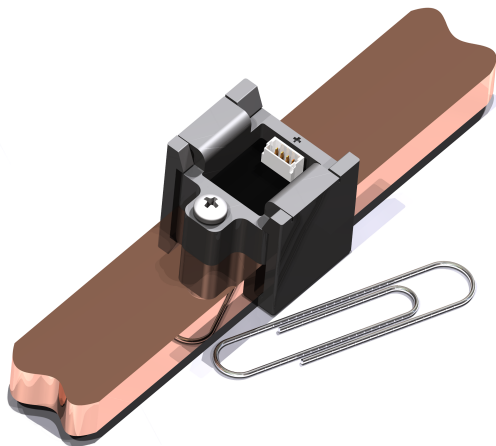


## ISB Series Current Sense Transducers

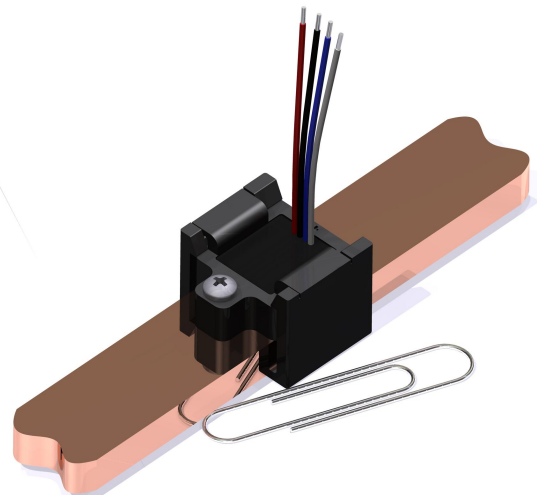
For the electronic measurement of AC and DC Signals



Connector Version



Lead Wire Version



Version Matrix	Response Time	Bandwidth	Supplementary Output	I/O Terminals
ISB-XXX-A-800	3 $\mu$ S	200kHz	Reference	Connector
ISB-XXX-A-802	3 $\mu$ 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 $\mu$ 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<sub>DD</sub>.
- ◆ 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)

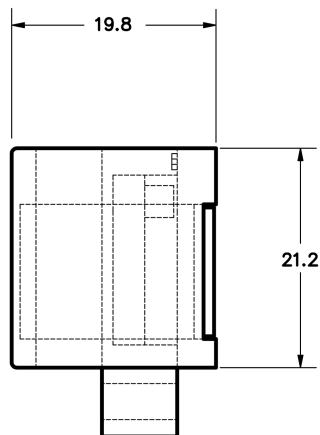
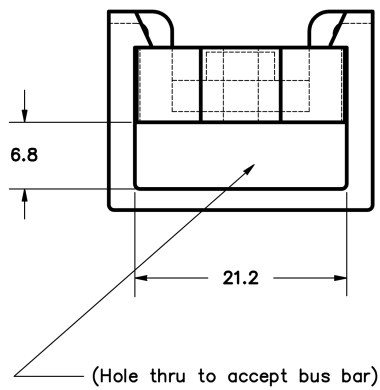
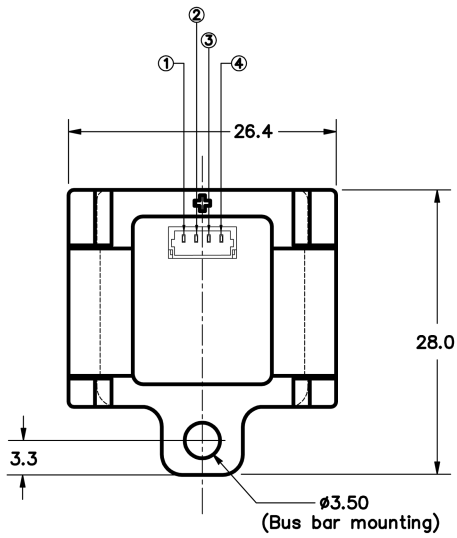
Wire 1 (Red) -  $V_{DD}$  (Supply)  
 Wire 2 (Black) - Output  
 Wire 3 (Blue) - Reference Output  
 Wire 4 (White) -  $V_{SS}$  (Ground)

### Analog Output Notes

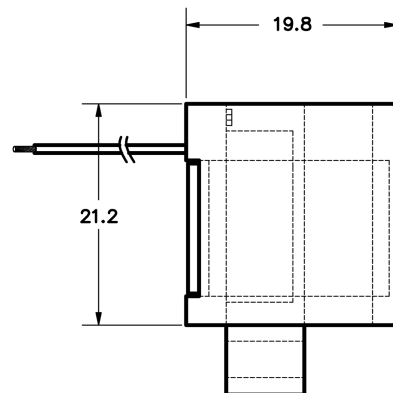
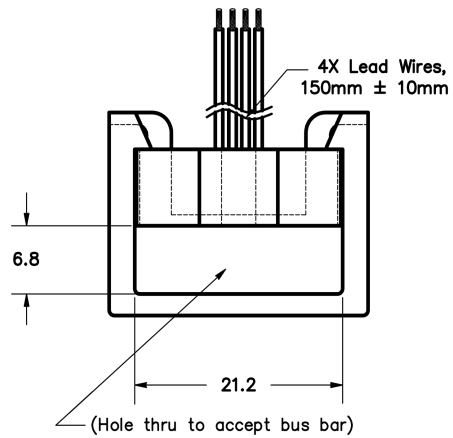
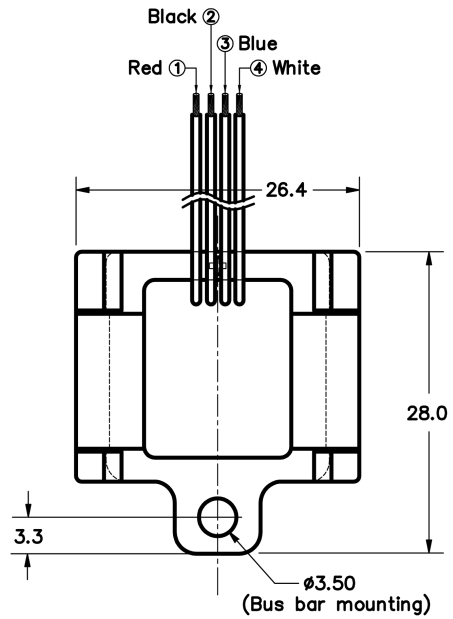
- ◆ For pull down, resistor is between output and ground.
- ◆ For pull up, resistor is between output and supply

**Mechanical Drawing** (Dimensions: in mm, 1mm = 0.0394 inch)

**Connector Version**



**Lead Wire Version**



# Mouser Electronics

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## ICE Components:

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