

Q-Flex[®] QA-650 Accelerometer

Economical sensor package

For Q-Flex technology in an economical package, Honeywell produces the QA650 for industrial grade applications including: automotive test instrumentation, braking system deceleration, bridge and building sway and tilt monitoring, industrial and robotic control, land vehicle navigation, subway and high-speed train ride comfort control, and offshore drilling platform motion monitoring.

As with the entire Q-Flex family of accelerometers, the QA650 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 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.



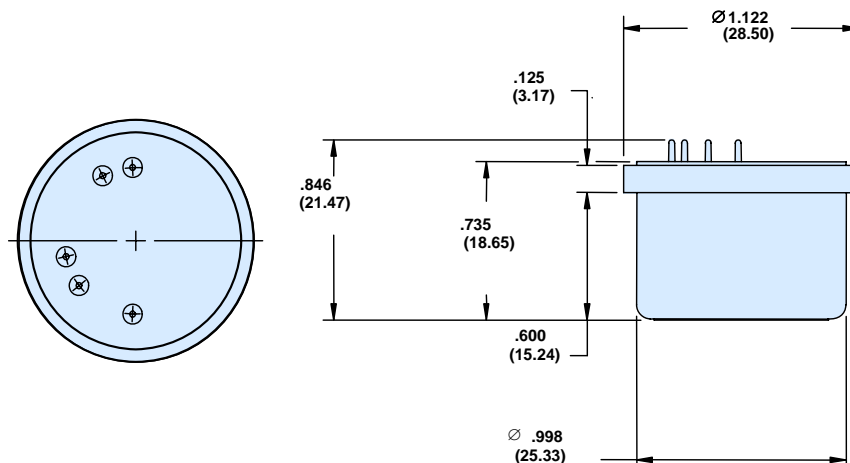
Features

- Tactical navigation grade performance
- High value
- Environmentally rugged
- Analog output
- Compact design
- Built-in test
- Field-adjustable range

Applications

- Automotive test instrumentation
- Braking system deceleration
- Bridge and building sway and tilt monitoring
- Industrial and robotic control
- Land vehicle navigation
- Subway and train ride comfort control
- Offshore drilling platform motion monitoring

Configuration Drawings



Performance Characteristics

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

Performance	
Input Range [g]	±30
Bias [mg]	<15
One-year Composite Repeatability [µg]	<2500
Temperature Sensitivity [µg/°C]	<100
Scale Factor [mA/g]	1.20 to 1.40
One-year Composite Repeatability [ppm]	<2500
Temperature Sensitivity [ppm/°C]	<200
Axis Misalignment [µrad]	<15000
Vibration Rectification [µg/g ² rms]	<100 (50-500 Hz)
Intrinsic Noise [µg-rms]	<3000 (0-10,000 Hz)
Environment	
Operating Temperature Range [°C]	-55 to +96
Shock [g]	100
Vibration Peak Sine [g]	25 @ 30-500 Hz
Resolution/Threshold [µg]	<10
Bandwidth [Hz]	>300
Thermal Modeling	
	YES
Electrical	
Quiescent Current per Supply [mA]	<16
Quiescent Power [mW] @ ±15 VDC	<480
Input Voltage	±13 to±18
Physical	
Weight [grams]	51 Nominal, 65 Max.
Diameter below mounting surface [inches]	Ø1.045 ±0.005
Height - bottom to mounting surface [inches]	0.617 Max.
Case Material	300 Series Stainless Steel

Find out more:

www.inertialsensor.com

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