

Honeywell

Q-Flex® QA650 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

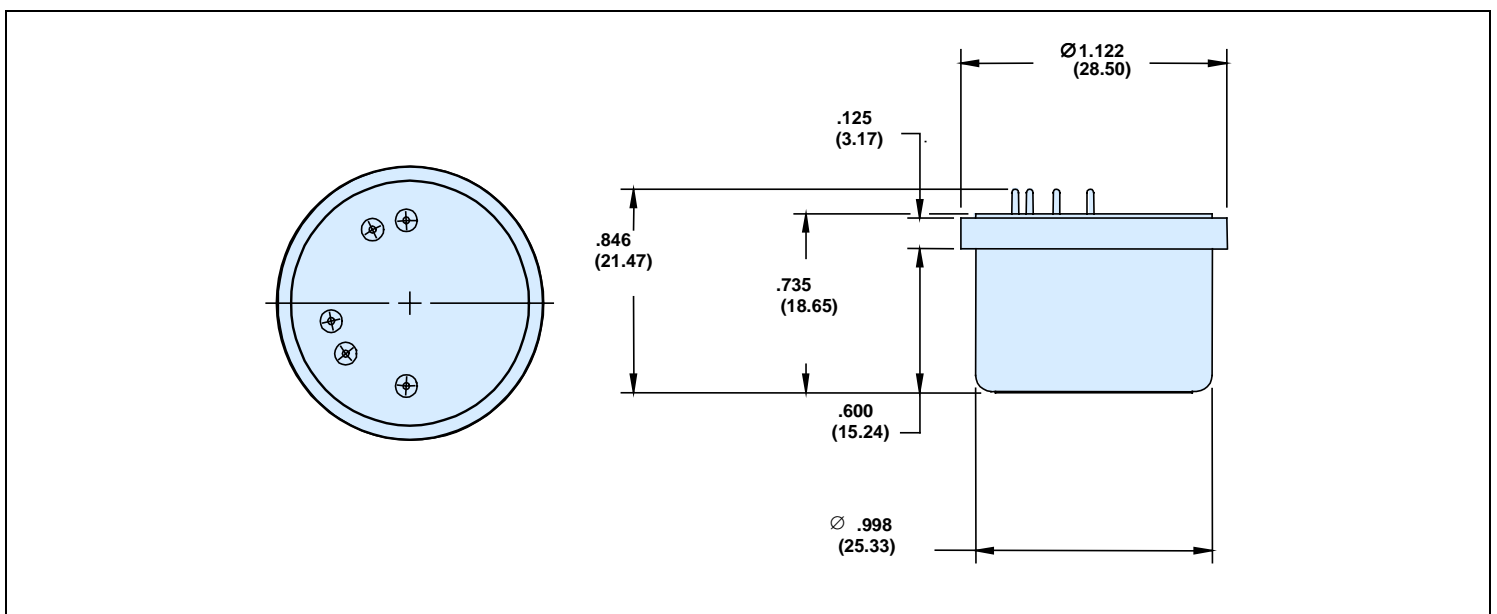
- Tactical navigation grade performance
- High value
- Environmentally rugged
- Analog output
- Compact design
- Built-in test
- Field-adjustable range

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

Accelerometers exported from the United States must be done in accordance with the Export Administration Regulations (EAR) and/or the International Traffic in Arms Regulations (ITAR) as applicable. EXP024 March 2004

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
	Voltage Self Test
	Power / Signal Ground
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

ISO-9001 Certification Since 1995

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