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, Wearables/Hearables, 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 Sensors AR/VR, Robotics
  - Lowest Noise: Gyro LNM 2.8 mdpv/√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

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