

**QA5108 High Resolution Quartz Flexible Accelerometer****Description:**

FOGPhotonics's QA5108 accelerometer employs the latest linear rebalanced accelerometer technology. It is a small, lightweight, high performance Accelerometers, suited for navigation, stabilization and flight control.QA5108 is ideally suited for Inertial navigation systems ;Precision leveling and measuring systems and Gravity meters.

**FEATURES**

- Excellent cost to performance ratio
- ITAR free
- Rebalanced quartz pendulum technology
- Broad dynamic range
- Robust design and high reliability
- Internal temperature sensor
- High purity Quartz Technology
- Ultra High resolution

**APPLICATION**

- Inertial navigation systems;
- Precision leveling and measuring systems;
- Gravity meters

**ABSOLUTE MAXIMUM RATINGS (T=25°C)**

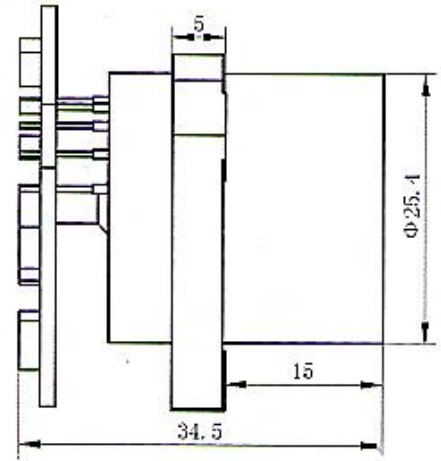
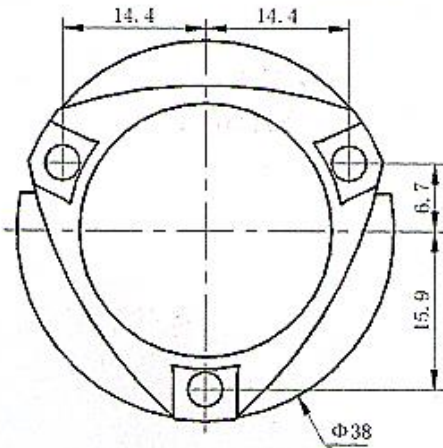
Parameter	Value
Range	±5g
Threshold/Resolution	≤0.05ug
Bias(K <sub>0</sub> )	± 5mg

Bias(k <sub>0</sub> )Temperature Sensitivity	±20µg/°C
- Composite Error	≤250 µg
Bias Long term stability(3Months)	≤5ug
Bias Repeatability (day to day)	≤5ug
Scale Factor (K1)	2±0.3 mA/g
- K1 Temperature Sensitivity	±20 ppm/°C
K1 long term stability	≤5ppm
Scale Factor Repeatability (day to day)	≤5ug
- Composite Error	≤400 ppm
Axis Misalignment	≤3 mrad
- Composite Error	≤100 µrad
Linearity	≤15 µg /g <sup>2</sup>
Natural Frequency	>800Hz
Vibration rectification error	<20µg/g <sup>2</sup> RMS

Environmental	Value
Shock	250 g
Vibration Peak Sine 20..2000 Hz	25 g
Operating Temperature	-55°C...+85°C

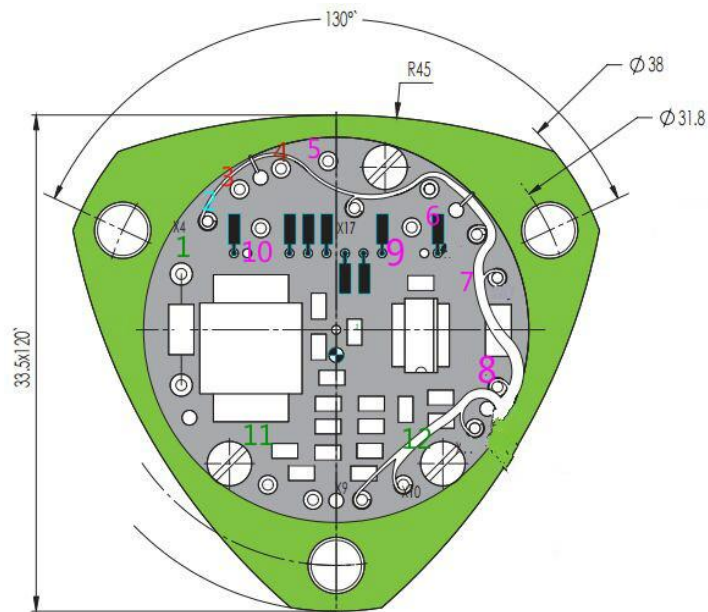
Electrical	Value	Physical	Value
Power	±15V - 2.5W	Weight	<90 grams

## DIMENSIONAL OUTLINE



(dimensions in mm)

### CONNECTOR PIN DEFINITION



Built in OMEGA PT1000 Temperature sensor

Pin	Function	Type	Characteristics
1	Signal Out	Analogue	Acceleration output, current signal
2	Current Torque	Analogue	Current input test pin
3	Negative Power Supply	Power	-15 V
4	Positive Power Supply	Power	+15V

5	Signal Power Ground	Ground	Ground reference for power supplies and signals
6	Voltage Self -Test	Analogue	Voltage input test pin
7	Capacitor plate 1	Capacitor	Capacitor
8	Capacitor plate 2	Capacitor	Capacitor
9	-9 V DC	Analogue	Voltage output
10	+9 V DC	Analogue	Voltage output
11	Temperature Sensor Output	Analogue	Temperature output, current signal
12	Temperature Sensor Output	Analogue	Temperature output, current signal

**Note:**

- a. When welding products, an electric iron with reliable grounding is needed. The welding temperature shouldn't be too high, and the welding time shouldn't be too long. The circuit soldering repetition can't exceed triple times.
- b.  $\pm 15V$  power supply port can not be reversed, and single electrical connection is not allowed (+15V or -15V).
- c. In order to prevent electrostatic damage, please avoid touching the circuit pins directly.
- d. Please pick off the protective cap when using this product in the system.
- e. An alcohol wipe to clean the products is recommended.



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