10-Turns 34 PHE Absolute Position Sensor Delivers High Accuracy and Stability at a Reduced Cost; Device Offers Linearity Down to ± 1 %, Resolution of 1°, and a Lifespan of > 10 Million Cycles in a 7/8 in Diameter Body

Product Benefits:

- Non-contacting Hall Effect technology
- Accurate linearity down to ± 1 % (full stroke)
- Resolution of 1°
- Long lifespan greater than 10 million cycles
- 7/8 in (22.2 mm) diameter body
- Linear or rotary displacement tracking
- Total electrical angle of 3600° across 10 turns
- Reliable operation in harsh environments:
  - IP65-rated sealing
  - Withstands high frequency vibrations up to 20 g and shocks up to 50 g
- -14 V_{DC} reverse voltage input protection
- +28 V_{DC} overvoltage input protection
- Configurable with either single or dual analog ratiometric or digital (PWM) output signals
- Integrated located peg on the mounting face
- A “true power on” device
- Customizable to meet the most demanding needs

Market Applications:

- Industrial motor and actuator displacements tracking; linear actuators for solar panel tracking; flow control valve positioning; and throttle and pedal position sensors for applications such as agricultural machinery, railway equipment, and ships

The News:

Vishay Intertechnology introduces a new ready to use multi-turn absolute position sensor designed for high accuracy and long term stability in demanding environments.

- The position sensor is available at a 40 % lower cost than previous-generation devices. Combined with its high accuracy and resolution, this makes the device a cost-effective, high performance solution for servo loop motion control systems
- Integrated reverse voltage and overvoltage input protections reduce costs by eliminating the need for external protection circuitry
- The 34 PHE reports its position immediately upon power-up without requiring recalibration, re-homing, or initialization routines — even after a power loss. This further reduces costs by eliminating the need for a battery back-up

- Dual outputs operate as oppositely-tracking position sensors, providing a built-in fault detection to enhance safety, reliability, and functional safety compliance
- The device's integrated locating peg on the mounting face simplifies installation while preventing rotation, improving alignment accuracy and long term stability

The Key Specifications:

- Electrical angle: 10 turns, 3600°
- Linearity: ± 1 % (full stroke)
- Resolution: 1°
- Lifespan: > 10 million cycles
- Dimensions: 7/8 in (22.2 mm)
- Overvoltage protection (input): +28 V_{DC}
- Reverse voltage protection (input): -14 V_{DC}
- Supply voltage: 5 V_{DC} ± 10 %
- Supply current (single output): < 8.5 mA typical
- Recommended load resistance (analog and PWM output): 1 kΩ

Availability:
Samples and production quantities of the 34 PHE are available now, with lead times of 14 weeks.

To access the product datasheet on the Vishay Website, go to
http://www.vishay.com/ppg?57127 (34 PHE)

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