

IAA100/IAA200

Analog Amplifiers – Voltage/Current

Sensor Solutions Source

Load · Torque · Pressure · Multi-Axis · Calibration · Instruments · Software

www.futek.com

Getting Help

TECHNICAL SUPPORT

For more IAA100 and IAA200 support, please visit:

<http://www.futek.com/iaa/support.aspx>



SP1166-A

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Please visit <http://www.futek.com/salesterms> for complete terms and conditions.

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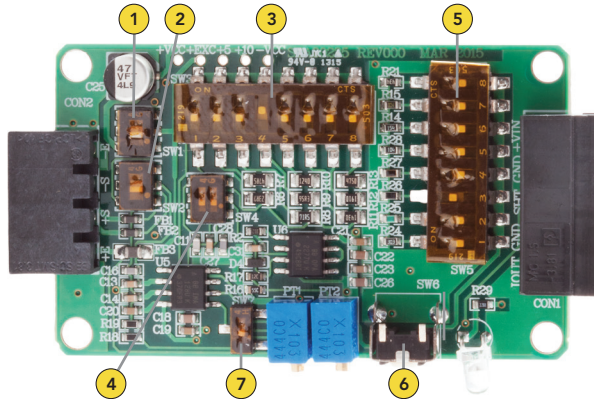
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Logic Board Configuration

- SW ① Excitation
- SW ② Polarity
- SW ③ Gain
- SW ④ Bandwidth
- SW ⑤ Shunt Selection
- SW ⑥ Shunt Button
- SW ⑦ Zero Shift



Note: Remove the magnetic cover to gain access to the logic board.

Screw Terminals

IAA100

Green Screw Terminals for
Voltage Output



IAA200

Black Screw Terminals for
Current Output

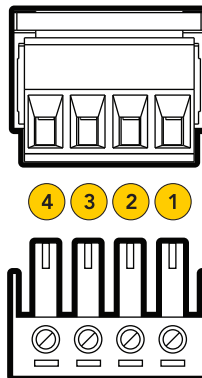


Sensor Side Connections

IMPORTANT NOTE: Do not connect the device to the power supply when the power supply is already on.

SENSOR SIDE

PIN #	WIRING CODE
1	+ EXCITATION
2	+ SIGNAL
3	- SIGNAL
4	- EXCITATION/SHIELD ¹



¹ For 6 wire sensors, connect +SENSE to +EXCITATION and -SENSE to -EXCITATION.

Note: Sensor cable shield connections should be grounded on one end, either the sensor side or the IAA sensor input side, to avoid potential ground loops.

Power Side Connections

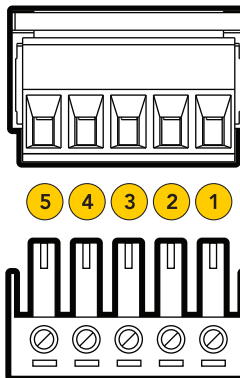
IMPORTANT NOTE: Do not connect the device to the power supply when the power supply is already on.

POWER SIDE

PIN #	WIRING CODE
1	+Vin (Power Supply)
2	Gnd (Power Ground/Shield)
3	Shunt (Remote Connection)
4	Gnd (Output Ground/Shield)
5	Vout/Iout (Output Signal)

Power is 12.5VDC to 26VDC.

Note: IAA100 minimum power supply is 14VDC for Output load <1500 Omhs. All grounds are connected together and pass through. Power and instrument cable shield connections should be grounded on one end, either at the power and instrument side, or the IAA side, to avoid potential ground loops.



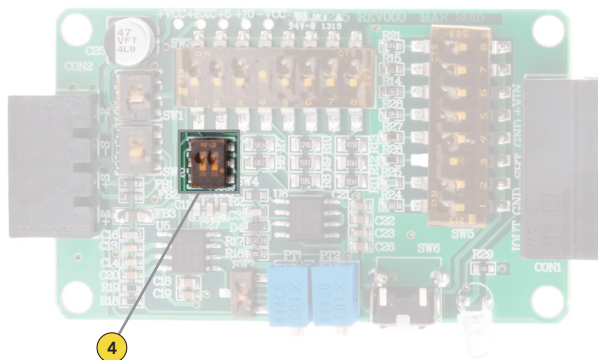
Bandwidth Setup

IMPORTANT NOTE: Do not connect the device to the power supply when the power supply is already on.

SW4 BANDWIDTH

1	2	BANDWIDTH (kHz)
▲	▲	25
▲	▼	10
▼	▲	1
▼	▼	1

SW4 can be used to set the bandwidth from 1 kHz to 25 kHz. Confirm the bandwidth is appropriate for your application.



Note: Increasing the bandwidth can increase the overall noise.

Setup Steps

IMPORTANT NOTE: Do not connect the device to the power supply when the power supply is already on.

1. Set SW 1 down for 10 VDC excitation or up for 5 VDC excitation. By default the IAA amplifier is set to 10 VDC at FUTEK.
2. Set the gain DIP switch (SW3) to the appropriate gain level. By default the gain is set with switch 4 up for a 2 mV/V sensor. (Use our online gain setting Excel sheets on the [FUTEK IAA100 and IAA200 support webpage](#) to find the appropriate gain DIP switch setting for your sensor's mV/V output.)
3. With the sensor and IAA amplifier completely connected apply the 12.5 to 26 VDC.
4. With no load on the sensor adjust the Zero potentiometer until the output is as close to 0 VDC or 4 mA as possible, for the IAA100 and IAA200, respectively.
5. With a known load placed on the sensor adjust the Span potentiometer to as close to the appropriate output level as possible. For example, 10 VDC for a full load output with the IAA100 and 20mA for a full output with the IAA200.
6. Remove the load and reconfirm the zero load output, and then reapply the known load and re-confirm the span output.

Note: Adjusting the Span will affect any system calibrations. Adjusting the zero will not.

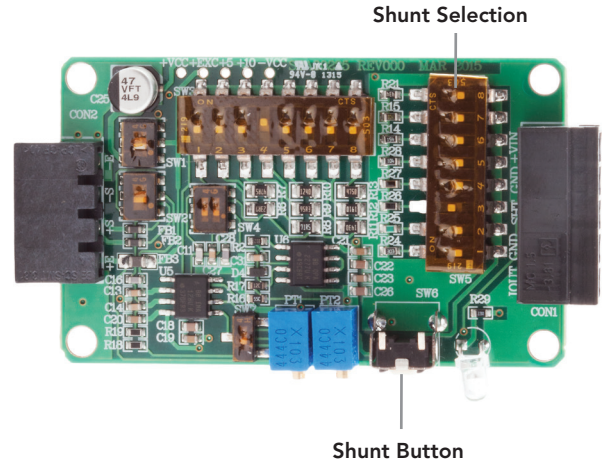


FUTEK's online calibration tool allows you to retrieve a summary of your sensor's calibration data: <http://www.futek.com/calibrationData.aspx>

Calibrating using Shunt:

1. Hold down the Shunt button.
2. Adjust the Span of the IAA amplifier until the output correlates with the value chosen for the shunt.

A remote shunt is available on the power connection side, and can be activated with 5 to 26 VDC.



The online Shunt calculator on the FUTEK website can be used to calculate an estimated result from a shunt resistance, or to calculate a resistance needed for a certain sensor output value when shunted.
<http://www.futek.com/shuntcalc.aspx>

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