

# Model IHA-25/IHA-100

# Open Loop Hall Effect

# Current Sensors

## 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

## Measuring Circuit

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

## Excitation Circuit

Supply voltage .....	± 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 .....	± %FS		<1
Calibration point (3) .....	± %RDG		0.5
Typical zero current offset .....	± mV		10
Maximum zero current offset .....	± mV		20
Maximum hysteresis of offset (4) .....	± mV	7	35
Minimum load resistance .....	kohms		>10

## Influences On Accuracy

Typical offset drift with temperature .....	± mV/°C	1
Maximum offset drift with temperature .....	± mV/°C	2
Excitation change of ±1% - Max. sensitivity change.....	± %	0.005
Typical sensitivity drift with temperature .....	± %/°C	0.010
Maximum sensitivity drift with temperature .....	± %/°C	0.015

## Withstand Capabilities

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

## General Information

Operating temperature range .....	°C	0 to +75
Storage temperature range .....	°C	-25 to +85
Package .....		flame retardant plastic case
Aperture opening .....	inches (mm)	0.38 (9.65)
Weight .....	grams	25.9

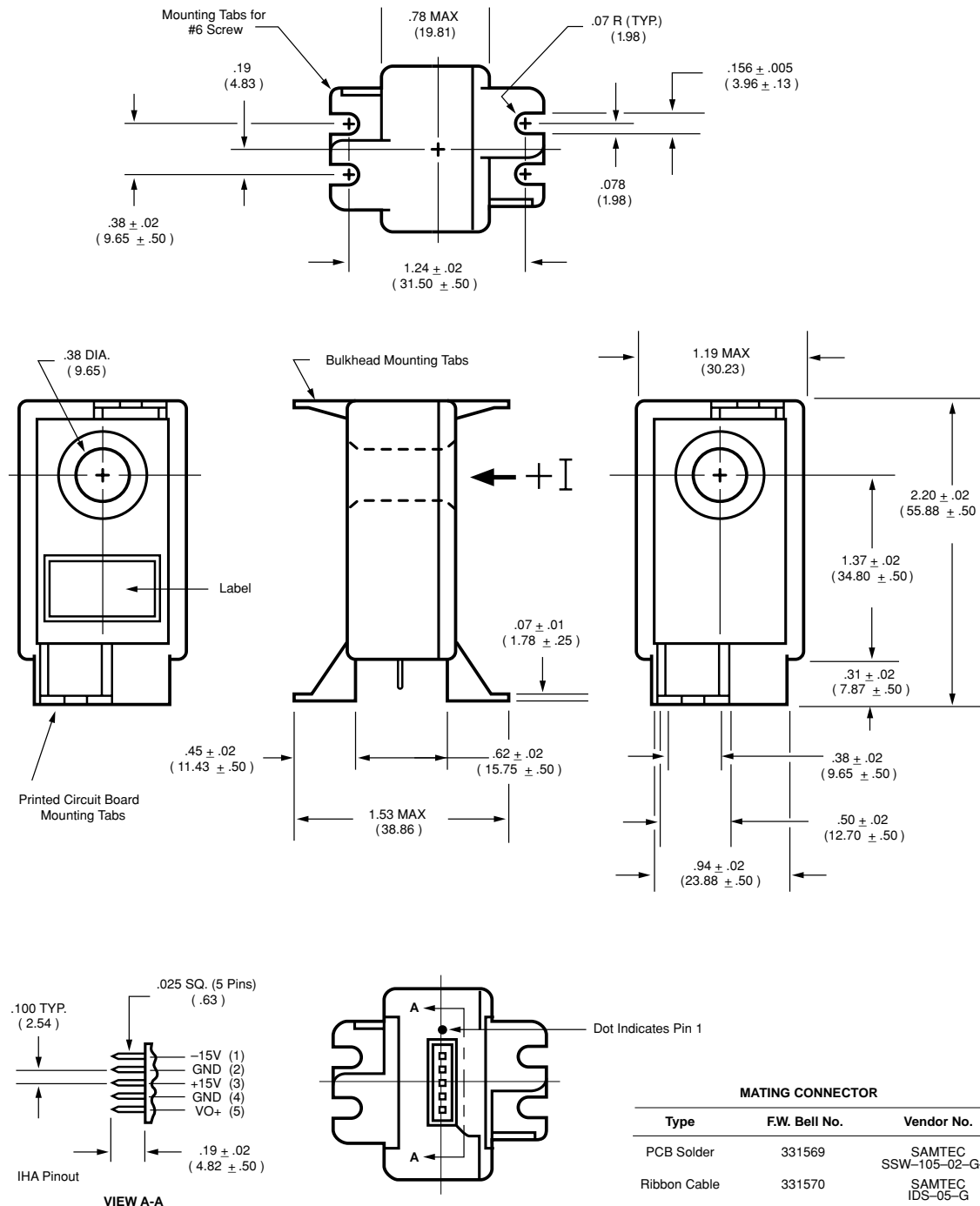
Mounting tabs accept No. 6 screws. Can be mounted on PCB or panel via use of appropriate connector. To obtain a positive output on pin marked "Vo", positive conventional current must flow as per the direction of arrow marked on sensor.



# 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 kV ac 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.

