

FSP201

6-AXIS SENSOR HUB

Our FSP201 provides superior planar heading and 6-axis IMU performance ideal for high-volume, cost-conscious consumer robots, XR, 3D audio, and other motion-based devices. The FSP201 is an application-specific standard product (ASSP) integrating Hillcrest's high-performance sensor hub software into a low-power 32-bit ARM Cortex M23 MCU.

In robots, our Interactive Calibration software helps the FSP201 achieve consistently superior performance, even with low-cost sensors. With Stabilized Game Rotation Vector, digital experiences are smooth and life-like. This two chip solution lets manufacturers choose between various sensor suppliers, making them resilient to supply chain disruptions.

By addressing common sensor anomalies with advanced algorithms that are continually perfected through rigorous testing, our motion sensors deliver more accurate dynamic heading than the competition. This small, adaptive component benefits developers and integrators with reductions in development time, reduced BOM cost, and the highest precision and quality. We've built a deep, flexible sensor platform so you can focus on innovating in other product areas. Leave the sensor fusion to the experts.

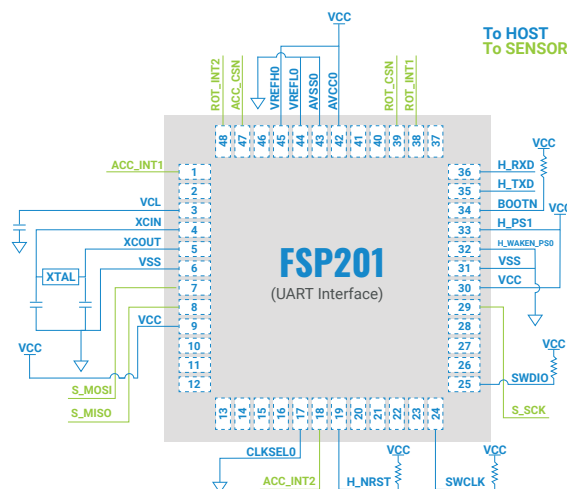


FEATURE HIGHLIGHTS

- ✓ MotionEngine™ 6-Axis Sensor Fusion – Provides raw, calibrated and fused sensor orientation data with best in class heading accuracy and stability
- ✓ Choose Your Sensor – Low-cost MEMS sensors from top sensor vendors are supported
- ✓ Improved Performance – Working with our specialized Interactive Calibration software, top performance is achieved even with low-cost sensors
- ✓ Stabilized Game Rotation Vector – corrects orientation drift slowly and imperceptibly to the user to maintain immersion
- ✓ Dynamic Calibration – Our algorithms constantly monitor changes in sensor performance and temperature during live operation to deliver the highest performance
- ✓ Intelligent Power Management – Manages sensor states to conserve power without sacrificing quality of motion data
- ✓ Auto-Centering – Dynamically recenters the soundstage in 3D audio applications to eliminate drift
- ✓ Flexible Integration – I2C and simplified UART communication available

KEY PRODUCT ATTRIBUTES

SAMPLING RATE (FUSED OUTPUTS)	Up to 400 Hz
MAX RATE ANGLE	± 2000°/sec
PACKAGE	LQFP(48)
DIMENSIONS	7.0 x 7.0



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6-AXIS SENSOR HUB

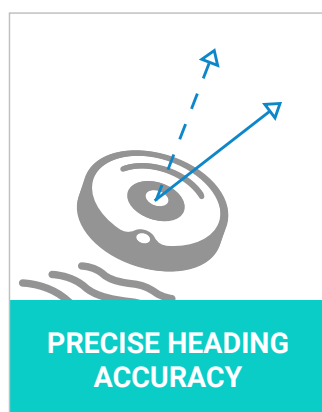
PERFECT FOR YOUR ROBOTICS APPLICATION

The FSP201 is optimized for service and ground-roving robots such as floor cleaners, lawnmowers, and garden products that employ Simultaneous Localization And Mapping (SLAM) or other intelligent navigation solutions.

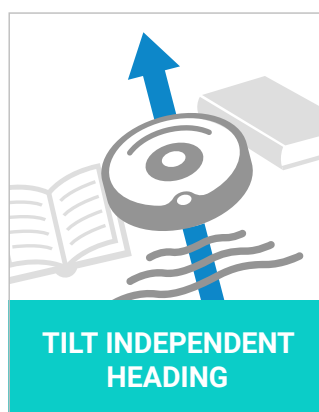
The combination of our MotionEngine sensor fusion software and a variety of external 6-axis sensors delivers superior heading performance even when the surface is not level. The FSP201 also provides features that enable bump and inclination detection, eliminating the cost of additional motion sensors or switches.

Systems designers can choose from a variety of sensors to best match performance and cost requirements. Our Interactive Calibration algorithms allow those sensors to maintain excellent performance in the field over time.

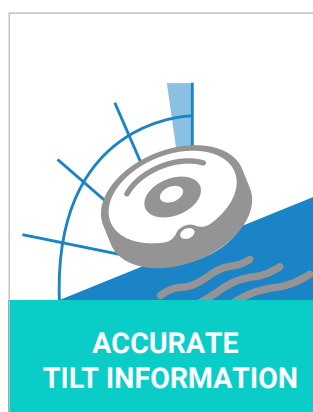
The FSP201 is simple to design into your product. The automatic UART mode requires no software configuration and the optional factory calibration algorithm is built in. Calibration is done at board test or product final test with simple motions, and does not require costly jigs, motorized turntables or gimbals.



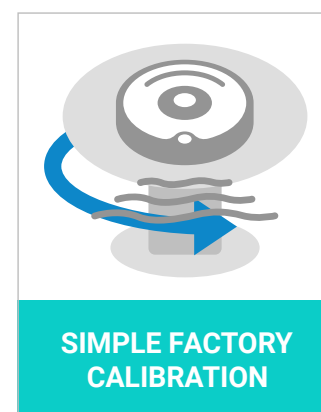
Configurable sampling rates up to 400Hz offer design tradeoffs with power consumption



Allows for proper heading output when surface is uneven



Inclination detection provides 3DOF robot orientation, allowing detection of ground surface and device issues



Optional factory calibration requiring no specialized equipment; calibration algorithm built in

Please [contact us](#) to learn more.

ABOUT CEVA

CEVA is the leading licensor of wireless connectivity and smart sensing technologies and integrated IP solutions for a smarter, safer, connected world. We provide Digital Signal Processors, AI engines, wireless platforms, cryptography cores and complementary software for sensor fusion, image enhancement, computer vision, voice input and artificial intelligence. These technologies are offered in combination with our Intrinsic IP integration services, helping our customers address their most complex and time-critical integrated circuit design projects. Leveraging our technologies and chip design skills, many of the world's leading semiconductors, system companies and OEMs create power-efficient, intelligent, secure and connected devices for a range of end markets, including mobile, consumer, automotive, robotics, industrial, aerospace & defense and IoT.

Our DSP-based solutions include platforms for 5G baseband processing in mobile, IoT and infrastructure, advanced imaging and computer vision for any camera-enabled device, audio/voice/speech and ultra-low-power always-on/sensing applications for multiple IoT markets. For sensor fusion, our Hillcrest Labs sensor processing technologies provide a broad range of sensor fusion software and inertial measurement unit ("IMU") solutions for markets including hearables, wearables, AR/VR, PC, robotics, remote controls and IoT. For wireless IoT, our platforms for Bluetooth (low energy and dual mode), Wi-Fi 4/5/6/6E (802.11n/ac/ax), Ultra-wideband (UWB), NB-IoT and GNSS are the most broadly licensed connectivity platforms in the industry.

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