



# SmartMotion



## OVERVIEW

The SMART Motion sensor is a rugged, high precision, all-digital triaxial accelerometer for structural monitoring. The system on integrated chip (SOIC) design supports advanced local features such as event detection and redundant data storage to help distribute computation, reduce bandwidth, and lower demands on the sensor network. Applications include structural health monitoring (SHM), vibration monitoring, and event/disturbance detection. The device is easily mounted to the structure using built-in mounting holes. The aircraft grade aluminum housing is rugged and suitable for harsh corrosive environments. The device is IP68 rated against dust and pressure washdown ingress.

## SPECIFICATIONS

Sensor Configuration	Triaxial MEMS sensor
Range	Software configurable +2g +4g +8g +16g
Resolution	0.0043 g
Accuracy	0.1%
Bandwidth	0.5Hz to 1.6 kHz
Max Sampling Rate	3 kHz, buffered on device. Polling is limited to network speed

## CONNECTIVITY

Connection to PC, data acquisition system, or SCADA is accomplished using the built in waterproof RJ45 Network connection or 4-pin RS-485 half-duplex connection. Power is provided using either power over ethernet (POE) or a dedicated 24V power carrier in the RS-485 port. The device complies with standard MODBUS RTU communication protocol for easy integration with other systems

Environmental	-20°C to 85°C IP68 (Dust-tight, temporary submersion) Max 10,000g Shock
Dimensions	9.1 x 4.7 x 3.0 in
Connectivity	2x RJ45 / Cat5e Ethernet/IP MODBUS TCP 1x 4 pin RS-485 MODBUS RTU
Power	24VDC