

Application Note

Quadrature Speed and Direction Sensors SNG-Q Series

Background

Honeywell's SNG-Q Series Quadrature Speed and Direction Sensor with 4-wire quadrature sensing is the first release of the new SNG-Q Series Speed Sensor Platform. The sensor design and manufacturing use a platform-based approach that enables cost-competitiveness and mechanical and electrical configurability.

The SNG-Q Series provide both speed and direction information. Speed information is provided from digital square wave outputs; direction is provided using a quadrature output with signals 90° phase shifted from each other. With the quadrature output, target direction is determined by output lead/lag phase shifting.

This product is designed for applications where enhanced accuracy is required to detect small target features. This accuracy is enabled by dual differential Hall-effect sensor IC technology. The SNG-Q Series is designed for a wide operating temperature range, robust electrical noise immunity and industry leading environmental sealing capability.

This product includes an O-ring seal for pressure applications, and a fixed mounting flange for simple installation using one fastener.

Solutions

INDUSTRIAL

AC induction motors in material handling, agriculture, and construction machines: May be used to help control power delivered by the ac induction motor

Hydraulic pump motor in material handling, agriculture, and construction machines: May be used to help control power delivered by the hydraulic pump motor

Escalators and elevators: May be used to help control speed and position

TRANSPORTATION

Hybrid electric transmissions in heavy duty trucks, buses, agriculture and construction machines: May be used to help control power regulation of the hybrid system

Wheel speed detection in material handling, agriculture, and construction machines: May be used to detect the speed and direction of the wheels, which translates to the speed and direction

Hybrid engines in heavy duty trucks, buses, agriculture and construction machines: May be used to help control power regulation of the hybrid system

Customer Benefits

Provides enhanced reliability in:

- High electrical noise (EMC) environments
- High temperature environments
- High moisture environments

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SNG-Q Series	Features
	<ul style="list-style-type: none">• Wide operating temperature range: -40 °C to 150 °C [-40 °F to 302 °F]• Environmental sealing: Moisture ingress protection rated to IP69k• Robust electrical noise immunity: Electrical noise radiated immunity (EMC) rated to 100 V/m• High frequency switching capability: 3 Hz to 20 kHz• Direction information: From phase-shifted dual output signals• O-ring seal: Enables environmental sealing to mounting surface• Supply voltage range: 4.5 V to 26 V

Find out more

To learn more about Honeywell's sensing and control products, call **1-800-537-6945**, visit **sensing.honeywell.com**, or e-mail inquiries to **info.sc@honeywell.com**

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

Sensing and Control
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