Honeywell
QA-T160 and QA-T185 Accelerometer

High Temperature Energy Sensors

For high-temperature Q-Flex® technology in a ruggedized package, Honeywell produces the QA-T160 and QA-T185 models for down-hole measurement-while-drilling and wireline applications.

As with the entire Q-Flex accelerometer family, QA-T160 and QA-T185 feature a patented Q-Flex etched-quartz-flexure seismic system. An amorphous quartz proofmass structure provides excellent bias, scale factor, and axis alignment stability.

The integral Q-Flex electronics develop 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 QA-T160 and QA-T185 also include a current-output internal temperature sensor. By applying temperature-compensating algorithms, bias, scale factor, and axis misalignment performance are dramatically improved.

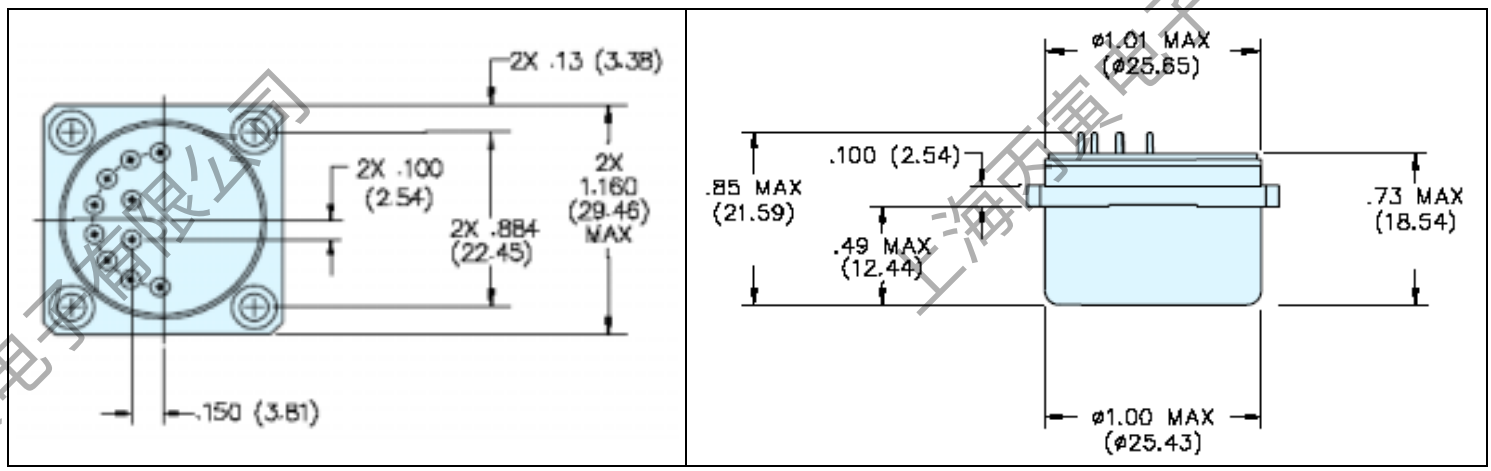
Robust design and quality assurance provides superior reliability.

Features

- High temperature capability
- Environmentally rugged
- Analog output
- Square or round mounting flange options
- Field-adjustable range
- Internal temperature sensor for thermal compensation
- Low power electronics
- Built-in test

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. EXP032, April 2004

Configuration Drawings



Performance Characteristics

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

Performance	
Input Range	±20 g
Bias	<20 mg
Residual modeling error	<450 µg
Scale Factor	2.75 mA/g ±1.8%
Residual modeling error	<450 ppm
Axis misalignment	<20 mrad
One-year repeatability	<400 µrad
Vibration rectification (50-500 Hz)	<100 µg/g²
Threshold and resolution	<5 µg
Bandwidth	<200 Hz
Environmental	
Vibration, operating & survival	
Sine vibration	30g peak,50 to 800Hz
Random vibration	20 grms
Shock	
Operating	1000 g
Survival (-40 to 70°)	2000 g
Electrical	
Input voltage	±12.5 to ±15.5 VDC
Quiescent current	6 mA per supply
Quiescent power	180m Watts
Physical	
Weight	55 grams
Size	1.0 in. dia. X 0.73 in. high
Core materials	Stainless Steel

Performance by Model	**QAT160**	**QAT185**
RSS Bias & Scale Factor - One-year repeatability	1 mg	1.5 mg
Operating temperature	-40 to 160ºC	-40 to 185ºC
Survival temperature	175ºC intermittent	200ºC intermittent

ISO-9001 Certification Since 1995

DISCLAIMER: Honeywell reserves the right to make changes to any product or technology herein to improve reliability, function, or design. Honeywell does not assume any liability arising out of the application or use of the product.

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