High-performance SmartIndustrial™ 6-axis MotionTracking®
MEMS Device for Industrial Applications

GENERAL DESCRIPTION

The IIM-46230 is a 6-axis MotionTracking device that combines multiple 3-axis gyroscopes and 3-axis accelerometers packaged in a module that is approximately 23 mm x 23 mm x 8.5 mm and includes a standard 20 pin connector interface.

The IIM-46230 includes multiple capabilities to enable easy, robust and accurate inertial measurements in Industrial applications:

- TDK proprietary SensorFT™ (Fault Tolerance) feature that delivers built-in redundancy and early warning
- Low bias instability
- Low offset and sensitivity variation over temperature
- Robustness to shock and vibration
- Triaxial, delta angle and delta velocity output
- Accurate timestamps, which can be set to UTC timestamp and synchronized to an external PPS pulse
- Operating temperature range: -40°C to 85°C
- Factory calibration over temperature range for Bias, Sensitivity, misalignment, G-sensitivity
- Dynamic correction of the output of Acceleromer and Gyroscope measurements with user configured bias, sensitivity and misalignment values stored in the device

The device features an operating voltage range from 3.6V down to 3.0V.

ORDERING INFORMATION

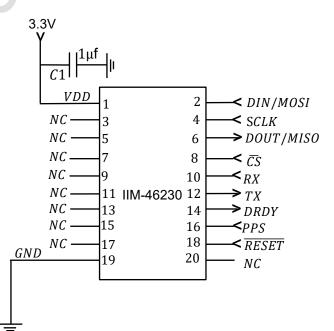| PART NUMBER	TEMPERATURE	PACKAGE
IIM-46230†	−40°C to +85°C	Module

†Denotes RoHS and Green-compliant package

APPLICATIONS

- Agriculture and construction machinery
- Navigation
- Platform stabilization
- Asset Tracking
- Robotics
- Industrial automation
- Survey equipment

FEATURES

- 3-Axis Gyroscope with FSR up to ±2000 °/sec
  - 4.1°/hr (typical) bias instability
- 3-Axis Accelerometer with FSR up to ±16g
- Digital-output temperature sensor
- Programmble digital filters
- Built-in MEMS oscillator for accurate time stamp
- PPS/External Sync input for clock corrections
- Host interface: UART or SPI
- Single-supply operation from 3.0V to 3.6V
- 2000g shock survivability
- RoHS and Green compliant

TYPICAL OPERATING CIRCUIT