

# LS-300 / LS-1000 Closed Loop Hall Effect

## Description

Models LS-300 and LS-1000 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. These models are offered in a ruggedized package suitable for harsh environments

## 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
- Heavy duty 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
- Traction sensing



## Electrical Specifications

	300 A	1000 A
Nominal current ( $I_N$ )		
Measuring range (Depends on supply voltage and burden resistor)		
±15V, 10 Ohm	375 A dc	1300 A dc
±15V, 3 Ohm	400 A dc	1500 A dc
±24V, 10 Ohm	600 A dc	2200 A dc
±24V, 3 Ohm	640 A dc	2400 A dc (<+70°C)
Nominal analog output current	100 mA	200 mA
Turns ratio	1:3000	1:5000
Supply voltage (Vdc ±10%)	±15 to ±24	±15 to ±24
Dielectric strength primary to ground	6.0kV ac	12.0kV ac
Dielectric strength secondary to ground	1.5kV ac	1.5kV ac
Creepage distance	20mm	35 mm
Burden resistance	0 to 10 Ohms	0 to 10 Ohms

## Accuracy-Dynamic Specifications

Overall accuracy, (Max.) -40°C to +85°C (includes linearity, offset & accuracy of sensitivity)	±0.6%	±0.6%
Linearity at 25°C (Max.)	±0.1%	±0.1%
Offset at 25°C (Max.)	±0.1mA	±0.1mA
Residual magnetism (Max.)	±0.3mA	±0.3mA
Offset drift, (Max.) -40°C to +85°C	±0.4mA	±0.6mA
Response time	< 1μs	< 1μs
di/dt accurately followed	> 100 A/μs	> 100 A/μs
Frequency range (-3dB)	DC to 100KHz	DC to 100KHz

## General Information

Operating temperature	-40°C to +85°C	-40°C to +85°C
Extended range operating temperature	-55°C to +85°C	-55°C to +85°C
Storage temperature	-55°C to +100°C	-55°C to +100°C
Package-Flame retardant	UL-94VO	UL-94VO5 mm dia.
Weight	0.3kg	0.9kg
Mounting	2 holes, 5.6 mm dia.	4 holes, 6.
Aperture size	24.3mm x 18.7mm	44mm diameter
Output connection (shielded)	3 cond. cable	3 cond. cable
RED: + SUPPLY VOLTAGE		
BLACK: - SUPPLY VOLTAGE		
GREEN: OUTPUT		
SHIELD: EARTH (OPTIONAL)		

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



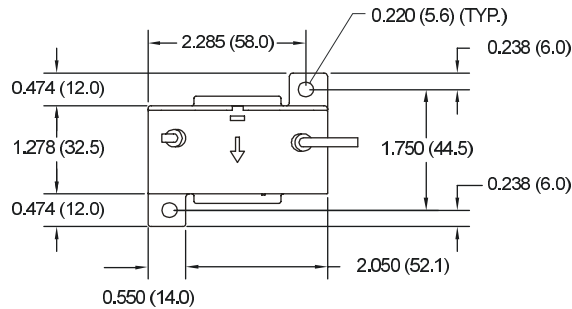
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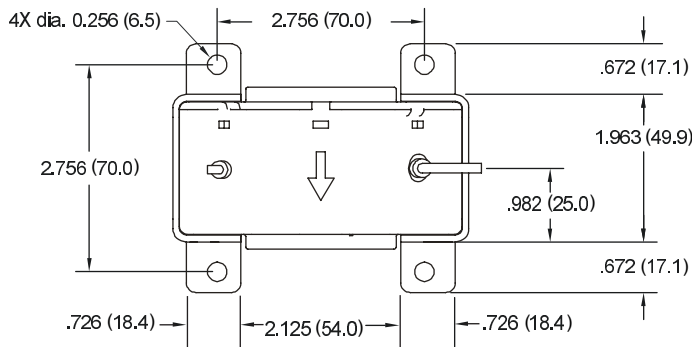
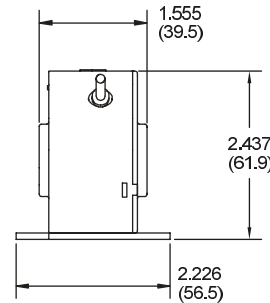
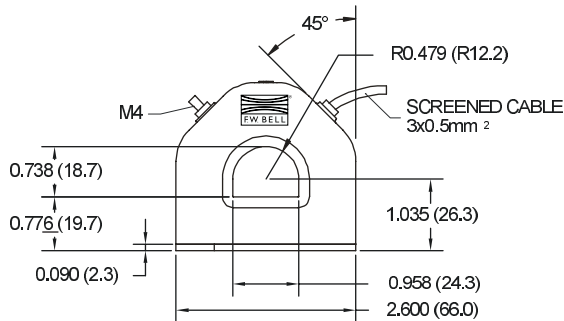
Rev. date 04/2003

# Mechanical Dimensions

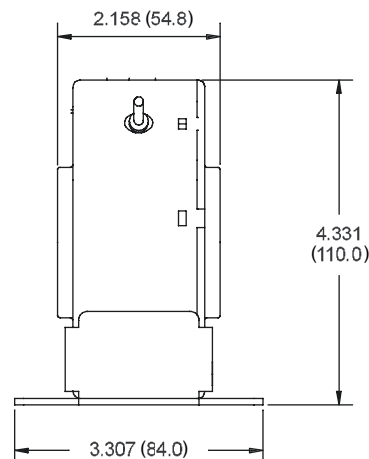
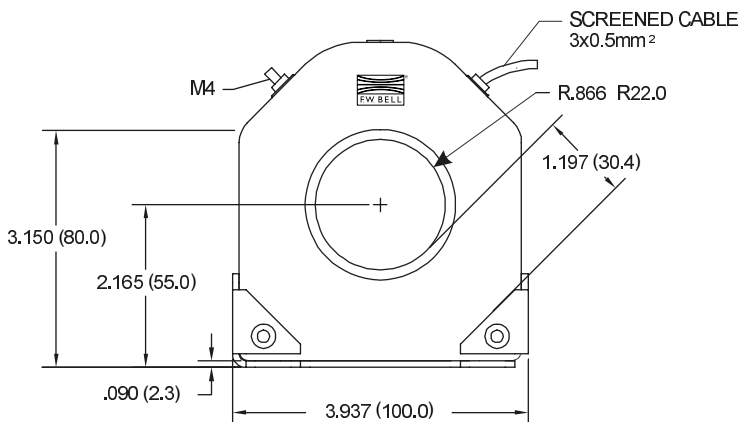
All dimensions are in inches (millimeters)



**300 A**



**1000 A**



Measurements are in inches (mm)

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Current Sensors