

What is Inertial Measurement Unit ?

Inertial Measurement Unit (IMU in brief), is an electronic device that measures and reports a body's specific force, angular rate, and sometimes the magnetic field surrounding the body, using a combination of accelerometers and gyroscopes, sometimes also magnetometers. IMUs are typically used to maneuver aircraft, including unmanned aerial vehicles (UAVs), among many others, and spacecraft, including satellites and landers.

IMUs are often incorporated into Inertial Navigation Systems which utilize the raw IMU measurements to calculate attitude, angular rates, linear velocity and position relative to a global reference frame. The IMU equipped INS forms the backbone for the navigation and control of many commercial and military vehicles such as manned aircraft, missiles, ships, submarines, and satellites. IMUs are also essential components in the guidance and control of unmanned systems such as UAVs, UGVs, and UUVs.

SkyMEMS high performance inertial measurement unit adopts the newest MEMS technologies, it is a new type of micro inertial measurement unit which enjoys high reliability, high stability, and adjustment in harsh environment. The system is composed of micro accelerometer, micro gyroscope and high-performance information processing circuit, it is mainly used to measure 3D linear acceleration and 3D angular acceleration, if combined with navigation processing circuit, more inertial parameters including position, speed, attitude and other parameters can be calculated.

We will continue to provide the best solution through development of the compact, low-voltage and high-performance inertial measurement unit to our customers in the future.

Applications of MEMS gyro sensor

SkyMEMS has different types of inertial measurement unit systems, which have been widely used in the following fields:

- UAS Navigation & Control
- Platform Stabilization
- Movement Control System
- Robotics Control
- Antenna Pointing
- Artillery Rocket
- Unmanned Control
- Underwater Systems

- Control & Stabilization
- Measurement & Testing