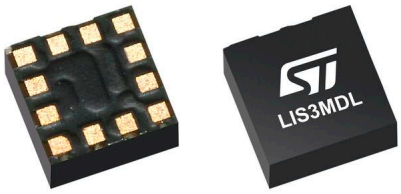
# Standalone 3-axis magnetometer delivers high performance in a very small package




STMicroelectronics has added a high-performance standalone 3-axis magnetometer to its MEMS sensor portfolio. The new sensor delivers high performance in a very small package.

Because of its small size and high performance, the sensor is ideal for mobile phones, tablets or personal navigation devices. ST’s standalone magnetometer is also perfectly suited to indoor navigation applications where it reliably calculates dead-reckoning when no satellite signal is available

By introducing the 2 x 2 x 1mm LIS3MDL magnetometer, ST now offers unique flexibility for designers to implement movement and position detection in space-constrained products such as smartphones and personal navigation devices. The device can also be combined with other discrete sensors from ST such as 3-axis MEMS accelerometer or 3-axis MEMS gyroscope, to build sensors with as many as 9 degrees of freedom (DOF).

Using ST’s iNEMO Engine Sensor Fusion software, designers can further enhance location-detection capabilities by integrating additional miniature sensors from ST’s portfolio for multiple-DOF (M-DOF) sensing. Sensor Fusion software helps coordinate any combination of sensors from ST’s broad portfolio to create reliable, high-quality M-DOF systems quickly and efficiently for location-based services, enhanced motion-based gaming, and pedestrian dead-reckoning for indoor and multi-floor navigation. For example adding a MEMS pressure sensor, for altitude sensing, can enhance in-building accuracy, as well as support extended smartphone functionality and location-based operator services.

“By introducing our first discrete magnetometer and offering high performance and low power consumption, we can now offer customers a complete range of standalone and integrated miniature sensors,” said Fabio Pasolini, General Manager, Motion MEMS Division, STMicroelectronics. “Designers can partition their multiple-degrees-of-freedom sensor designs with optimal performance.”

ST is the leading supplier of MEMS devices for consumer and mobile applications according to IHS, with 48% of the world market for motion sensors in mobile handsets and tablets in 2012. ST’s sensors are the most used sensors across all of the major portable operating systems (Android, iOS, and Windows).

Samples of the LIS3MDL are available and mass production is scheduled for Q2 2013. Unit pricing is US$0.60 for volumes in the range of 1,000 pieces. If your company has a high-volume need, please contact your ST sales office.

**STMicroelectronics**
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