

Q-FA[®] QA-6000 Accelerometer

The inertial navigation standard



Description

As the inertial navigation standard by which others are measured, Idelphotonics produces the QA6000. It is the predominant sensor used in today's commercial and military aircraft strap-down inertial navigation systems. The long-term Repeatability and superior reliability characteristics of the QA6000 make it the best value inertial-grade accelerometer available on the market today. **Also this is highest precious product in the market today.**

As with the entire Q-FA family of accelerometers, the QA6000 features a patented Q-FA[®] etched-quartz-flexure seismic system. An amorphous quartz proof-mass structure provides excellent bias, scale factor, and axis alignment Repeatability.

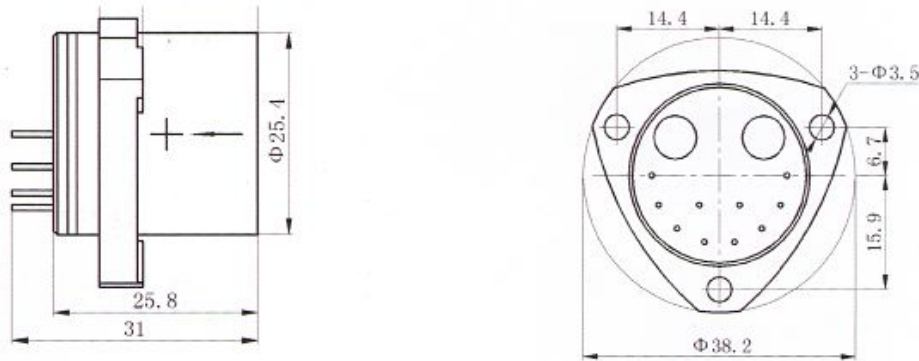
The integral electronics develops an acceleration-proportional output current providing both static and dynamic acceleration measurement. By use of customer supplied output load resistor, appropriately scaled for the acceleration range of the application, the output current can be converted into a voltage.

Features

- Excellent turn-on repeatability performance
- Environmentally rugged
- Analog output
- Field-adjustable range
- Three fastener precision mounting flange

- Internal temperature sensor for thermal compensation
- Dual built-in self-test

Configuration Drawings



Performance Characteristics

Performance	QA6010	QA6020	QA6030	QA6050	QA6080
Input Range [g]	>40	>40	>40	>40	>40
Bias [mq]	<5	<5	<5	<5	<5
Three month Composite Repeatability [μg]	<10 (six month)	<20	<30	<50	<80
Temperature Sensitivity [μg/°C]	<10	<20	<30	<50	<80
Scale Factor [mA/g]	1.1±0.10	1.1±0.10	1.1±0.10	1.1±0.10	1.1±0.10
Six month Composite Repeatability [ppm]	<10	<20	<30	<50	<80
Temperature Sensitivity [ppm/°C]	<10	<20	<30	<50	<80
Axis Misalignment [μrad]	<500	<500	<500	<500	<500
0g 4h stability [ug]	<10	<20	<20	<20	<20
1g 4h stability[ug]	<10	<20	<20	<20	<20
Hysteresis circle[ug]	<60	<60	<60	<60	<60
Electrical noise(840 Ω)[mv]	<8.4	<8.4	<8.4	<8.4	<8.4
Power on/off Composite Repeatability[ug]	<20	<20	<20	<20	<20
Environment	QA6010	QA6020	QA6030	QA6050	QA6080
Operating Temperature Range [°C]	-55 to +95	-55 to +95	-55 to +95	-55 to +95	-55 to +95
Shock [g]Half sine	50, 8-12ms	50, 8-12ms	50, 8-12ms	50, 8-12ms	50, 8-12ms
Vibration [g] 20~2000HZ	10 @ 20-2000 Hz	10@ 20-2000 Hz	10@ 20-2000 Hz	10@ 20-2000 Hz	10@ 20-2000 Hz
Resolution/Threshold [μg]	<5	<5	<5	<5	<5
Natural frequency [Hz]	400~800	400~800	400~800	400~800	400~800
cut-off frequency[Hz]	<2500	<2500	<2500	<2500	<2500
Overshoot[%]	<40	<40	<40	<40	<40
the number of Half shocks	<3	<3	<3	<3	<3
Concussion	<1.68	<1.68	<1.68	<1.68	<1.68

Concussion rectification error(0g,1g) [μ g]	100HZ,200HZ,3g:<80;500HZ,3g:<120				
Input Voltage [V]	+15 \pm 3, -15 \pm 3				
Physical	QA6010	QA6020	QA6030	QA6050	QA6080
Weight [grams]	80	80	80	80	80
Case Material	300 Series Stainless Steel	300 Series Stainless Steel	300 Series Stainless Steel	300 Series Stainless Steel	300 Series Stainless Steel

Find out more:

Fiber optic gyroscope solution

www.idealphotonics.com

Defense & Space Redmond

Idealphotonics, Inc.

Suite 1525 – 555 Burrard Street,

Box 226 Vancouver,BC,Canada, V7X 1M9

Email:info@idealphotonics.com

www.idealphotonics.com

EXP028, June 2005

Copyright © 2004, Idealphotonics Inc. All

Rights Reserved. Printed in Canada

ISO-9001 Certification Since 1995

DISCLAIMER: Specifications are subject to change without notice. Idealphotonics reserves the right to make changes to any product or technology herein to improve reliability, function, or design. IDP does not assume any liability arising out of the application or use of the product.