





High Precision 6-Axis MEMS MotionTrackingâ,¢ Device – ICM-42688-P

# **Description**







# High Precision 6-Axis MEMS MotionTrackingâ,,¢ Device ICM-42688-P

The <u>ICM-42688-P</u> is a 6-axis MEMS MotionTracking device that combines a 3-axis gyroscope and a 3-axis accelerometer. It has a configurable host interface that supports I3C, IÂ<sup>2</sup>C, and SPI serial communication.

It features a 2 kB FIFO and 2 programmable interrupts with ultra-low-power wake-on-motion support to minimize system power consumption. Other industry-leading features include InvenSense on-chip APEX Motion Processing engine for gesture recognition, activity classification, pedometer, programmable digital filters, and an embedded temperature sensor.



#### **ICM-42688-P Features and Benefits**

- Gyroscope Noise: 2.8 mdps/â^šHz & Accelerometer Noise: 70 μg/â^šHz
  - Low-Noise mode 6-axis current consumption of 0.88 mA
- User selectable Gyro Full-scale range (dps): ±15.6/31.2/62.5/125/250/500/1000/2000
- User selectable Accelerometer Full-scale range (g): ±2/4/8/16
- User-programmable digital filters for gyro, accel, and temp sensor
- Noise and current consumption:
  - APEX Motion Functions:
  - o Pedometer, Tilt Detection, Tap Detection
  - o Wake on Motion, Raise to Wake/Sleep, Significant Motion Detection
- Host interface: 12.5 MHz I3CSM, 1 MHz IÂ2C, 24 MHz SPI

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### **About TDK InvenSense**

**InvenSense, Inc, a TDK Group Company** is part of the Sensor System Business Company within TDK and is the induleader in MEMS Motion, Audio, and Pressure Solutions for the consumer, industrial, automotive, and IoT market segme TDK provides a very robust portfolio of MEMS 3/6/7/9 axis motion sensors, accompanied by the highest performing ME audio microphones, and pressure sensors. TDK continues to push the boundaries of performance and quality; setting no standards of innovation across multiple industries.

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## Category

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