

IC enables 360° navigation in human-machine interfaces

austriamicrosystems has announced the AS5013, a contactless magnetic encoder IC that monitors the displacement of a magnet incorporated in a knob relative to its center position and provides x and y position information via an I²C interface. The AS5013 Hall-sensor IC is used in the EasyPoint™ mini joystick module, which consists of a mechanical stack incorporating a navigation knob, a magnet and the AS5013 magnetic encoder IC. Its simple construction and contactless sensing technology give the module very high reliability and is designed for any kind of 360° navigation input device.

The AS5013 is a complete Hall-sensor IC for human-machine interface (HMI) applications requiring low power. This simplifies software integration challenges for joystick navigation in products such as cell phones and other handheld devices, e.g. MP3 players, PDAs, GPS receivers, Digital Still Cameras, gaming consoles, and remote controls. The AS5013 single-chip IC includes user-selectable power-saving modes, 5 integrated Hall sensing elements for detecting up to ±2 mm lateral displacement, a high-resolution analog-to-digital converter (ADC), an XY coordinate and motion detection engine, and a smart power management controller. The XY coordinate registers and magnetic field information for each Hall-sensor element are transmitted over the I²C interface to the host processor.

The HMI device also provides 2 interrupt modes (motion detect, data ready) and 2 operating modes: idle mode, with less than 3 µA current consumption, and low-power mode, with selectable readout rate. The low-power AS5013 operates over a power supply range of 2.7 to 3.6 V, and down to 1.7 V peripheral supply voltage.

Alfred Binder, Marketing Manager for HMI (human-machine interface) at austriamicrosystems stated, "With the AS5013 Hall-sensor based contactless IC at the heart of the EasyPoint™ joystick module, designers have a user interface device that is a highly reliable solution for use in a variety of portable communication devices. In addition, the AS5013 reduces development time by including an on-chip processing engine so that designers don't have to run complex algorithms on the host processor."

Specified over an operating temperature of -20 to +80°C, the AS5013 Hall-sensor IC operates from a 3.3 V power supply and is offered in a 16-pin 4 x 4 x 0.55 mm QFN package. The EasyPoint™ module is available as small as 8 x 8 x 1.5 mm.

Price & Availability

The AS5013 contactless magnetic encoder IC is available now and costs \$2.92 in 1000 piece quantities.

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Technical Support

Learn more about the AS5013 Hall-sensor IC at
www.austriamicrosystems.com/AS5013/Hall-sensor-IC [1]

For more information on EasyPoint please visit <http://blog.easypoint.com/> [2]

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[1] <http://www.austriamicrosystems.com/AS5013/Hall-sensor-IC>

[2] <http://blog.easypoint.com/>