

# Fused-Quartz Accelerometer AI-Q-810 Datasheet



## General Description

The InnaLabs® AI-Q-810 is an ideal, ITAR and export control free commercial accelerometer, and an ideal choice for aerospace, industrial, transport, and civil engineering applications. The AI-Q-810 fused quartz-based servo accelerometer offers a dynamic range of  $\pm 15$  g with a one-year bias composite repeatability of  $1,200 \mu\text{g}$ , a quiescent power lower than 250 mW, in a compact and ruggedized casing that provides a high shock and vibration resistance, matching the highest industry standards at a very economical price.

## Principle of Operations

The AI-Q-810 features an internal temperature sensor that allows the user to carry out temperature calibration and compensation, enhancing the bias, scale factor and axis misalignment performance over temperature. State-of-the-art manufacturing processes enable InnaLabs® to offer the AI-Q-810 at a competitive price.



The AI-Q-810 is the optimum choice for a wide range of high accuracy applications such as IMU, INS, measurement & control systems for high speed trains, structural health monitoring, platform leveling, and many more applications.

## How to Order

AI-Q-810 is available to order from InnaLabs® worldwide network of Agents and distributors by contacting [contact.sales@innalabs.com](mailto:contact.sales@innalabs.com).

## Features

- Sub 1 mg
- Low input range <15 g
- Environmentally rugged
- Analogue current output
- Compact design
- High thermal stability
- Internal temperature sensor for thermal compensation
- Built-in self test

## Applications

- Inertial Navigation Systems (INS)
- Inertial Measurement Units (IMU)
- Flight control systems
- Unmanned systems & helicopters
- Platform leveling
- Structural health & maintenance
- Land & marine vehicles
- Inclometers for industrial & drilling
- Train & rail measurement systems
- Robotic systems



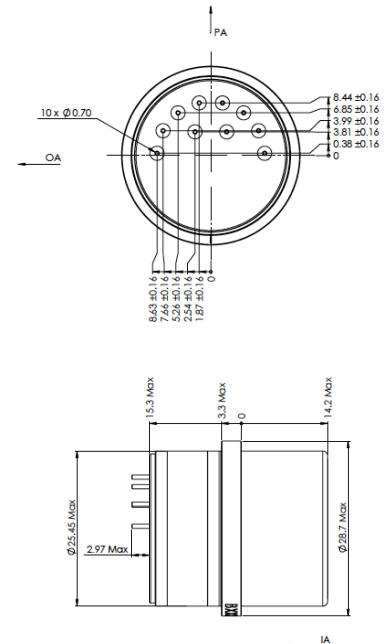
# Fused-Quartz Accelerometer AI-Q-810 Datasheet



## Specification

Parameter	Value
Input Range	±15 g
Bias	<8 mg
One-Year Composite Repeatability	<1,200 µg
Temperature Sensitivity	<70 µg/°C
Scale Factor	1.23 to 1.43 mA/g
One-year Composite Repeatability	<1,200 ppm
Temperature Sensitivity	<200 ppm/ °C
Axis Misalignment	<2,000 µrad
Vibration Rectification	<50 (50-200 Hz) µg/g <sup>2</sup> RMS <100 (200-750 Hz) µg/g <sup>2</sup> RMS <150 (750-2000 Hz) µg/g <sup>2</sup> RMS
Intrinsic Noise	<7 (0.1-10 Hz) µgRMS <70 (10-500 Hz) µgRMS <1,500 (500-10,000 Hz) µgRMS
<b>Environment</b>	
Operating Temperature	-55 to +96°C
Shock	250 g
Vibration Peak Sine	25g @20 to 2,000 Hz
Resolution/Threshold	<1 µg
Bandwidth	>300 Hz
<b>Temperature</b>	
Temperature Sensor	Yes
<b>Electrical</b>	
Quiescent Current per Supply	<5 mA (-15V) & <10 mA (-15V)
Quiescent Power @ ±15V DC	<250 mW
Electrical Interface	Temp Sensor Voltage Self Test Current Self Test Power/Signal Ground -10VDC Output +10VDC Output
Input Voltage	±13 to ±28 VDC
<b>Physical</b>	
Weight	61.4 ±2g
Size	Ø 25.45 mm Max
Case Material	300 Series Stainless Steel

## Dimensions



## Related Products

InnaLabs® offers a range of accelerometers based on the same design and production processes such as the AI-Q-710.

If you wish to be automatically updated on future releases of this product datasheet, please contact your local InnaLabs® Sales Agent.

IN-PER-E-10-DAT-0038 Rev 1.1

**Disclaimer:** This document is subject to change without notice. InnaLabs® reserves the right to make changes to any product or technology herein. InnaLabs® does not assume any liability arising out of the application or use of the product.

