

Q-Flex[®] QA-700 Accelerometer

Economical temperature-compensated sensor

For Q-Flex technology in an economical temperature-compensated package, Honeywell produces the QA700 for a broad array of moderate performance applications, including: flight and flight simulator control systems, radar platform leveling, high-speed train ride control, and seismic sensing.

As with the entire Q-Flex family of accelerometers, the QA700 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.

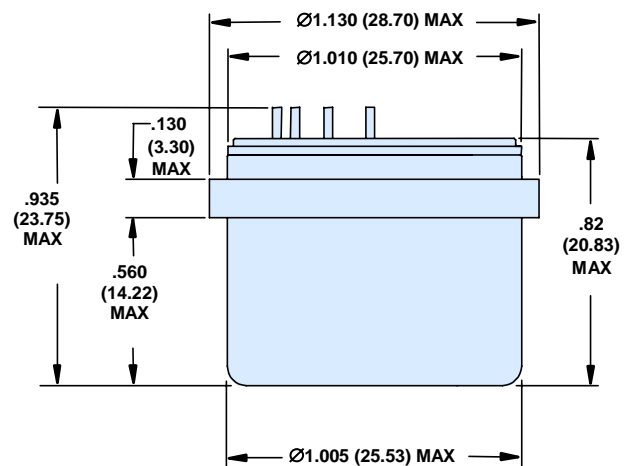
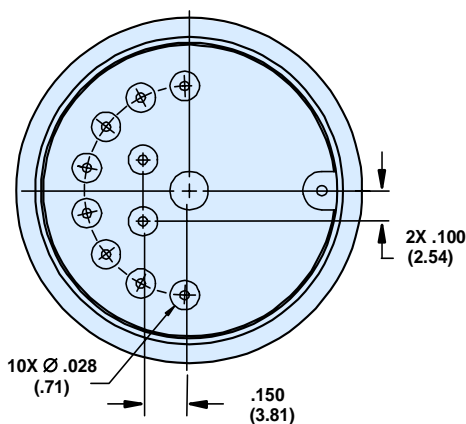


As an option, the QA700 can be provided with a temperature-compensating algorithm where bias, scale factor, and axis misalignment performance are dramatically improved.

Features

- Tactical navigation grade performance
- High value
- Environmentally rugged
- Analog output
- Compact design
- Field-adjustable range
- Dual built-in test
- Optional thermal compensation

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]	<8
One-year Composite Repeatability [µg]	<1200
Temperature Sensitivity [µg/°C]	<70
Scale Factor [mA/g]	1.23 to 1.43
One-year Composite Repeatability [ppm]	<1200
Temperature Sensitivity [ppm/°C]	<200
Axis Misalignment [µrad]	<2000
Vibration Rectification [µg/g ² rms]	<50 (50-200 Hz) <100 (200-750 Hz) <150 (750-2000 Hz)
Intrinsic Noise [µg-rms]	<7 (0-10 Hz) <70 (10-500 Hz) <1500 (500-10,000 Hz)
Environment	
Operating Temperature Range [°C]	-55 to +96
Shock [g]	250
Vibration Peak Sine [g]	25 @ 20-2000 Hz
Resolution/Threshold [µg]	<1
Bandwidth [Hz]	>300
Thermal Modeling	
	-010 NO -020 YES
Electrical	
Quiescent Current per Supply [mA]	<16
Quiescent Power [mW] @ ±15 VDC	<480
Electrical Interface	Temp Sensor Voltage Self Test Current Self Test Power / Signal Ground -10 VDC Output +10 VDC Output
Input Voltage	±13 to±18
Physical	
Weight [grams]	46 Nominal, 50 Max.
Diameter below mounting surface [inches]	Ø1.07 ±0.01
Height - bottom to mounting surface [inches]	.600 Max
Case Material	300 Series Stainless Steel

Find out more:

www.inertialsensor.com

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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.

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