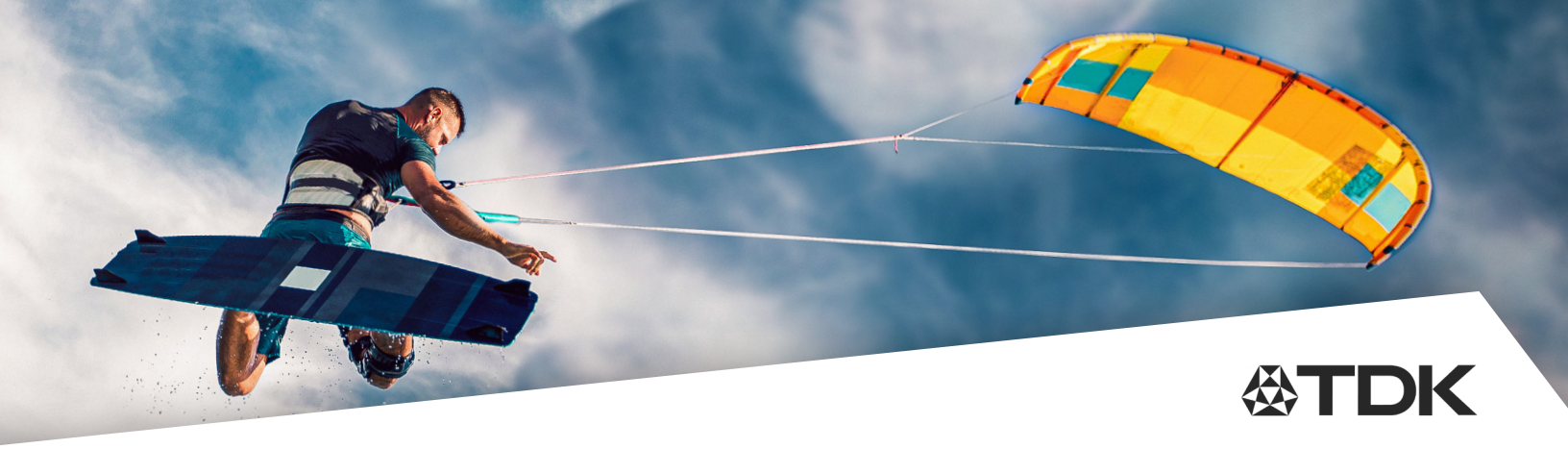

SmartMotion®

PRIMARY APPLICATIONS

Wearables & Hearables (TWS)
Captures wrist gestures, fitness activities, exercise motion, sleep signatures, and accurately detects head orientation for spatial 360° audio, all with low power consumption

Mobile Devices
APEX, raise to wake/sleep, significant motion detection, and the smallest & thinnest LGA package

AR & VR
Low noise, 19-bits of gyroscope data & 18-bits of accelerometer data, external clock input, tilt detection, tap detection, and significant motion detection

Drones
Most trusted IMUs with long market history. Low Noise and high temperature stability, 32kHz ODR for fast response, ±32g Accel FSR for wide measurement range

FEATURED PRODUCTS

ICM-45605

Ultra-high-performance 6-axis MEMS IMU with the world's first BalancedGyro™ technology and lowest power consumption. On-chip Digital Motion Processor enable advanced motion algorithms and machine learning capability

ICM-40609-D

6-axis MEMS IMU designed for drone market with high performance and accuracy over temperature, 32kHz max ODR and ±32g full scale range for accel

ICM-42670-P

High-performance 6-Axis MotionTracking IMU targeted at consumer & IoT applications that require ultra-low power for longer battery lives. Also features user-programmable digital filters for gyro, accel, and temp sensors

PRODUCT CATEGORIES

ICM-45605
Ultra-low Power Sensors,Wearable/Hearable, IoT

- Industry's lowest power consumption
- 6-axis LNM: 420 µA; 3-axis ULPM: 15 µA
- BalancedGyro™ technology enables supreme vibration rejection and temperature stability
- Machine Learning capability with on-chip ML algorithm support
- Wearables, Hearables, AR/VR, sports, IoT

ICM-40609-D
High-stability Sensors, Drones

- Industry's lowest noise
- Leading temperature stability
- Sample synch with RTC
- 16/32 kHz real-time ODR
- Hi-def ADC enables 8x higher sensor resolution
- Drones: flight control, gimbals

ICM-42670-P
Intelligent Sensors, Wearables/Hearables, Gaming

- Low sleep current (3.5 µA) and accel LP mode current (4.4 µA)
- Small package size with lowest Z-height: 0.76 mm
- Embedded features: APEX pedometer, built-in gestures
- Smart home, gaming, wearables, hearables, IoT

ICM-42688-P
High-Precision SensorsAR/VR, Robotics

- Lowest Noise: Gyro LNM 2.8 mdps/√Hz & Accel LNM 70 µg/√Hz
- High Precision: , 19-bits gyro data & 18-bits accel data
- Embedded features:, tilt detection, tap detection, significant motion detection and pedometer
- AR/VR, Robotics, HMD, High performance IoT

PRODUCT DETAILS

Product Number	Package *(mm)*	Gyro FSR *(°/sec)*	Gyro Sensitivity *(LSB/°/sec)*	Accel FSR *(g)*	Accel Sensitivity *(LSB/g)*	Digital Output	Output Data Rate	Operating Voltage *(V)*
ICM-45605	2.5 × 3 × 0.81	n/a	16.4 – 2097.2	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 6.4 kHz	1.71 – 3.6 (VDD) 1.08 – 3.6 (VDDIO)
ICM-40609-D	3 × 3 × 0.91	n/a	16.4 – 2097.2	±4 – ±32	1024 – 8192	Single Interface I²C, or SPI	Up to 32 kHz	1.71 – 3.6
ICM-42670-P	3 × 3 × 0.76	2000	16.4 – 131	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 1.6 kHz	1.71 – 3.6
ICM-42688-P	2.5 × 3 × 0.91	4000	16.4 – 2097.2	±2 – ±16	2048 – 16384	Single Interface I3C℠, I²C, or SPI	Up to 6.4 kHz, RTC Input	1.71 – 3.6

Scan Here for additional materials and information.