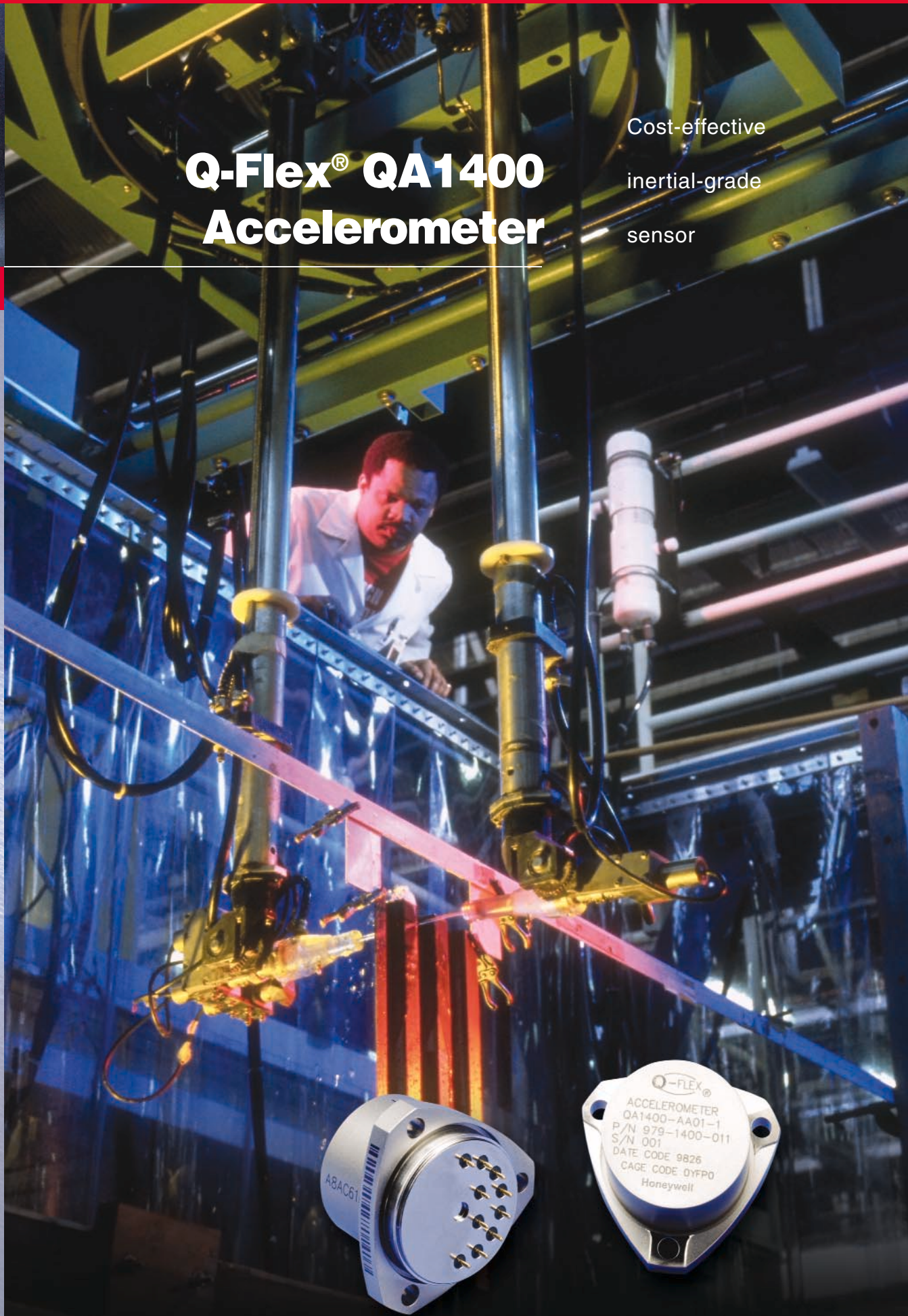




AEROSPACE

# Q-Flex® QA1400 Accelerometer

Cost-effective  
inertial-grade  
sensor



## QA1400 Accelerometer

For the most cost-effective inertial-navigation grade solution, Honeywell produces the QA1400 for a variety of industrial and laboratory applications.

As with the entire Q-Flex family of accelerometers, the QA1400 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 measurement. 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 QA1400 also includes a current-output, internal temperature sensor. By applying temperature-compensating algorithms, bias, scale factor, and axis misalignment performance are dramatically improved. Implementation of the thermal modeling results in bias residual errors as low as  $\pm 200 \mu\text{g}$  and scale factor errors as low as  $\pm 400 \text{ ppm}$ .

For additional details, please contact Honeywell, Inertial Sensor Products Redmond.

### Features

- Excellent turn-on repeatability and stability performance
- Environmentally rugged
- Analog output
- Field-adjustable range
- Three fastener precision mounting flange
- Internal temperature sensor for thermal compensation
- Dual built-in test

## Specifications

### Performance

- Input range  $\pm 60 \text{ g}$
- Bias  $< 10 \text{ mg}$ 
  - One-year repeatability  $< 1000 \text{ mg}$
- Scale factor  $1.33 \text{ mA/g} \pm 10\%$ 
  - One-year repeatability  $< 1000 \text{ ppm}$
- Axis misalignment  $< 2.8 \text{ mrad}$ 
  - One-year repeatability  $< 200 \mu\text{rad}$
- Vibration Rectification  $50 - 500 \text{ Hz}$   $< 60 \mu\text{g}/(\text{grms})^2$
- Resolution / Threshold  $< 1 \mu\text{g}$
- Bandwidth  $> 300 \text{ Hz}$

### Environmental

- Operating temperature range  $-55 \text{ to } +95^\circ\text{C}$
- Shock  $250 \text{ g}$
- Vibration  $20 \text{ g peak sine, } 20\text{-}2000 \text{ Hz}$

### Electrical

- Input voltage  $\pm 13 \text{ to } \pm 18 \text{ VDC}$
- Quiescent current  $< 16 \text{ mA per supply}$
- Quiescent power  $< 480 \text{ mW @ } \pm 15 \text{ VDC}$

### Physical

- Weight  $71 \text{ grams}$
- Size  $1.0 \text{ in. dia. X } 0.96 \text{ in. high}$
- Case material  $\text{Stainless steel}$

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

### ISO-9001 Certification Since 1995

For more information, please call **888-206-1667** or FAX **425-883-2104**. Visit our website at [www.inertialsensor.com](http://www.inertialsensor.com)  
*Specifications are subject to change without notice.*

# Honeywell