# *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.

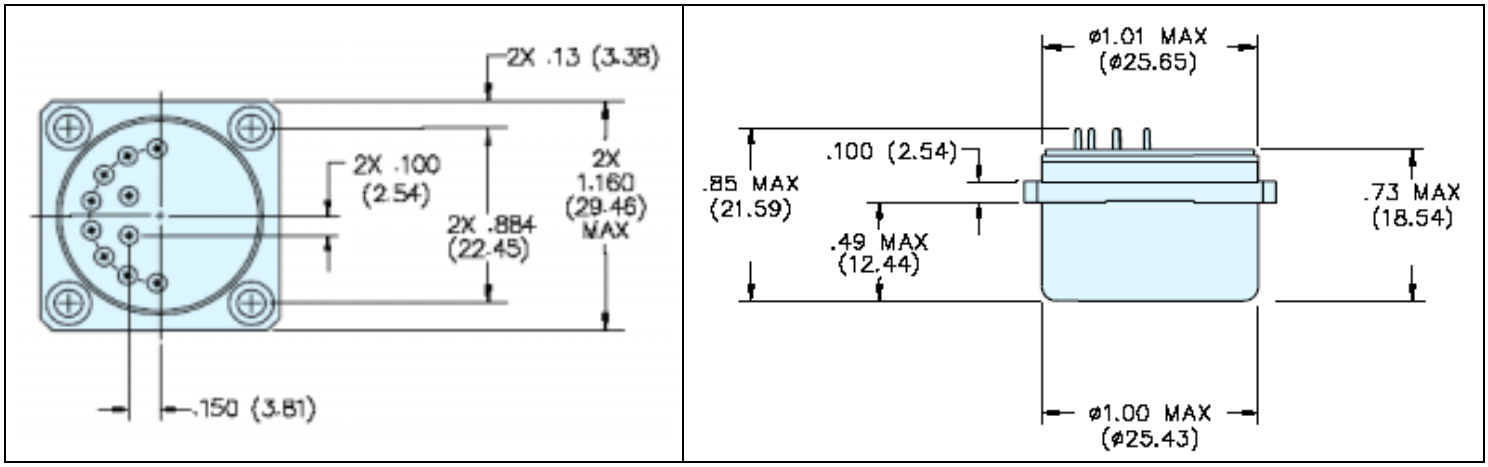
Robust design and quality assurance provides superior reliability.

### *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



For more information, please visit www.inertialsensor.com
Or contact:
**Honeywell International, Inc.**
**Defense and Space Electronic Systems Redmond**
15001 N.E. 36th Street
Redmond, Washington 98073-9701
PHONE: 888 206 1667 or FAX: 425 883 2104

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