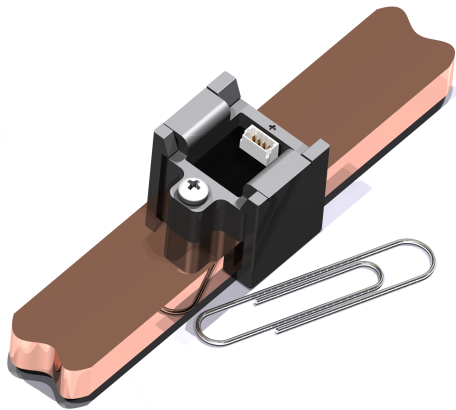


ISB Series Current Sense Transducers

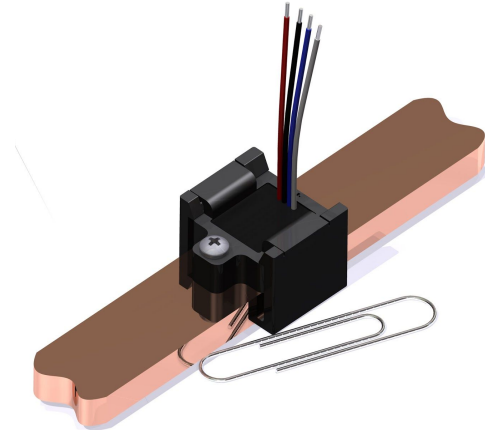
For the electronic measurement of AC and DC Signals



Connector Version



Lead Wire Version



Version Matrix	Response Time	Bandwidth	Supplementary Output	I/O Terminals
ISB-XXX-A-600	8 μ S	90kHz	Temperature	Connector
ISB-XXX-A-601	8 μ S	90kHz	Reference	Connector
ISB-XXX-A-604	8 μ S	90kHz	Temperature	Lead Wires
ISB-XXX-A-606	8 μ S	90kHz	Reference	Lead Wires
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	I_p	Output Slope*
ISB-100-A-YZZ	+/- 100	20.000 mV/A
ISB-175-A-YZZ	+/- 175	11.429 mV/A
ISB-300-A-YZZ	+/- 300	6.667 mV/A
ISB-425-A-YZZ	+/- 425	4.706 mV/A
Extended Range	I_{PE}	
ISB-550-A-YZZ	+/- 550	3.636 mV/A
ISB-670-A-YZZ	+/- 670	2.985 mV/A

ISB Analog Family Features

- ◆ Fast Response Time
- ◆ Wideband DC to 90kHz/200 kHz
- ◆ Customizable Current Range
- ◆ Temp. Output for Compensation
-600 and -604 models
- ◆ 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}
Clamped Output High	90% of V_{DD}
Clamped Output Low	10% of V_{DD}
Output Current	+/- 2 mA
Response Time	3 μ S / 8 μ S

Absolute Maximums

Overvoltage V_{DD} Protection.	+20 V or +10V
Reverse V_{DD} Protection	-10 V
Output Voltage Max.	+10 V
Reverse Vout Max.	-0.3 V
Reverse Iout Max.	-50 mA
Output Current Max.	
◆ For 600/ 601/ 604/ 606	+/- 300 mA
◆ For 800/ 802	+/- 70 mA

For 600, 601 and 800 Versions

Creepage Distance: 8.5 mm
Clearance Distance: 8.5 mm

Required Mating Connector

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

Connector Information*

Pin 1 - V_{DD} (Supply)
Pin 2 - Output
Pin 3 - Temp. or Ref. Output
Pin 4 - V_{SS} (Ground)

Notes

- * All specifications at 25°C and assumes 5V_{DD}.
- * Specifications dependent on mechanical attachment.
- * Specifications are % full scale.
- * Output slope is dependent on V_{DD} .
- ** 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

Temperature Output (for 600 and 604 versions)

Offset	1.38V @ 35°C
Accuracy (Full range)	+/- 5°C
Slope	13.5mV/°C
I_{OUT}	+/- 0.1 mA

General Data

Ambient Operating Temp.	-40 to +85 °C
Ambient Storage Temp.	-40 to +90 °C
V_{RMS} for AC Insulation	4.3 kV
Safety Standard	EN50178
EMC Standard	EN61000
CTI	600 V

For 604, 606 and 802 Versions

Creepage Distance: >140mm
Clearance Distance: >140 mm

Lead Wire Type

22 AWG; Stranded; UL3239; 3kV Rated

Connection Information

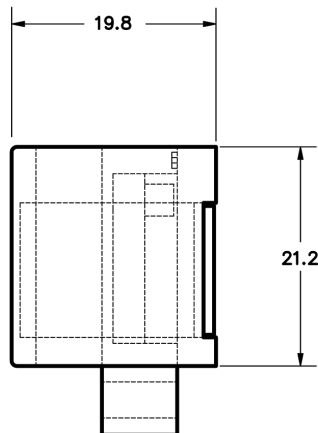
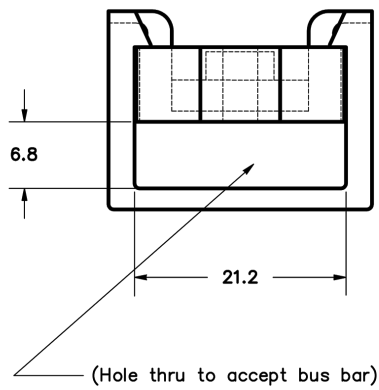
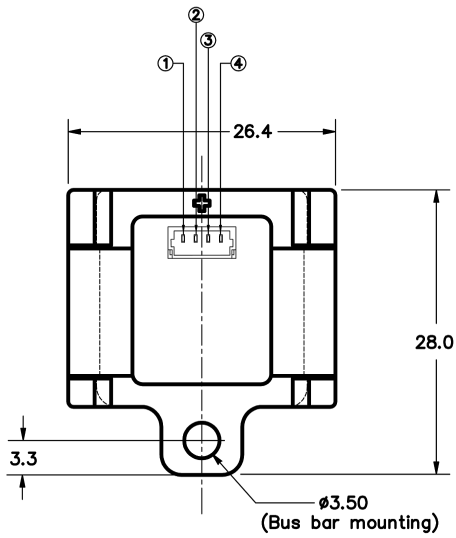
Wire 1 (Red) - V_{DD} (Supply)
Wire 2 (Black) - Output
Wire 3 (Blue) - Temp. or Ref Output
Wire 4 (White) - V_{SS} (Ground)

Analog Output Notes

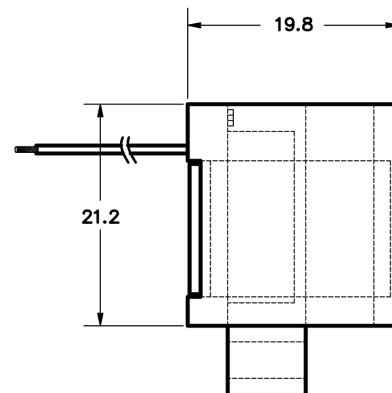
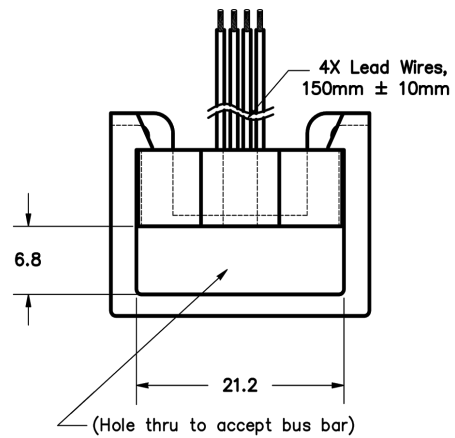
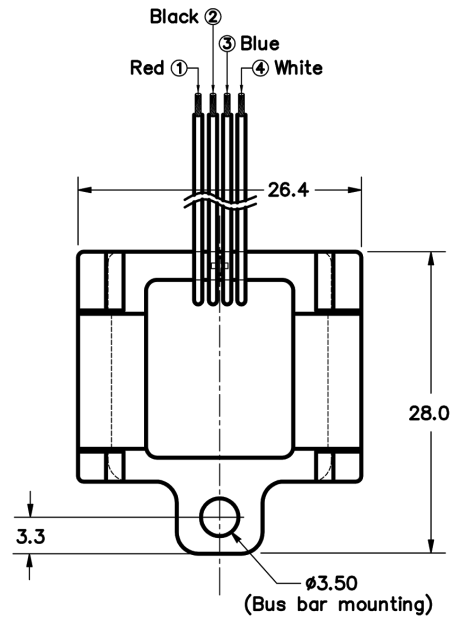
- ◆ For pull down, resistor is between pin 2 and pin 4
- ◆ For pull up, resistor is between pin 2 and pin 1
- ◆ For -800 version, Pin 2 and Pin 3 is interchanged.

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

Connector Version



Lead Wire Version



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