

Application Note

Honeywell Hawk™ Resolvers

1-Inch Series, Fully Housed Configuration

3-Inch Series, Multiple Configurations

Background

Honeywell's Hawk™ 1-inch Series and 3-Inch Series Resolvers are durable, reliable, non-contact, absolute position sensors designed for use in potential defense and aerospace applications.

Solutions

DEFENSE

- Electro-optical systems (i.e., systems that transfer information from the optical system to the firing mechanism): provides absolute position feedback of the azimuth and/or elevation angular planes for precise ordnance delivery
- Fire control systems (i.e., weapon systems on military vehicles or vessels): provides absolute position feedback of the azimuth and/or elevation angular planes for precise ordnance delivery
- Gimbals position feedback (i.e., communication pedestals positioned on top of military vehicles): provides absolute position feedback of the azimuth and/or elevation angular planes for a continuous communication stream
- Infrared systems (i.e., military vehicle infrared systems): accurately aims the infrared system at the target

AEROSPACE

- Space vehicle solar panels: Accurately positions the equipment for maximum performance
- Space vehicle antennae: Accurately positions the equipment for maximum performance

MEDICAL

- Oncology equipment: Provides precision feedback of oncology systems to assist in positioning during examinations

INDUSTRIAL

- CNC/precision tooling: Provides angular position feedback of attachments

Honeywell Value

- * **Product delivery:** Honeywell's use of the same components for all standard configurations results in its ability to manufacture production-quality standard devices in 12 weeks versus 20-22 weeks many competitors offer
- **Customizable:** Honeywell's manufacturing process and the variety of features available allow customers to customize the product to meet their application accuracy and size requirements
- **Global support:** Honeywell's worldwide presence offers customers immediate product and application support; many resolver competitors offer either support only in their local manufacturing area, or limited support outside of their manufacturing area
- **Engineering expertise:** Honeywell has more than 30 years' experience providing accurate, reliable, and durable resolvers



*Competitive Differentiator

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	Honeywell Hawk™ Resolvers 1-Inch Series, Fully Housed Configuration	Honeywell Hawk™ Resolvers 3-Inch Series, Multiple Configurations
		
Features		
Operation	single speed	single and dual speed: 1 and/or 16 magnetic pole pairs
Configuration	fully housed	* pancake (bare and simple housed), fully housed and configurations with rotary transformers
Operating temp.range	* -50.8 °C to 93.3 °C [-60 °F to 200 °F]	
Accuracy	±420 arcsec	±420 arcsec (1X), ±25 arcsec (16X)
Excitation frequency range	2000 Hz to 5000 Hz	* 800 Hz to 5000 Hz
Excitation voltage range	* 2 V to 15 V	* 3 V to 15 V
Transformation ratio	0.45 or 1.0	0.25 or 1.0
Technology	non-contact magnetic	
Shock	* MIL-S-81963B, Section 3.7.2, 50 g, 11 ms duration, 3 axes, 2 directions, 5 impacts each axis/direction, 30 total	
Vibration	* MIL-S-81963B, Section 3.7.1, 15 g, 10 Hz to 2000 Hz, 4 hr each on 3 axes	
Endurance	MIL-hdbk-218 (6.2): 1200 hr at 1150 rpm	
EMC	MIL-STD-461 RS-101, RE-101, RE-102	
Outgassing	SP-R0022 (NASA outgassing requirement)	

Options

- * Custom trim
- * Custom hub/housing (3-Inch Series only)
- Custom connections including lead wire, cable, connector on unit or connector on cable
- * Custom redundant brushless version (two independent resolvers within the same housing)
- * Titanium housing
- * Transformer for 360°+ rotation (continuous)

*Competitive Differentiator

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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