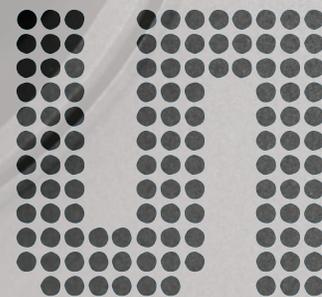# Smart & Contactless Potentiometer
www.ams.com/AS5600

AS5600 – 12-bit On-Axis Magnetic Rotary Position Sensor with analog or PWM output

- Ideal for contactless potentiometers
- Highest reliability and durability
- Simple angular excursion programming
- Automatic low power mode

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

General Description

The AS5600 is an easy to program magnetic rotary position sensor with a high-resolution 12-bit analog or PWM output. This contactless system measures the absolute angle of a diametric magnetized on-axis magnet. The AS5600 is designed for contactless potentiometer applications and its robust design eliminates the influence of any homogenous external stray magnetic fields. The industry-standard I²C interface supports simple user programming of non-volatile parameters without requiring a dedicated programmer.

The default range of the output is 0 to 360 degrees. However, full resolution of the AS5600 can be applied to smaller range by programming a zero angle (start position) and a maximum angle (stop position). The AS5600 is also equipped with a smart low power mode feature to automatically reduce the power consumption.
The device is available in a small form factor, compact 8-pin SOIC package.

Benefits

- Highest reliability and durability
- Simple programming
- Great flexibility on angular excursion
- High-resolution output signal
- Selectable output
- Low-power consumption

Features

- Contactless angle measurement
- Simple user-programmable start and stop positions over the I²C interface
- Maximum angle programmable from 18° up to 360°
- 12-bit DAC output resolution
- Analog output ratiometric to VDD or PWM-encoded digital output
- Automatic entry into low-power mode
- Automatic magnet detection
- Easy start and stop position programming in 3 wire mode without programmer

Applications

- Contactless potentiometers
- Contactless knobs
- Pedals
- RC servos
- Angular position measurement solutions

AS5600 Block Diagram