

MEMS Sensors

TDK announces high-performance IMU to accelerate optical image stabilization adoption

- TDK's SmartMotion® high-performance optical image stabilization (OIS) solution brings crisp, blur-free photos and videos to a wide range of smartphones, tablets and cameras
- The new custom sensing solution for OIS supports superb image stabilization and quality, even in low light
- Now in production, the ICM-536xx IMU is immediately available to select customers by direct sales inquiry

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TDK Corporation (TSE:6762) announces availability of the new InvenSense SmartMotion® ICM-536xx family of high-performance 6-axis IMUs to select customers, bringing high-performance optical image stabilization (OIS) to a wide range of smartphones, tablets, and cameras, for crisp, blur-free photos and videos.

OIS technology compensates for hand shake and movement, delivering clearer photos and smoother videos in low light, even during zoom or long-exposure shots. As consumer demand for high-quality mobile photography and videography continues to surge, OIS has become a must-have feature in mid-range and flagship smartphones alike. Building on 15 years of leadership in developing premium OIS/EIS custom sensing solutions for select smartphone and camera OEMs, TDK's new ICM-536xx empowers manufacturers to integrate advanced OIS into a broader range of devices, meeting the growing expectations of content creators and everyday users. It supports up to 6.4 kHz ODR and up to 20-bit data resolution for optimal image quality.

"OIS has been a premium feature historically reserved for high-end smartphones, due to the cost, size, and power consumption of the required sensor technology," said Pankaj Aggarwal, VP and GM of Consumer and Industrial Motion Sensor Business at InvenSense, a TDK Group company. "TDK's new ICM-536xx family addresses these challenges head-on, offering a thinner, power-efficient, and mainstream solution without compromising on performance."

For additional information about the SmartMotion high-performance OIS solution or to request samples by direct sales inquiry, please complete the contact form at invensense.tdk.com/smartmotion or invensense.tdk.com/solutions/mobile, or email inv.sales.us@tdk.com.

Glossary

- ODR: output data rate
- OIS: optical image stabilization
- EIS: electronic image stabilization
- IMU: inertial measurement unit
- 6-axis: 3-axis gyroscope + 3-axis accelerometer
- MEMS: micro-electro-mechanical systems
- FSR: full scale range

Main applications

- Smartphones
- Tablets
- Motion cameras

Main features and benefits

- Dual interface for UI and OIS with up to 6.4 kHz ODR
- Wide FSR: ± 32 g/ ± 4000 dps
- I3C/I²C/SPI serial interface with 1.2 V VDDIO support
- Thinner package height for placement flexibility
- FSYNC input for image frame synchronization
- 20-bit data option for high resolution
- On-chip free-fall detection as OIS actuator protection mechanism

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads, software and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics, and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 people worldwide.

About InvenSense

InvenSense, a TDK Group company, is a world-leading provider of Sensing Solutions. InvenSense's vision of Sensing Everything® targets the consumer electronics and industrial areas with integrated Motion, Sound, Pressure, and Ultrasonic solutions. InvenSense's solutions combine MEMS (micro electrical mechanical systems) sensors, such as accelerometers, gyroscopes, compasses, microphones, barometric pressure sensors, and ultrasonic time-of-flight sensors with proprietary algorithms and firmware that intelligently process, synthesize, and calibrate the output of sensors, maximizing performance and accuracy. InvenSense's motion tracking, ultrasonic, audio, fingerprint, location platforms and services can be found in Mobile, Wearables, Smart Home, Industrial, Automotive, IoT, Robotics, and many more types of products. InvenSense became part of the MEMS Sensors Business Group within the Sensor Systems Business Company of TDK Corporation in 2017. In April of 2022, Chirp Microsystems formally merged with InvenSense. InvenSense is headquartered in San Jose, California and has offices worldwide.

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