

Q-Flex[®] QA-1500 Accelerometer

High-g tactical navigation sensor



Providing high-g tactical navigation capability, Honeywell produces the Q-Flex[®] QA1500 primarily for tactical missile guidance applications.

As with the entire Q-Flex family of accelerometers, the QA1500 features a patented Q-Flex[®] etched-quartz-flexure seismic system. An amorphous quartz proof-mass structure provides excellent bias, scale factor, and axis alignment stability.

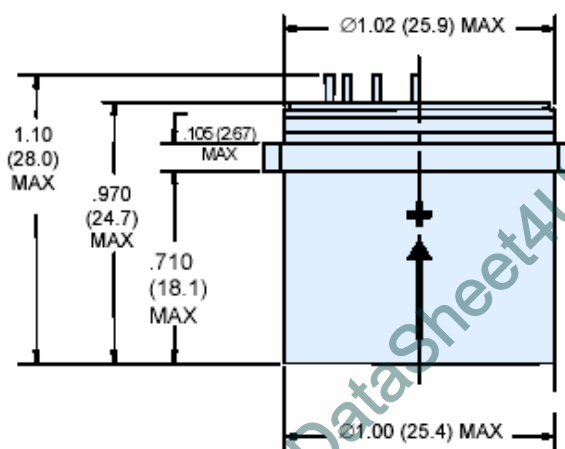
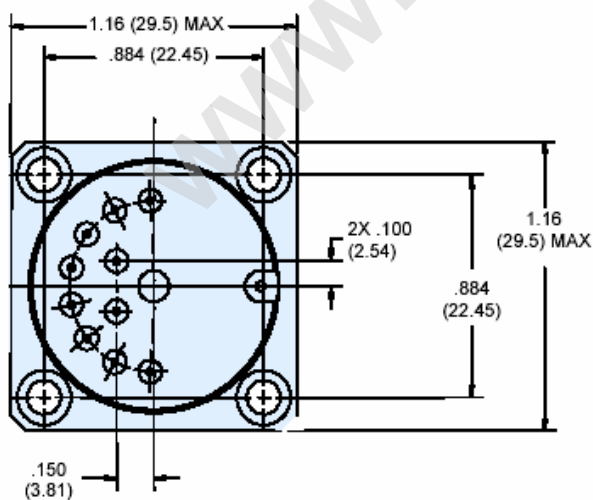
The integral Q-Flex electronics develops an acceleration-proportional output current providing both static and dynamic acceleration measurements. By use of a customer supplied output load resistor, appropriately scaled for the acceleration range of the application, the output current can be converted into a voltage.

The QA1500 also includes a current- output, internal temperature sensor. By applying temperature-compensating algorithms, bias, scale factor, and axis misalignment performance are dramatically improved. Robust design and quality assurance provides superior reliability.

Features

- High-g acceleration measurement
- Robust shock and vibration capability
- Analog output
- Field-adjustable range
- Four fastener mounting flange
- Internal temperature sensor for thermal compensation
- Built-in self-test

Configuration Drawings



Performance Characteristics

Additional product specifications, outline drawings and block diagrams, and test data are available on request.

Performance	
Input Range [g]	±90
Bias [mg]	<10
One-year Composite Repeatability [µg]	<1500
Temperature Sensitivity [µg/°C]	<100
Scale Factor [mA/g]	0.81 to 0.99
One-year Composite Repeatability [ppm]	<1500
Temperature Sensitivity [ppm/°C]	<200
Axis Misalignment [µrad]	<3000
One-year Composite Repeatability [µrad]	<300
Vibration Rectification [µg/g ² rms]	<20 (50-500 Hz) <70 (500-2000 Hz)
Intrinsic Noise [µg-rms]	<10 (0-10 Hz) <100 (10-500 Hz) <4000 (500-10,000 Hz)
Environment	
Operating Temperature Range [°C]	-55 to +80
Shock [g]	385
Vibration Peak Sine [g]	25 @ 20-2000 Hz
Resolution/Threshold [µg]	<1
Bandwidth [Hz]	>300
Thermal Modeling	
	YES
Electrical	
Quiescent Current per Supply [mA]	<16
Quiescent Power [mW] @ ±15 VDC	<480
Electrical Interface	Temp Sensor Voltage Self Test Current Self Test
Input Voltage	±13 to ±18
Physical	
Weight [grams]	<65
Diameter below mounting surface [inches]	Ø1.000 Max
Height - bottom to mounting surface [inches]	0.710 Max
Case Material	300 Series Stainless Steel

Find out more:
www.inertialsensor.com

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