

# TRIAX ACCELEROMETER

The Dataflow Measurement Systems Triaxial accelerometer module (Triax) module is designed for use in hostile environments, including survey and MWD tools for borehole drilling applications. It is a high accuracy, high reliability, low power device, with triaxial micromachined silicon accelerometer elements, and requires only a single DC power supply for operation.

Performance of the Triax module is comparable to industry standard Quartz hinge sensors, at a fraction of the price. The combination of accuracy, low power and ruggedness provide numerous benefits over alternative devices including:

- Low Cost Triax sensor coupled the performance of high cost Quartz flexure devices
- Small Size (0.75 in dia x 3 in long)
- Very Low power consumption (15mW typical)

The device can also be supplied in a variety of mechanical and electrical configurations to suit OEM applications. The analogue version of the module provides uncalibrated sensor output voltages proportional to the strength of the gravitational fields experienced by the respective sensor axis. A separate calibration data set is then provided to customers for incorporation in the target system. Calibrated outputs can also be provided from the Triax unit.

## Triax Accelerometer Typical Performance Summary

### ROOM TEMPERATURE

Full scale range:	-2.0g to +2.0g
Bias:	<30mq
Bias stability:	1.0mq (1 $\sigma$ )
Scale factor stability:	0.05% FS (1 $\sigma$ )
Linearity:	0.1% FS
Axis Misalignment	< 50mRad
Bandwidth:	< 5 Hz
Scale Factor Output:	$\pm$ 1V FS (Scaleable)

### TEMPERATURE EFFECTS

Bias:	< 20 $\mu$ g/ $^{\circ}$ C (1 $\sigma$ )
Scale factor:	600ppm / $^{\circ}$ C

### ELECTRICAL INTERFACE

Voltage Input:	+ 12v
Max operating Current:	3mA

### ENVIRONMENTAL PERFORMANCE

Temperature Range:	-25 to 125 $^{\circ}$ C
Shock:	1000g, 3msec, 1/2 sine
Vibration:	20g RMS 10-500Hz Random

### DIMENSIONS (Triaxial)

Diameter:	25mm
Length:	60mm
Weight:	75 grams