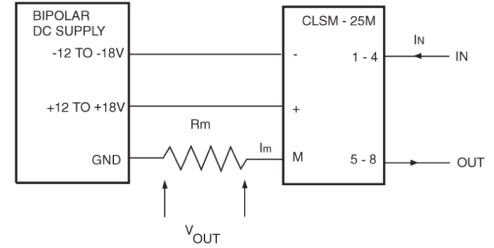
All dimensions are in inches (millimeters)

## Model CLSM-25M

**Table 1 (Rm Max)**

At max input amp turns (peak) Supply voltage	25 A.T.	50 A.T.	100 A.T.	200 A.T.
±12 V	300Ω	120Ω	30Ω	--
±15 V	420Ω	280Ω	60Ω	--
±18 V	540Ω	240Ω	90Ω	1Ω

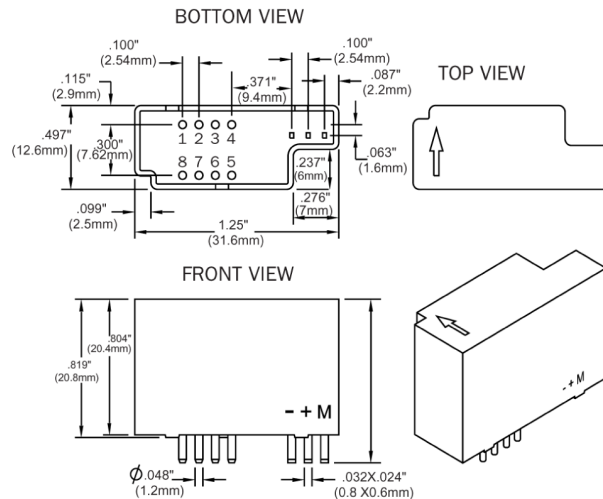
### Connection Schematic



**Table 2 Primary Turns (Input Pins) Connection**

Primary Turns	Nom. Input Current (A)	Nom. Output Current (mA)	Turns Ratio	Input Resistance (mΩ)	Input Pins Connection
1	25	25	1/1000	0.1	
2	12	24	2/1000	0.7	
3	8	24	3/1000	1.5	
4	6	24	4/1000	2.3	

### Mechanical Dimensions



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

Pacific Scientific-OECO  
 4607 SE International Way  
 Milwaukie, OR 97222  
 (503) 659-5999  
 www.oeco.com

