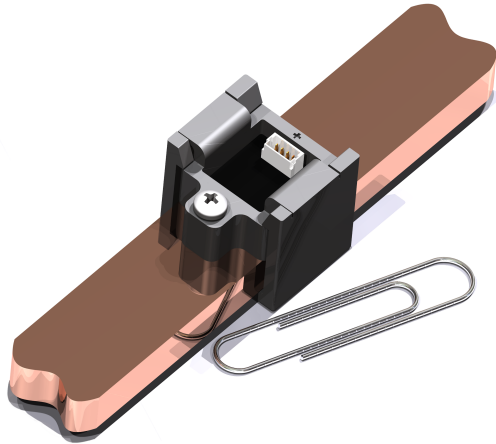


ISB Series Current Sense Transducers

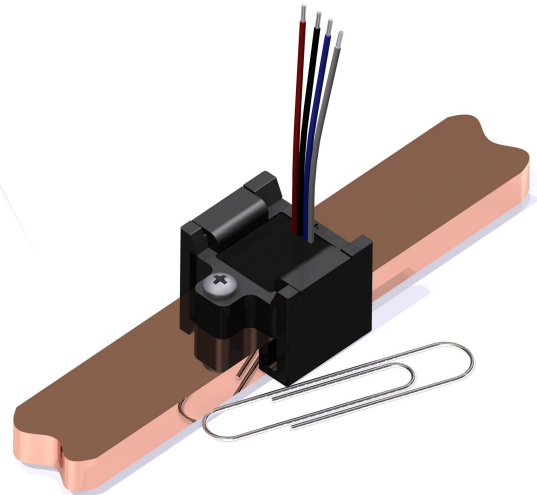
For the electronic measurement of AC and DC Signals



Connector Version



Lead Wire Version



| Version Matrix | Response Time | Bandwidth | Supplementary Output | I/O Terminals |
|----------------|---------------|-----------|----------------------|---------------|
| ISB-XXX-A-800 | 3 μ S | 200kHz | Reference | Connector |
| ISB-XXX-A-802 | 3 μ S | 200kHz | Reference | Lead Wires |

Measurable Current Ranges

Part Number Table

ISB-100-A-YZZ

ISB-175-A-YZZ

ISB-300-A-YZZ

ISB-425-A-YZZ

Extended Range

ISB-550-A-YZZ

ISB-670-A-YZZ

I_P

+/- 100

+/- 175

+/- 300

+/- 425

I_{PE}

+/- 550

+/- 670

Output Slope

20.000 mV/A

11.429 mV/A

6.667 mV/A

4.706 mV/A

3.636 mV/A

2.985 mV/A

ISB Analog Family Features

- ◆ Fast Response Time
- ◆ Wideband DC to 200 kHz
- ◆ Customizable Current Range
- ◆ Secondary Reference Output
- ◆ Easy Busbar Mounting
- ◆ Analog Output
- ◆ Factory Programmable
- ◆ Small Package Size

Applications

- ◆ DC/AC Converters
- ◆ DC/DC Converters
- ◆ Battery Management
- ◆ AC and DC Motor Drives
- ◆ Welding Applications
- ◆ Solar Applications

Electrical Specifications

| | |
|-----------------------------|----------------------|
| I_P | Linear Range |
| I_{PE} | Extended Range |
| Supply Voltage (V_{dd}) | 5V(+/- 0.5V)@12mA |
| Secondary Output Voltage | Ratiometric to Input |
| Output at +Ip | 90% of V_{dd} |
| Output at -Ip | 10% of V_{dd} |
| Output at 0A | 50% of V_{dd} |
| Max. Clamped Output, High | 98% of V_{dd} |
| Max. Clamped Output, Low | 10% of V_{dd} |
| Output Current | +/- 2 mA |
| Response Time | 3 μ S |

Absolute Maximums

| | |
|----------------------------------|--------------|
| Overvoltage V_{DD} Protection. | +10 V / +20V |
| Reverse V_{DD} Protection | -10 V |
| Output Voltage Max. | +10 V |
| Reverse V_{OUT} Max. | -0.3 V |
| Reverse I_{OUT} Max. | -50 mA |
| Output Current Max. | +/- 70 mA |

For -800 Version (Connector)

Creepage Distance: 8.5 mm
 Clearance Distance: 8.5 mm
 Ambient Operating Temp: -40°C to +85 °C
 Ambient Storage Temp: -40°C to +90 °C

Required Mating Connector

JST #SHR-04V-S-B
 JST #SSH-003T-P0.2 (Contact) x4

Connector Information (-800)

Pin 1 - V_{DD} (Supply)
 Pin 2 - Reference Output
 Pin 3 - Output
 Pin 4 - V_{SS} (Ground)

NOTES

- ◆ All specifications at 25°C and assumes 5V_{DD}.
- ◆ Specifications dependent on mechanical attachment.
- ◆ Specs are % full scale.
- ◆ We recommend mounting the sensors with non-magnetic screws (e.g. stainless steel, brass, bronze, copper and aluminum) for maximum accuracy.

Accuracy

| | |
|------------------------------|---------------------|
| Accuracy (I_P)*** | <= 0.6 % |
| Accuracy (I_{PE}) | <= 2.5 % |
| Linearity Error | <= 0.1 % |
| Linearity Error (I_{PE}) | <= 1.0% |
| DC Offset Accuracy | <= 10 mV; <= 0.25 % |
| DC Offset Hysteresis | <= 10 mV; <= 0.25 % |
| DC Offset Thermal Drift | <= 0.1 mV/°C |

General Data

| | |
|-----------------------------|---------|
| V_{RMS} for AC Insulation | 4.3 kV |
| Safety Standard | EN50178 |
| EMC Standard | EN61000 |
| CTI | 600 V |

For -802 Version (Lead Wire)

Creepage Distance: >140mm
 Clearance Distance: >140 mm
 Ambient Operating Temp: -40°C to +105 °C
 Ambient Storage Temp: -40°C to +105 °C

Lead Wire Type

22 AWG; Stranded; UL3239; 3kV Rated

Wiring Information (-802)

Wire 1 (Red) - V_{DD} (Supply)
 Wire 2 (Black) - Output
 Wire 3 (Blue) - Reference Output
 Wire 4 (White) - V_{SS} (Ground)

Analog Output Notes

- ◆ For pull down, resistor is between output and ground.
- ◆ For pull up, resistor is between output and supply