

Model CLSM-05MA/10MA Closed Loop Hall Effect

Description

Models CLSM-05MA and CLSM-10MA are closed loop Hall effect current/voltage sensors that accurately measure DC and AC currents/voltages and provide electrical isolation between the current/voltage carrying conductor and the output of the sensor.

Features

- Fast Response
- Small Size, Low Cost
- High Overload Capacity
- Moistureproof, Shockproof
- Low Power of Measuring Resistance
- Measures DC, AC and pulsed currents/voltages

Applications

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



Electrical Specifications

	<u>CLSM-05MA</u>	<u>CLSM-10MA</u>
Nominal current (I _N)	±5 mA rms	±10 mA rms
Current range	0 to ±10 mA rms	0 to ±20 mA rms
Voltage input limit (between V _{in} and V _{out}).....	1100 Vrms or DC Max.	
Nominal output current (I _M)	±25 mA	
Turns Ratio	5000/1000	2500/1000
Measuring Resistance (R _M)	refer to table 1	refer to table 2
Overall accuracy at 25°C	±0.8 % of I _N	
Supply voltage (V _{dc})	±12 to ±18	
Isolation voltage	5kV/50Hz/min.	
Current consumption	10 mA + output current	

Accuracy-Dynamic Performance

Zero current offset at 25°C	< ±0.15 mA
Offset current temperature drift (1)..... (between 0°C and +70°C)	< ±0.3 mA
Linearity	better than ±0.2%
Response time	less than 30μs
Primary internal input resistance	750Ω
Bandwidth.....	0 to 100 Hz (-3dB)

General Information

Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +90°C
Package	flame retardant plastic case, UL94V-0
Weight	22 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



Mechanical Dimensions

All dimensions are in inches (millimeters)

Model CLSM-05MA

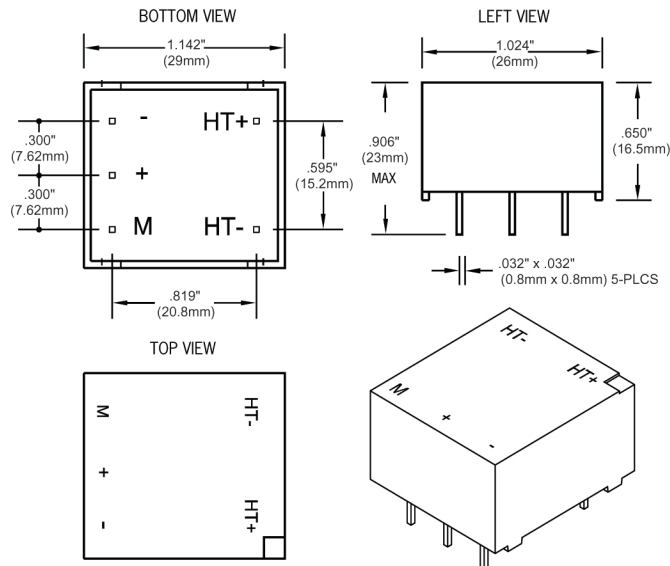
Table 1 (Rm Max)

At maximum input (peak) Supply voltage	5 mA	7.5 mA	10 mA	15 mA
±12 V	300Ω	180Ω	120Ω	60Ω
±15 V	420Ω	260Ω	180Ω	100Ω
±18 V	540Ω	360Ω	240Ω	140Ω

Model CLSM-10MA

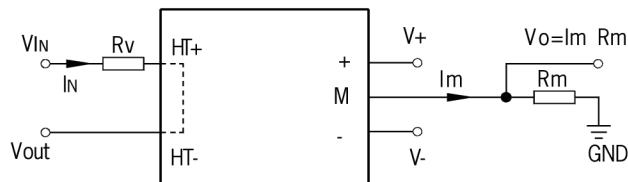
Table 2 (Rm Max)

At maximum input (peak) Supply voltage	10 mA	15 mA	20 mA	30 mA
±12 V	300Ω	180Ω	120Ω	60Ω
±15 V	420Ω	260Ω	180Ω	100Ω
±18 V	540Ω	360Ω	240Ω	140Ω



Connection Schematic

I_N is primary current (input)
 I_m is secondary current (output)
 R_m is measuring resistance



$$I_N = (V_{in} - V_{out}) / (R_v + 750)$$