



iSensor™ Calibrated and Programmable Motion Sensing

ADI's iSensor™ products provide precision motion sensing measurement for acceleration, inclination, shock, vibration, and rotation. Sensor biases and sensitivities are factory-calibrated, making system integration simpler and more cost-effective. Most devices are easily interfaced and programmed over an SPI port, enabling the optimization of many industrial applications in motion analysis and navigation.



iSensor motion sensor products

Features ▶

- SPI serial interface
- Programmable filtering, sample rate, alarms, and power management
- In-system auto-zero
- Digital self-test
- Single supply operation

Benefits ▶

- Factory calibration eliminates the need for costly motion tests
- Fully integrated, requiring only SPI and power supply interfaces
- Tunable in-system for fast prototyping and application optimization
- Faster time-to-market and reduced development time and cost
- Higher precision from embedded calibration, integration, and processing

Applications ▶

- Motion control and analysis
- General navigation, inertial measurement
- Platform control and stabilization
- Robotics
- Condition monitoring, safety systems

Product Specifications ▶

Part Number	Description	Features	Applications	Sensors	Bandwidth	Output	Supply Voltage (V)	Package
ADIS16003	Digital accelerometer	±1.7g response; dual axis; fully integrated	Motion detection; platform stabilization	Accelerometer and temperature	2.25 KHz	SPI	3-5.25	7 mm LGA, 12 leads
ADIS16006	Digital accelerometer	±5g response; dual axis; fully integrated	Motion detection; platform stabilization; crash sensor	Accelerometer and temperature	2.25 KHz	SPI	3-5.25	7 mm LGA, 12 leads
ADIS16201	Programmable inclinometer and accelerometer	±90° (±1.7g) response; dual axis; factory-calibrated; fully tunable over SPI port; alarms	Tilt sensing; platform stabilization; process controls; motion monitoring; robotics	Accelerometer and temperature	2.25 KHz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16203	Programmable inclinometer	360° response; single axis; factory-calibrated; fully tunable over SPI port; alarms	Tilt sensing; platform stabilization; process controls; motion monitoring; robotics	Accelerometer and temperature	2.25 KHz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16204	Programmable Hi-G impact sensor	±70/35g response; dual-axis; peak sample and hold; RSS; fully tunable; event recorder	Impact detection; condition monitoring; safety systems; shock sensor	Accelerometer and temperature	400 Hz	SPI	3-3.6	9 mm LGA, 16 leads
ADIS16100	Digital angular rate sensor	±300°/sec. yaw rate response; fully integrated	Navigation; image/platform stabilization; robotics	Gyro and temperature	40 Hz	SPI	4.75-5.25	8 mm LGA, 16 leads
ADIS16080	Digital angular rate sensor	±80°/sec. yaw rate response; fully integrated	Navigation; image/platform stabilization; robotics	Gyro and temperature	40 Hz	SPI	4.75-5.25	8 mm LGA, 16 leads
ADIS16250	Programmable angular rate sensor	Digital range scaling (80-320); factory-calibrated; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16251	Programmable angular rate sensor	Digital range scaling (20-80); factory-calibrated; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16255	Precision programmable angular rate sensor	Digital range scaling (80-320); factory-calibrated over temperature; fully tunable over SPI port; alarms	Instrumentation control; platform stabilization; navigation; robotics	Gyro and temperature	50 Hz	SPI	4.75-5.25	11 mm LGA, 20 leads
ADIS16120	Low noise angular rate sensor	300°/sec. range; factory-calibrated; improved vibration rejection	Guidance and control; avionics instrumentation; IMUs; stabilization	Gyro and temperature	320 Hz	Analog	4.75-5.25	35 mm x 42 mm, 24 leads
ADIS16130	Digital low noise angular rate sensor	300°/sec. range; factory-calibrated; improved vibration rejection; integrated ADC	Guidance and control; avionics instrumentation; IMUs; stabilization	Gyro and temperature	320 Hz	SPI	4.75-5.25	35 mm x 42 mm, 24 leads
ADIS16350	Tri-axis inertial sensor	Six degrees of freedom measurements; factory-calibrated; alignment compensation; fully tunable over SPI port; programmable condition monitoring	IMUs; general navigation; robotics; platform stabilization; guidance and control; motion analysis	Gyro (3) and accelerometer (3) and temperature	350 Hz	SPI	4.75-5.25	23 mm x 23 mm, 24 leads
ADIS16355	High-precision tri-axis inertial sensor	Six degrees of freedom measurements; factory-calibrated over temperature; alignment compensation; fully tunable over SPI port; programmable condition monitoring	IMUs; general navigation; robotics; platform stabilization; guidance and control; motion analysis	Gyro (3) and accelerometer (3) and temperature	350 Hz	SPI	4.75-5.25	23 mm x 23 mm, 24 leads

