

## ER-QA-03B Wide-Range Quartz Accelerometer For Aerospace

### Introduction

ER-QA-03B Wide-Range Quartz Accelerometer for aerospace with wide-range, high accuracy, high reliability, not only can be used in aviation and aerospace inertial test but also can be used in both static and dynamic acceleration measurement. In addition, the accelerometer uses a temperature sensor, which the operator can use to compensate bias and scale factor parameters to reduce the influence of temperature factors.

### Applications

Flight control

Stabilization

Aircraft navigation systems

Attitude heading reference systems (AHRS)

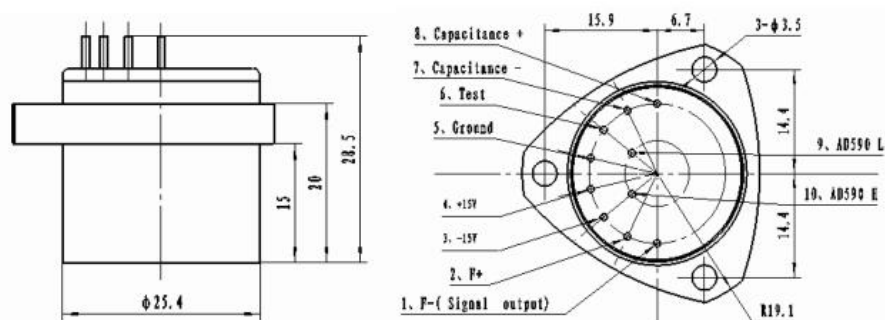
Ground vibration testing (GVT)-wind tunnel testing

### Specifications

No.	Parameters	ER-QA-03B1	ER-QA-03B2	ER-QA-03B3
1	Range	$\pm 70g$	$\pm 70g$	$\pm 70g$
2	Threshold/Resolution	$5\mu g$	$5\mu g$	$5\mu g$
3	Bias	$\leq \pm 3 \text{ mg}$	$\leq \pm 3 \text{ mg}$	$\leq \pm 5 \text{ mg}$
4	Scale factor	$0.8 \sim 1.5 \text{ mA/g}$	$0.8 \sim 1.5 \text{ mA/g}$	$0.8 \sim 1.5 \text{ mA/g}$
5	Class II non-linearity	$\leq \pm 10 \mu g/g^2$	$\leq \pm 15 \mu g/g^2$	$\leq \pm 20 \mu g/g^2$
6	Bias repeatability	$\leq 10 \mu g$	$\leq 20 \mu g$	$\leq 30 \mu g$
7	Scale factor repeatability	$\leq 15 \text{ ppm}$	$\leq 30 \text{ ppm}$	$\leq 50 \text{ ppm}$
8	Class II non-linearity repeatability	$\leq \pm 10 \mu g /g^2$	$\leq \pm 20 \mu g /g^2$	$\leq \pm 30 \mu g /g^2$

9	Bias temp coefficient	$\leq \pm 10 \mu\text{g}/^\circ\text{C}$	$\leq \pm 30 \mu\text{g}/^\circ\text{C}$	$\leq \pm 50 \mu\text{g}/^\circ\text{C}$
10	Scale factor temp coefficient	$\leq \pm 10 \text{ppm}/^\circ\text{C}$	$\leq \pm 30 \text{ppm}/^\circ\text{C}$	$\leq \pm 50 \text{ppm}/^\circ\text{C}$
11	Noise	$\leq 5\text{mv}$	$\leq 5\text{mv}$	$\leq 5\text{mv}$
12	Natural Frequency	400~800 Hz	400~800 Hz	400~800 Hz
13	Bandwidth	800~2500 Hz	800~2500 Hz	800~2500 Hz
14	Vibration	6g (20-2000Hz)	6g (20-2000Hz)	6g (20-2000Hz)
15	Shock	100g, 5ms, 1/2sin	100g, 5ms, 1/2sin	100g, 5ms, 1/2sin
16	Operating temperature	-55~+85 $^\circ\text{C}$	-55~+85 $^\circ\text{C}$	-55~+85 $^\circ\text{C}$
17	Storage temperature	-60~+120 $^\circ\text{C}$	-60~+120 $^\circ\text{C}$	60~+120 $^\circ\text{C}$
18	Power	$\pm 12 \sim \pm 15\text{V}$	$\pm 12 \sim \pm 15\text{V}$	$\pm 12 \sim \pm 15\text{V}$
19	Consume current	$\leq \pm 20\text{mA}$	$\leq \pm 20\text{mA}$	$\leq \pm 20\text{mA}$
20	Size	$\Phi 25.4 \times 30\text{mm}$	$\Phi 25.4 \times 30\text{mm}$	$\Phi 25.4 \times 30\text{mm}$
21	Weight	$\leq 80\text{g}$	$\leq 80\text{g}$	$\leq 80\text{g}$

## Install dimension



Mark:

The temperature sensor is AD590, Point 10 is the high power. The point 9 is the low power. The point 9 and power ground use one platinum resistance; the value is 1K, the thermal coefficient is less than 5ppm.