

## PCB Mounted, Open Loop, Hall Effect Current Sensor

The **HOS-AB** Series of PCB mounted, open loop, Hall Effect current sensors are designed for application requiring the measurement of DC current and current pulses.

The HOS-AB open loop, Hall Effect current sensor design is based upon the principle that a magnetic field applied perpendicular to an electric current will create a proportional Hall voltage perpendicular to the two fields. The technology allows;

- Contactless, non-intrusive current sensing and
- Current sensing of DC current, current pulses and AC electric current.

The Hall Effect technology features high accuracy, high primary to secondary electrical isolation and extended frequency detection bandwidth.



### Features:

- Rated Primary: 50A, 100A, 200A, or 300A.
- Output:  $\pm 4$  V at rated current input.

### Specifications:

- Frequency: 0 to 20kHz.
- Dielectric withstand voltage between Primary and Secondary: 2,500V RMS @ 50HZ for 1 minute.
- Load resistance:  $> 10$  kOhms .
- Operating Temperature:  $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Storage Temperature:  $-15^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ .
- Supply Voltage:  $\pm 12\text{V} \dots 15\text{V}$  ( $\pm 5\%$ ).
- Supply Consumption: 25mA.

- Construction:
  - Epoxy encapsulated housing.
  - Case material – Nylon, UL flame retardant rating 94 V-0.
- RoHS compliant.



### Performance:

- Accuracy:  $\pm 1\%$  of  $I_{\text{nominal}}$
- Linearity:  $\leq 1\%$
- Response Time:  $\leq 10\mu\text{Second}$
- Offset Voltage (@  $+25^{\circ}\text{C}$ ):  $\pm 30\text{mV}$  maximum for primary current  $I_n = 0$ .
- Temperature Drift:  $\pm 1\text{mV}/^{\circ}\text{C}$  maximum ( $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ )

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### Configuration Options:

Model	Rated Current (RMS)	Measurement Range
HOS-50AB	50A	0 to $\pm$ 75A
HOS-100AB	100A	0 to $\pm$ 150A
HOS-200AB	200A	0 to $\pm$ 300A
HOS-300AB	300A	0 to $\pm$ 450A

### Typical Performance – HOS-\_\_AB:

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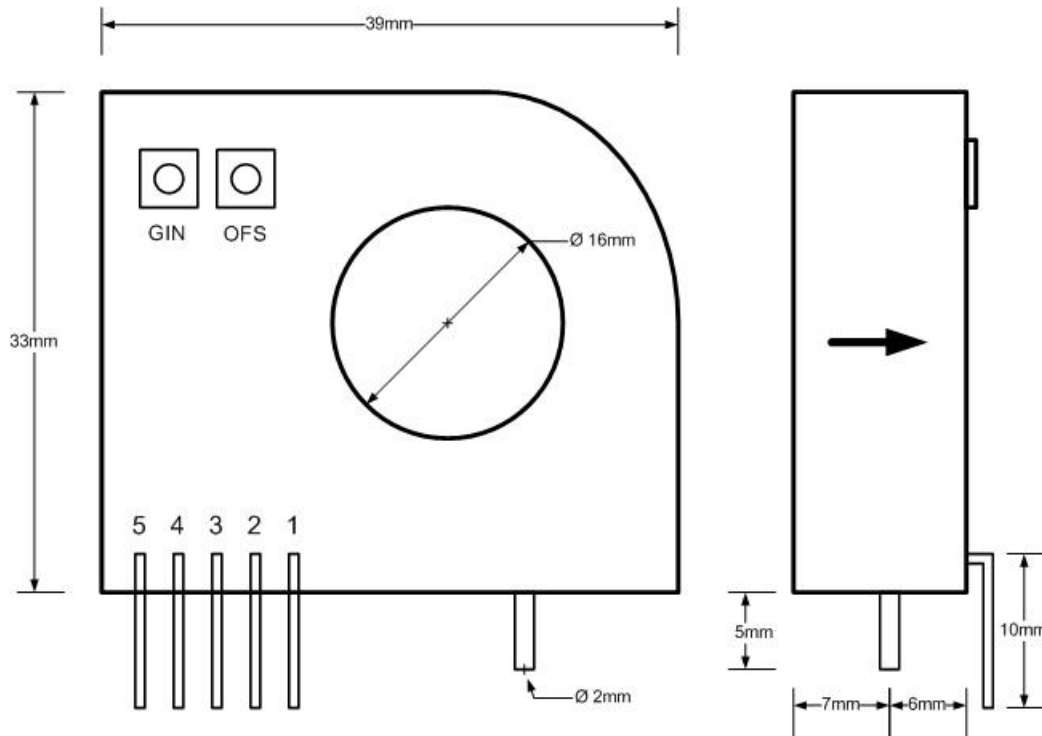
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**Outline Drawing:**



**CONNECTION DEFINITIONS:**

- **Pin #1:** Power supply input - +15VDC
- **Pin #2:** Power supply input - -15VDC
- **Pin #3:** Secondary signal out
- **Pin #4:** Secondary signal ground/ return
- **Pin #5:** No connection

**NOTE:**

1. Secondary output is positive when direction of primary flow is in the direction of the arrow.
2. **OFS:** Offset adjustment
3. **GIN:** Gain adjustment

**Custom Hall Effect current sensor designs** are available to meet the specific application requirements. For a no obligation technical evaluation, please provide the specific performance requirements to [engineering@tichenassociates.com](mailto:engineering@tichenassociates.com) or the address below.

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