

Model IHA-25/IHA-100

Open Loop Hall Effect

Description

The IHA 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
- Rack and bulkhead
- Light duty plastic housing

Applications

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



Current Sensors

Measuring Circuit

	Units	IHA-25	IHA-100
Full Scale (FS) DC or AC peak	$\pm$ A	25	100
Full Scale output	$\pm$ V	1	5
AC bandwidth ($\pm 1\%$ of reading) (1)	kHz		50
Response time (2)	μ s		<1
Slew rate	A/ μ s		>150

Excitation Circuit

Supply voltage	$\pm$ Vdc	12 to 17
Maximum supply current, positive supply (at 15V)	mA	10
Maximum supply current, negative supply (at 15V)	mA	5

Output

Sensitivity	mV/A	40	50
Linearity	$\pm$ %FS		<1
Calibration point (3)	$\pm$ %RDG		0.5
Typical zero current offset	$\pm$ mV		10
Maximum zero current offset	$\pm$ mV		20
Maximum hysteresis of offset (4)	$\pm$ mV	7	35
Minimum load resistance	kohms		>10

Influences On Accuracy

Typical offset drift with temperature	$\pm$ mV/ $^{\circ}$ C	1
Maximum offset drift with temperature	$\pm$ mV/ $^{\circ}$ C	2
Excitation change of $\pm 1\%$ - Max. sensitivity change	$\pm$ %	0.005
Typical sensitivity drift with temperature	$\pm$ %/ $^{\circ}$ C	0.010
Maximum sensitivity drift with temperature	$\pm$ %/ $^{\circ}$ C	0.015

Withstand Capabilities

Dielectric test (5)	kV	6
Output short or open		No Damage

General Information

Operating temperature range	$^{\circ}$ C	0 to +75
Storage temperature range	$^{\circ}$ C	-25 to +85
Package		flame retardant plastic case
Aperture opening	inches (mm)	0.38 (9.65)
Weight	grams	25.9
Mounting		Mounting tabs accept No. 6 screws. Can be mounted on PCB or panel via use of appropriate connector.

Output reference

To obtain a positive output on pin marked "Vo", positive conventional current must flow as per the direction of arrow marked on sensor.



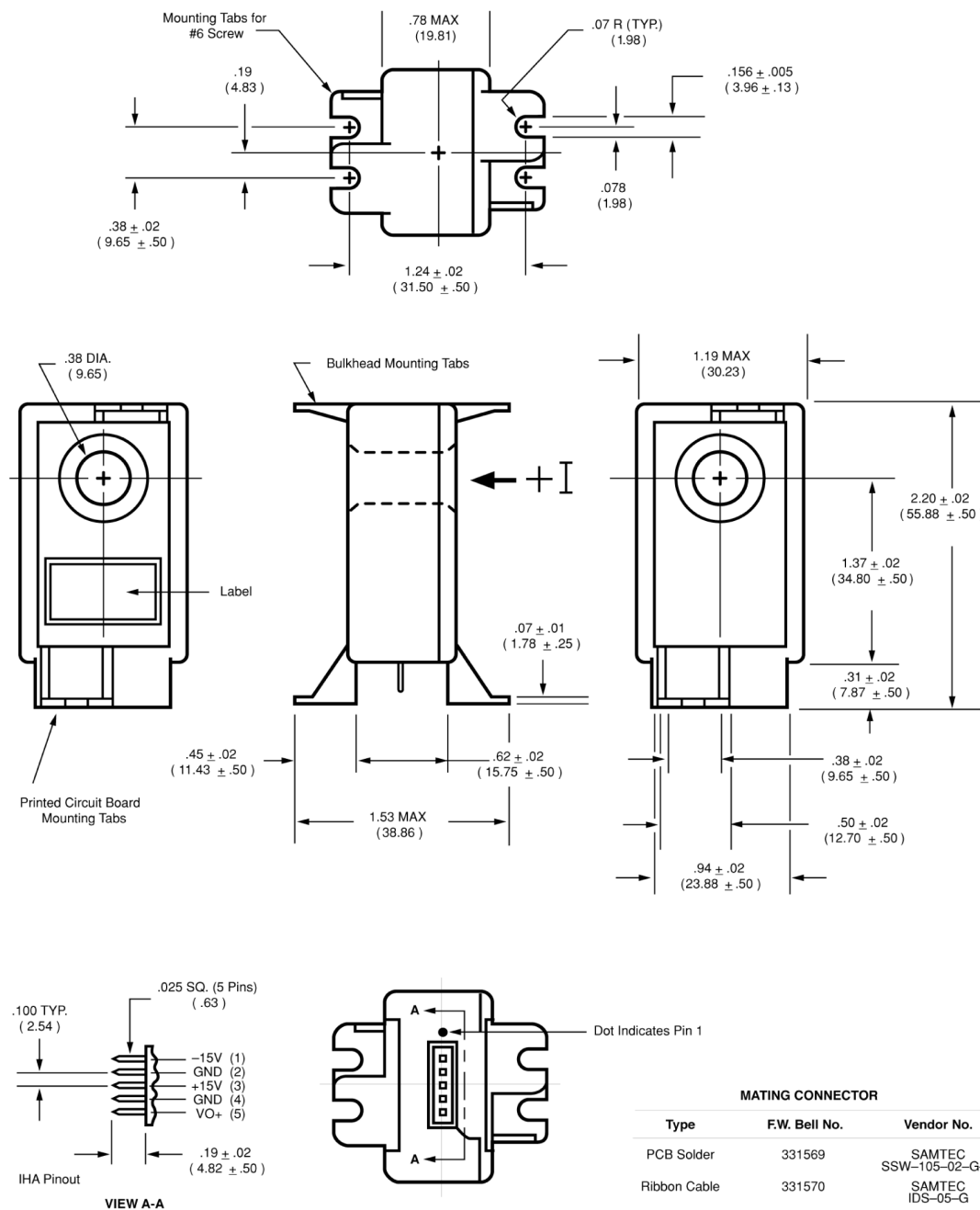
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Mechanical Dimensions

All dimensions are in inches (millimeters)

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Notes:

1. Consult F.W. Bell if the product of the aperture current and frequency exceeds 1000 ampere-kilohertz.
2. Response time is effected 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.
3. The sensors are calibrated at 80% of Full Scale.
4. Hysteresis specifications given for Full Scale aperture current remnant.
5. The dielectric test consists of 6 kVac at 60 Hz for one minute between a bare 0.375 inch diameter conductor (located concentrically through the aperture) and the output of the sensor.
6. Due to continuous process improvement, all specifications are subject to change without notice.



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