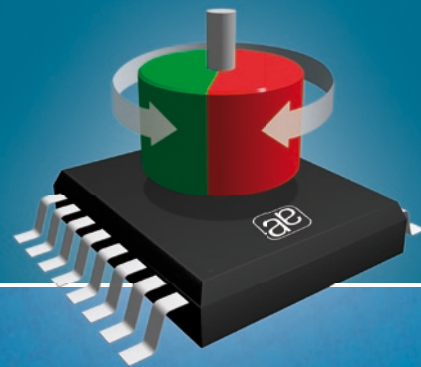


# 8-bit Magnetic Rotary Encoder ICs



## AS5030

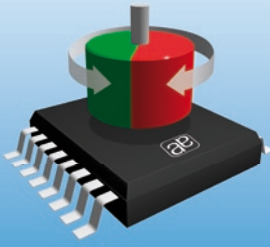


## AS5130



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*a leap ahead in magnetic encoders*



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## General Description

AS5030 / AS5130 are contactless magnetic rotary encoder ICs for accurate angular measurement. The devices provide two absolute outputs with an angle resolution of 8-bit (1.4°/step). A user defined zero position can be permanently programmed into the chip. The diagnostic feature provides an immediate warning in case of a loose or missing magnet. Low power modes along with a fast start-up time provide for low average power consumption. The 8-bit multi-turn counter with wake-up functionality counts number of full turns. Push-button feature allows exact determination of the distance between the magnet and the chip. The entire system solution only requires a small diametrically magnetised magnet and one external buffer capacitor.

## Benefits

- Extended lifetime of switch due to contactless angle sensing
- Ideal for use in harsh environment
- Absolute angular position information accessible via serial and PWM output
- User programmable zero position for ease of assembly
- Diagnostic feature indicating magnet displacement
- No calibration required
- Robust system, tolerant to:
  - Magnet misalignment
  - Temperature variations
  - External magnetic fields
  - Aging of magnet

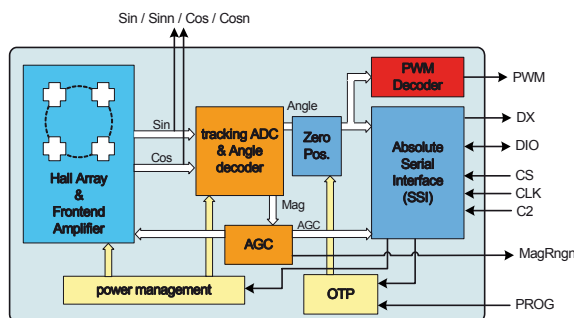
## AS5030

### Key features

- Two 8-bit absolute angle outputs:
  - Serial interface
  - PWM output
- User programmable zero position
- Rotational speed up to 30,000 rpm
- Daisy chain mode
- Low power mode: typ. 1.5 mA current consumption
- Ultra-low power mode: typ. 50 µA
- Push-button feature with customer definable thresholds
- No temperature compensation required
- Supply voltage: 5V
- Wide temperature range: -40°C to +125°C
- Small Pb-free package: TSSOP16

## Applications

- Human-machine-interface applications for:
  - White goods
  - Audio equipment
  - Medical equipment
  - Test and measurement equipment
- Encoder for battery powered devices
- General purpose miniature encoders
- Robotics



## AS5130

### Key features

- Two 8-bit absolute angle outputs:
  - Serial interface
  - PWM output
- Multi-turn 8-bit counter
- Wake-up on rotary motion
- User programmable zero position
- Rotational speed up to 30,000 rpm
- Low power mode: typ. 1.5 mA current consumption
- Push-button feature with customer definable thresholds
- No temperature compensation required
- Supply voltage: 5V
- Wide temperature range: -40°C to +125°C
- Small Pb-free package: SSOP16
- AEC-Q100 automotive qualified

## Applications

- Multi-turn encoder
- Low power encoder applications
- Encoder for battery powered devices
- Dash board switches
- Position sensing in comfort zone

