IA-100, 250, 500, 1000, 2000, 3000 **Open Loop Hall Effect**

Current Sensors

Description

The IA Series Hall effect current sensors accurately measure dc and ac currents and provide electrical isolation between the output of the sensor and the current carrying conductor.

Features

- High accuracy
- Wide frequency range
- Excellent linearity
- Safety isolation
- DC current measurement
- Heavy duty housing

Applications

- Motor controllers and drives
- Battery supplied equipment
- Switch mode and uninterruptable power supplies
- Welding equipment
- Traction sensing

Measuring Circuit	**Units**	**IA-100**	**IA-250**	**IA-500**	**IA-1000**	**IA-2000**	**IA-3000**
Full Scale (FS) dc or ac peak	± A	100	250	500	1000	2000	3000
Full Scale output	± V	10					
Frequency range		dc (permissible ripple content <200 A rms at 360 Hz)					
Response time (1)	µs	<150					
Excitation Circuit							
Supply voltage	± Vdc	15					
Max. positive supply current	mA	50					
Max. negative supply current	mA	10					
Output							
Sensitivity	mV/A	100	40	20	10	5	3.3
Linearity	± % FS	0.5	0.5	0.5	0.5	0.5	0.6
Calibration point (2)	± %RDG	0.5					
Typical zero current offset	± mV	10					
Maximum zero current offset	± mV	50					
Maximum hysteresis of offset (3)	± mV	200	100	50	25	15	15
Minimum load resistance	k ohms	≥2					
Influences On Accuracy							
Typical offset drift with temp	± mV/°C	1					
Max. offset drift with temp	± mV/°C	2					
Excitation change of ± 1%							
Max. sensitivity change	± %	0.03					
Typical sensitivity drift with temp	± %/°C	0.015					
Max. sensitivity drift with temp	± %/°C	0.02					
Withstand Capabilities							
Dielectric test (4)	kV	2.5					
Output short or open		No Damage					
General Information							
Operating temperature range	°C	-30 to +75					
Storage temperature range	°C	-40 to +85					
Package		rugged metal case					
Aperture opening	in. (mm)	1.67 (42.4)					
Weight	Lbs.(grams)	5 Lbs. 10 oz. (2.6 kg)					
Mounting		Five mounting holes 0.281 inch (7.1 mm) diameter on steel base plate					
Output reference		To obtain a positive output on the terminal marked "+Vo", positive conventional current must flow as per the direction of the arrow marked on the sensor.					

SYPRIS TEST & MEASUREMENT
6120 Hanging Moss Road • Orlando, Florida 32807 • **www.fwbell.com**
Phone (407) 678-6900 • Fax (407) 677-5765 • Toll Free (800) 778-6117

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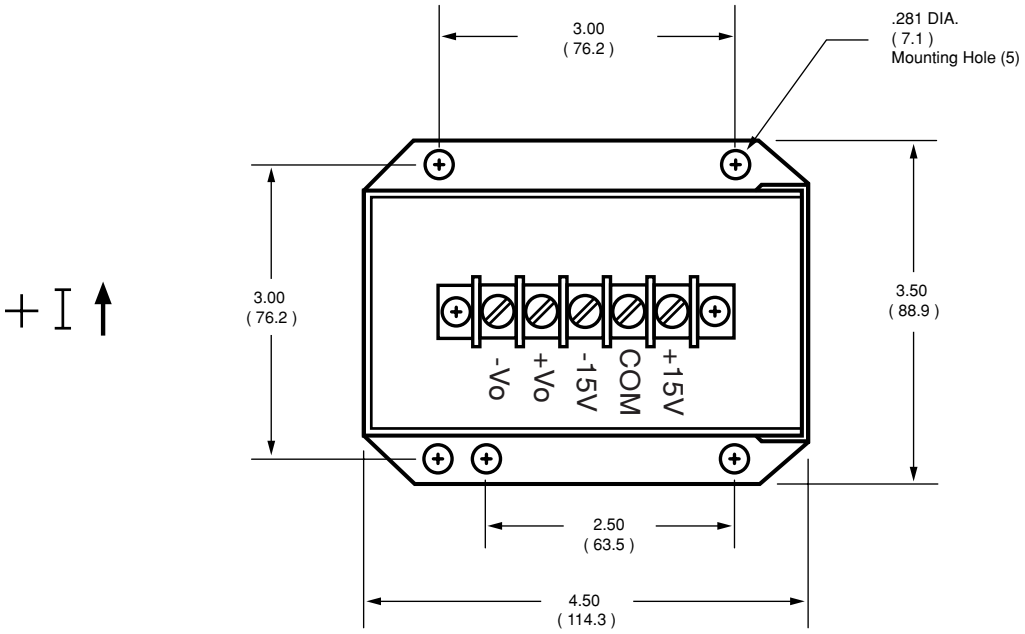
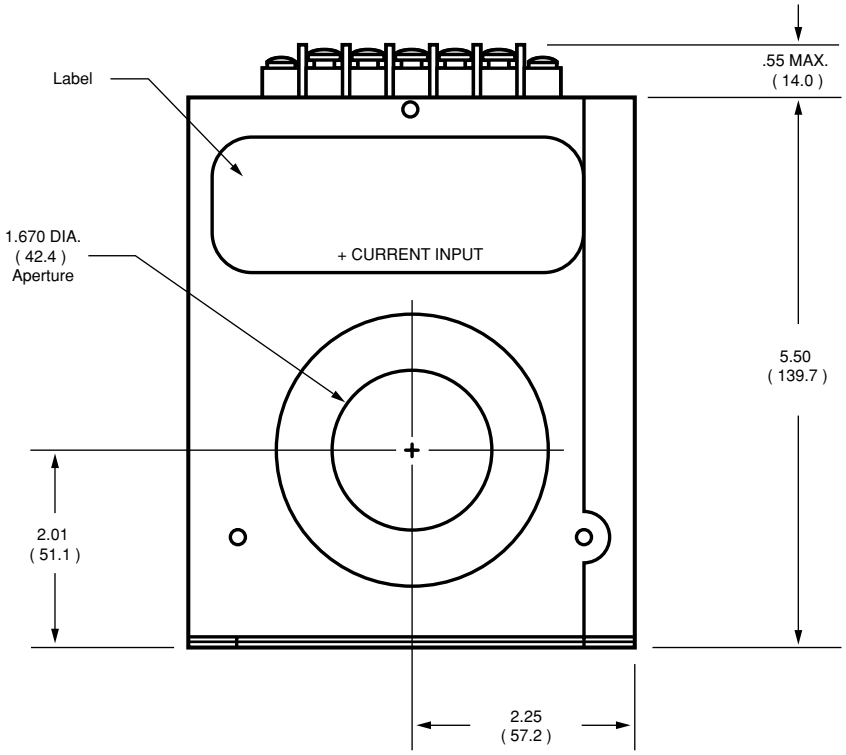
Mechanical **Dimensions**

All dimensions are in inches (millimeters)

Model **IA - 100, 250, 500, 1000, 2000, and 3000**





Notes:

1. Response time is affected by the output leads and the conductor in the aperture, the proximity of the return conductor and ferrous metals. It is best to test the sensor in the actual environment to obtain representative performance.
2. The sensors are calibrated at 80% of Full Scale.
3. Hysteresis specifications given for Full Scale aperture current remnant.
4. The dielectric test consists of 2.5 kVac at 60 Hz for one minute between a bare 1.5 inch diameter conductor (located concentrically through the aperture) and the output of the sensor.
5. Due to continuous process improvement, all specifications are subject to change without notice.

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