



FREQUENTLY ASKED QUESTIONS

Pressure Sensors in Drone, eVTOLs and other Aerospace Platforms

Welcome to the All Sensors FAQ for Drones, eVTOLs and other Aerospace Platforms. This section answers common questions about pressure sensing technology, aerospace applications, and our products. Whether you are exploring sensor options or looking for technical guidance, this FAQ is designed to provide clear and helpful information, but we are also available to answer your questions directly and in more depth.

Q: How do I measure airspeed in a UAV?

A: Airspeed is commonly measured using a pitot-static system paired with a differential pressure sensor. These sensors measure the pressure difference between the pitot and static ports, allowing the flight controller to calculate airspeed. All Sensors' AUAV, DLHR, ELVX and ELVH series are excellent options for UAV airspeed measurement.

Q: Why do UAVs use pressure sensors instead of relying only on GPS?

A: GPS provides accurate position and ground speed but cannot directly measure airspeed or provide the fast altitude and pressure data required for stable flight control. Continuous airspeed and atmospheric pressure measurements enable flight controllers to make rapid adjustments for navigation, stabilization, and autonomous flight. The AUAV series combines both altitude and airspeed sensing in a single compact solution.

Q: How is altitude measured in an unmanned aircraft?

A: Altitude is typically measured using a barometric pressure sensor that measures changes in atmospheric pressure, which decreases as altitude increases. As altitude changes, atmospheric pressure decreases, enabling the flight controller to estimate altitude for navigation, stabilization, and autonomous flight. The AUAV series provides both altitude and airspeed, while the ELVH is a great option for altitude or airspeed measurement only.

Q: What are the benefits of combining airspeed and altitude sensing?

A: Combining differential and barometric pressure sensing enables simultaneous airspeed and altitude measurements while reducing component count, weight, and power consumption. This integration simplifies system design and enhances cost-effective performance, making it ideal for compact system designs. The AUAV series integrates differential and barometric pressure sensing into a single package, improving system efficiency and simplifying system design by providing two critical measurements in one sensor.

Q: How do I choose between differential and barometric pressure sensors?

A: Differential pressure sensors measure the pressure difference between two points and are commonly used for airspeed measurement. Barometric pressure sensors measure atmospheric pressure and are typically used

for altitude determination and environmental monitoring. Many applications benefit from using both sensor types for comprehensive flight data.

Q: What communication interfaces do All Sensors digital pressure sensors support?

A: All Sensors digital pressure sensors feature industry-standard I2C and SPI interfaces, enabling seamless integration with flight controllers, avionics, embedded processors, and other systems requiring reliable pressure data.