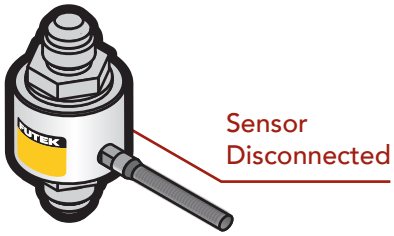
IAA100/IAA200 Troubleshooting Guide

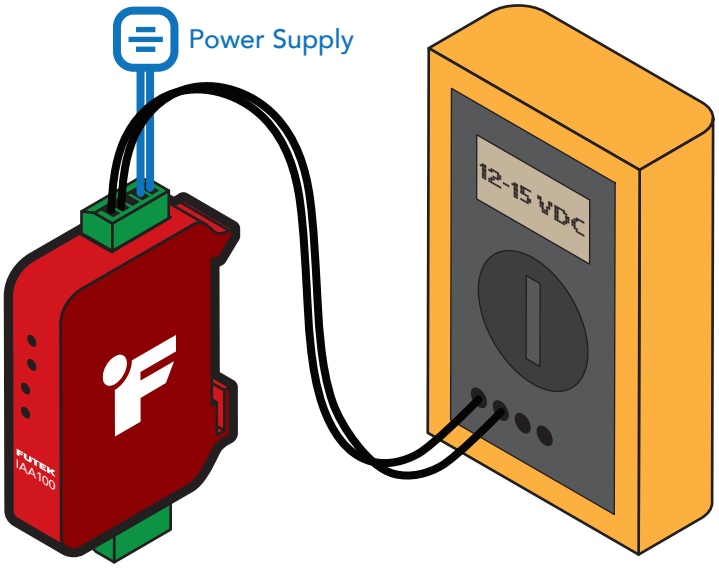
All connections to amplifier should be made with the power first off
Connection to power with power on can damage amplifier[1]

The amplifier functionality can be tested on its own by confirming the following:

1. The amplifier must be powered within the supply voltage range specified in the product specifications sheet

   When the sensor is disconnected, the amplifier is expected to enter a saturation state and output approximately 12 to 15 VDC

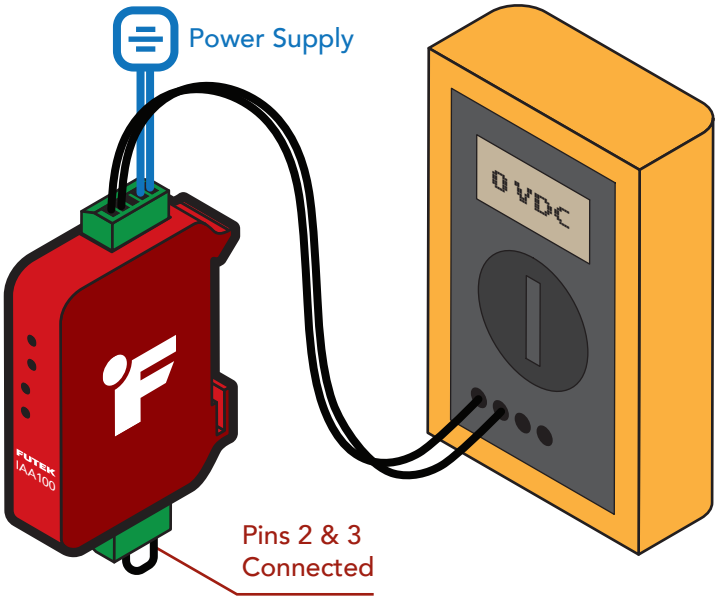




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2. Connection of Pin 2 (+ Signal) and Pin 3 (– Signal) on the sensor side will cause the amplifier to go close to zero output condition

   Amplifiers with an offset induced using the amplifier dipswitches would see the zero output condition being the offset value. For example 5 V for IAA100 and 12 mA for the IAA200



ISSUE: Constant High Output

CHECK FOR:

Open on sensor side

- Confirm wiring
- Confirm connection to sensor
- Measure sensor bridge resistance for any internal opens

High output from sensor

- Measure ± Signal input from sensor to amplifier to verify if sensor has a high output. Excitation must be provided to sensor when measuring ± Signal input

Ensure sensor is not under load or stress

- Remove sensor from application and fixtures to test for installation stress

ISSUE: Constant Low Output

CHECK FOR:

Power to amplifier

- Confirm the supply voltage range as listed in the product specifications sheet
- Confirm power connection wiring. Positive on Pin 1 +Vin and ground on Pin 2 Gnd
- Power LED on amplifier should be on

Short on sensor side

- Check wiring and connection on input and output
- Measure sensor bridge resistance for any internal shorts

Ensure load is applied properly to sensor

- Make sure the load is not supported by anything other than the sensor
- Remove the sensor from the application and apply a known load for verification

Check Shunt

- Shunt function should simulate an output on the sensor

Check Gain

- Incorrect gain settings may result in low output

Some Items That Can Damage Amplifier:

- Connection to power with power already on[1]
- Connection of power to incorrect pins
- Shorts or incorrect wiring on output or excitation pins
- Voltage spikes or unstable power supply
- Electrostatic discharge (ESD) during handling
- Exposure to moisture or extreme temperatures
- Excessive mechanical shock or vibration

Next Steps for a Damaged Amplifier:

If the amplifier is confirmed to be damaged, replacement is required. FUTEK recommends sending in the paired sensor along with the original amplifier so the new unit can be properly system-calibrated to the sensor. An RMA can be requested at https://www.futek.com/rma

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[1] Applies only to legacy versions FSH03863 (IAA100) and FSH03864 (IAA200). New versions support hot-swapping.

Drawing Number: SP1220-D

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