

# Model RS-A and RSS-A Open Loop Hall Effect

## Description

The RS/RSS-A Series is a current sensor that accurately measures AC and DC currents and provides electrical isolation between the circuit being measured and the output of the sensor.

One package provides nominal current measurements from 100 to 1000 amps and has the versatility to be panel or bulkhead mounted.



Current Sensors

## Features

- High accuracy
- Wide frequency range
- Excellent linearity
- Safety isolation
- Heavy duty industrial housing
- Panel or bulkhead mounting
- Single or dual supply voltage option

## Applications

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

## Specifications

| Electrical Data       | Nominal Range | Measurement Range | Output (mV/A) |       |
|-----------------------|---------------|-------------------|---------------|-------|
|                       |               |                   | RS            | RSS   |
| RS/RSS - 1000-A ..... | 1000 Amps     | ±1000 Amps        | 4.00          | 1.60  |
| RS/RSS - 600-A .....  | 600 Amps      | ±1000 Amps        | 6.67          | 2.67  |
| RS/RSS - 500-A .....  | 500 Amps      | ±1000 Amps        | 8.00          | 3.20  |
| RS/RSS - 400-A .....  | 400 Amps      | ±1000 Amps        | 10.00         | 4.00  |
| RS/RSS - 300-A .....  | 300 Amps      | ±750 Amps         | 13.33         | 5.33  |
| RS/RSS - 200-A .....  | 200 Amps      | ±500 Amps         | 20.00         | 8.00  |
| RS/RSS - 100-A .....  | 100 Amps      | ±250 Amps         | 40.00         | 16.00 |

|                                            |                                                                                              |
|--------------------------------------------|----------------------------------------------------------------------------------------------|
| Overload Capacity .....                    | 25,000 Amp Turns                                                                             |
| Linearity .....                            | 0.75% of Nominal                                                                             |
| RS-A Supply Voltage .....                  | ±12 to ±18 VDC                                                                               |
| RSS-A Supply Voltage .....                 | +12 to +18 VDC                                                                               |
| Isolation Between Primary and Output ..... | 3KV RMS 50Hz for 1 minute                                                                    |
| RS-A Zero Offset (at +25°C) .....          | 0.000 V ±10mV max                                                                            |
| RSS-A Zero Offset (at +25°C) .....         | 6.000 V ±10mV max                                                                            |
| Zero Offset Drift .....                    | ±1.0mV/°C max                                                                                |
| Gain Variation .....                       | ±0.05%/°C                                                                                    |
| Response Time .....                        | <3µs                                                                                         |
| di/dt Accurately Followed .....            | >50 A/µs                                                                                     |
| Frequency Range .....                      | DC to 25 kHz, Core eddy current heating is produced when (RMS current x frequency) > 400,000 |

## General Information

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Operating Temperature .....          | -40°C to +85°C                     |
| Extended Operating Temperature ..... | -40°C to +105°C                    |
| Storage Temperature .....            | -55°C to +125°C                    |
| Current Consumption .....            | 30 mA max                          |
| Output Burden .....                  | 10 mA max                          |
| Enclosure .....                      | UL94-VO Self Extinguishing Plastic |
| Insulation Resistance .....          | 500M Ohm min at 500V DC            |
| Weight .....                         | 240g nominal                       |

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



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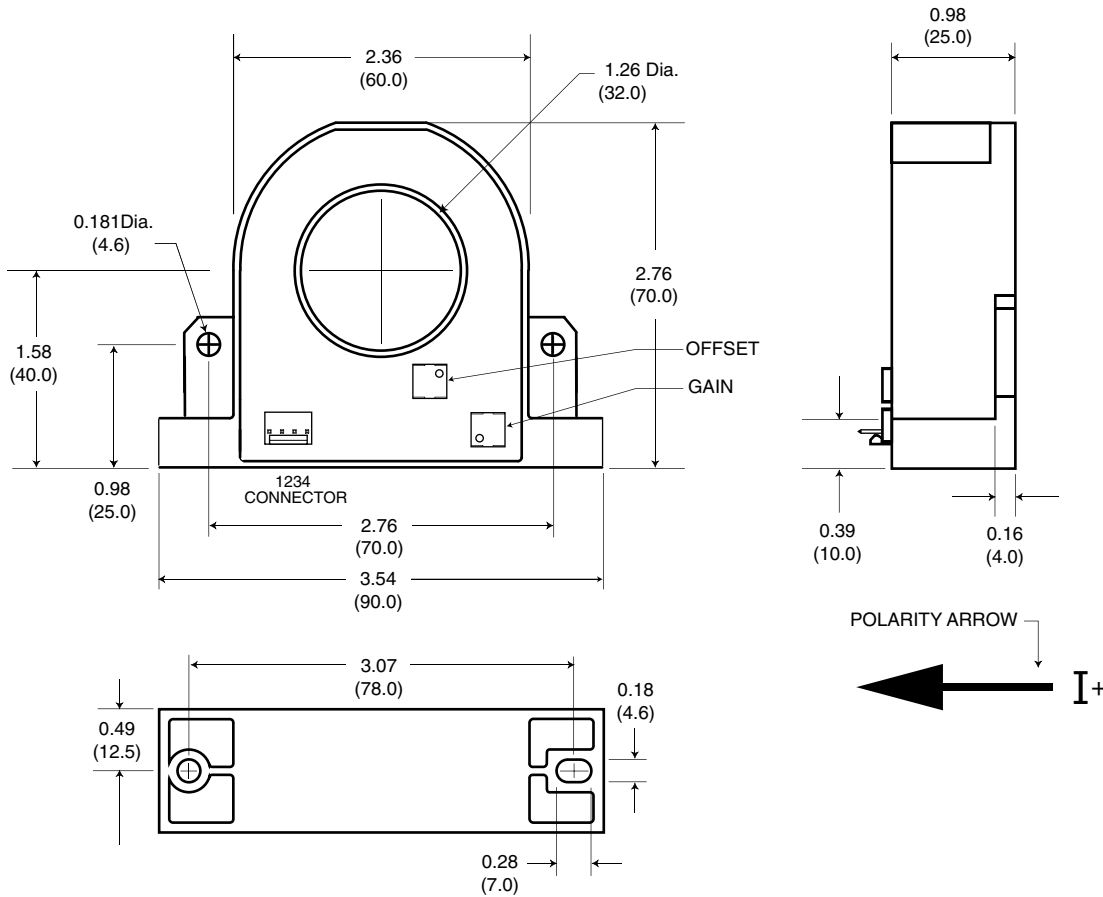


Rev. date 02/2004

## Mechanical Dimensions

All dimensions are in inches (millimeters)

### Models **RS-A** and **RSS-A**



Mating Connector: Molex: Terminal 08-50-0114 (4 pieces), Connector 22-01-2047 (1 piece)

Connection Chart

| PIN | RS signals    | RSS signals   |
|-----|---------------|---------------|
| 1   | +12 to +18Vdc | +12 to +18Vdc |
| 2   | -12 to -18Vdc | +6Vdc REF.    |
| 3   | Output        | Output        |
| 4   | Ground        | Ground        |

**Note:** 1. Tolerance is  $\pm 0.01"$  ( $\pm 0.25$  mm)

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