AXYS ENVIRONMENTAL SYSTEMS

AXYS | Axys Environmental Systems
A Division Of Axys Technologies Inc.

TRIAXYS™ Motion Sensor

Physical Attributes:
The TRIAXYS™ Motion Sensor is packaged in a small stainless steel box that needs only a single connector for power and data. The output from the sensor is fully processed motion data. As an option, data can be stored in the sensor on a flash RAM disk.

Sampling Regime:
The TRIAXYS™ Motion Sensor measures rotation and acceleration at a sample rate of up to 10 Hz.

Sensors:
The TRIAXYS™ Motion Sensor contains three force balance servo accelerometers that measure the total acceleration along the three mutually orthogonal x, y and z axes of the moving platform with a range of +/- 2 g. It also contains three angular rate sensors that measure the rotations of the x, y, and z axes with a range of +/- 80°/second.

Accuracy:

- Accelerometers measure with a resolution of 0.2 mg.
- Rate Sensors measure with a resolution of 0.01°/second.

TRIAXYS Motion Sensor:

1. Specifications: Accelerometers...3 sensors Flexure suspension servo
+/- 2.0 g range
<0.001 g RMS noise
<1 migro g
Rate Sensors.....3 sensors Piezoelectric vibrating gyroscope
+/-75 deg/sec range
<0.05% of FR Axis misalignment
<0.004 deg/sec resolution
A/D.....14 bit at 4Hz
Power Req.....11.0 to 14.1 VDC, max 5 watts
Dimensions.....35 x 35 x 20 cm...weighs 6.3 kgs
Communications...RS232
Connector.....6 pin male Bulgin plug

2. The system is configured to output 8 channels of data at 4Hz on powering. The following is an example of a data stream:

line Comp AccX Acc Y Acc Z R X R Y R Z
0000, -0.5,+0.18401,+0.00899,-0.98287, -1.696, +0.443, -1.104
0001, -0.7,+0.18377,+0.00935,-0.98263, -1.723, +0.484, -1.159
0002, -1.0,+0.18401,+0.00899,-0.98275, -1.778, +0.388, -1.104
0003, -0.7,+0.18401,+0.00899,-0.98275, -1.723, +0.498, -1.063
0004, -0.6,+0.18401,+0.00911,-0.98263, -1.668, +0.539, -1.063
0005, -0.7,+0.18389,+0.00948,-0.98251, -1.737, +0.388, -1.145
0006, -0.8,+0.18401,+0.00911,-0.98299, -1.751, +0.498, -1.063
0007, -0.6,+0.18364,+0.00887,-0.98275, -1.696, +0.553, -1.104
0008, -0.6,+0.18389,+0.00887,-0.98263, -1.723, +0.498, -1.132
0009, -0.7,+0.18401,+0.00911,-0.98238, -1.778, +0.402, -1.063
0010, -0.9,+0.18401,+0.00923,-0.98251, -1.682, +0.539, -1.063
0011, -0.6,+0.18377,+0.00923,-0.98263, -1.668, +0.511, -1.077
0012, -0.7,+0.18377,+0.00935,-0.98263, -1.737, +0.388, -1.063
0013, -0.7,+0.18401,+0.00911,-0.98238, -1.737, +0.443, -1.063
0014, -0.8,+0.18377,+0.00923,-0.98263, -1.668, +0.566, -1.022
0015, -0.7,+0.18413,+0.00923,-0.98238, -1.682, +0.402, -1.049
0016, -0.8,+0.18389,+0.00948,-0.98263, -1.723, +0.415, -1.063
0017, -0.8,+0.18377,+0.00948,-0.98238, -1.696, +0.511, -1.049
0018, -0.6,+0.18413,+0.00923,-0.98263, -1.682, +0.498, -1.090
0019, -0.8,+0.18377,+0.00911,-0.98263, -1.778, +0.402, -1.063
0020, -0.7,+0.18389,+0.00923,-0.98238, -1.751, +0.484, -1.049
0021, -0.6,+0.18364,+0.00911,-0.98251, -1.668, +0.580, -1.022
0022, -0.8,+0.18389,+0.00899,-0.98263, -1.696, +0.402, -1.104

The header line is not normally output. The columns are identified with a line number which cycles 0 to 9999; next is compass heading in degrees (here we have fixed the heading to zero); next three columns are accelerations in X, Y and Z axis and reported in g's; final three columns are angular rates for X, Y and Z axis and reported in degrees/second.

The sensor box has bolt holes incorporated for attachement.

Height/Length/Depth	35cm x 35cm x 20cm (13” x 13” x 6”)

Power supply required is 11 to 14 VDC. Require a power serial communications cable to interface to the sensor unit. Cable length limited to recommended serial cable protocols (25m). This cable to be provided.