

RMA Checklist

Following are checks to be performed by customer/end user prior to sending units back to Endevco (Orange County) for evaluation/repair to minimize possibility of a no fault found (NFF) determination.

Piezoelectric (PE) and IEPE (Isotron) accelerometers

PE- Piezoelectric (charge output pC/g)

1. Visually inspect the sensor, particularly the mounting surface. Is the surface smooth, or gouged and/or roughed up?
Has the connector been damaged?
2. Are there any signs of impact or dents in the sensor's casing or the mounting surface?
3. Measure capacitance of the sensor using a capacitance meter. Measured value should be near to the value indicated on the calibration certificate or specified on the data sheet.
4. Measure resistance between center pin and receptacle to verify isolation.
5. Verify cable(s) has/have not been damaged. Measure isolation between center pin & shield/connector shell. Verify proper isolation. Wiggle test cable to verify there is no intermittent connection.

IEPE (Isotron)-Integral Electronic piezoelectric (mV/g output)

1. Visually inspect the sensor, particularly the mounting surface. Is the surface smooth, or gouged and/or roughed up?
Has the connector been damaged?
2. Are there any signs of impacts or dents in the sensor's casing or the mounting surface?
3. Power up the sensor and measure the DC bias voltage while at room temperature. Measured value should be close to the value indicated on the calibration certificate or within the tolerance specified on the data sheet.
4. Verify cable(s) has/have not been damaged. Measure isolation between center pin & shield/connector shell. Verify proper isolation. Wiggle test cable to verify there is no intermittent connection.

Piezoresistive Accelerometer and Piezoresistive Pressure Transducers

PR- piezoresistive (bridge output mV/g) & (bridge output mV/psi)

Verify no physical damage to unit or associated cabling is present. Perform a visual inspection. Dings in the mounting surface, gouges or discoloration may indicate unit has experienced excessive shock/impacts or temperature extremes.

1. Impedance
Measure input (red to black leads) and output resistance (green to white) with a DMM. Verify values are within the limits specified on data sheet and/or recent calibration certificate. Measurements from pin to pin may add value to the analysis.
2. ZMO
Apply the specified dc excitation to the transducer and measure the output with a DMM. Allow the transducer to warm up a few minutes and stabilize. The transducer should have a zero offset value within the data sheet specification for PSIG (gauge pressure). For PSIA (absolute pressure) the reading should be equal to the calibrated sensitivity (mV/psia) x local atmospheric pressure plus the data sheet ZMO specification.

Variable Capacitance accelerometers

VC- variable capacitance (amplified bridge output mV/g)

Before returning any VC product for evaluation, verify the unit is operating properly:

1. Insure the proper DC voltage is applied to the Red and Black wires of unit per the model's data sheet.
2. Measure the output from the unit with a DC multimeter, oscilloscope or other device that reads a DC voltage level. Depending on the unit's sensitivity, earth's gravity can be used for a 2g turnover test – measuring the output for a plus reading and flipping the unit for a minus 1 g reading. If the unit is connected to an amplifier or data acquisition system, connect it to another, known good channel to verify a proper output.