

## Installation Instructions for the Honeywell Hawk™ Resolvers 1-inch Series, Fully Housed Configuration

**50059846**  
Issue A

### NOTICE

Ensure the resolver is properly installed. Improper installation may result in greater resolver errors, especially with the smaller resolvers.

### MOUNTING GUIDELINES FOR THE FULLY HOUSED CONFIGURATION

#### Ensure the following:

- Use a flexible coupling (no backlash) to attach the resolver shaft to the application shaft. Flexible couplings prevent excessive side loading of the resolver which reduce bearing life, and possibly cause greater error.
- Mounting screw torque is minimized to reduce mounting stresses.
- The resolver is mounted to a pilot diameter and is secured by multiple screws or mounting clamps.
- The resolver is not installed in close proximity to permanent magnets, solenoids and motors. Exposure to magnetic fields could impact resolver function.
- Galvanic corrosion is considered when selecting any material which will come into contact with the resolver (e.g., flex coupling, mounting surface, mounting clamps).

**Table 1. Operating Specifications (At 25 °C [77 °F].)**

Characteristic	Parameter
Speed	1X
Excitation voltage range	2 V to 15 V
Excitation frequency range	2000 Hz to 5000 Hz
Input current	160 mA max.
Input power	1.30 W max.
Electrical load	30 kOhm min.
Phase shift	40° max.
Accuracy	±420 arcsec
Angular range	360°+
Transformation ratio	0.45 or 1.0
Operating temperature range	-50.8 °C to 93.3 °C [-60 °F to 200 °F]

**Table 2. Mechanical Specifications (At 25 °C [77 °F].)**

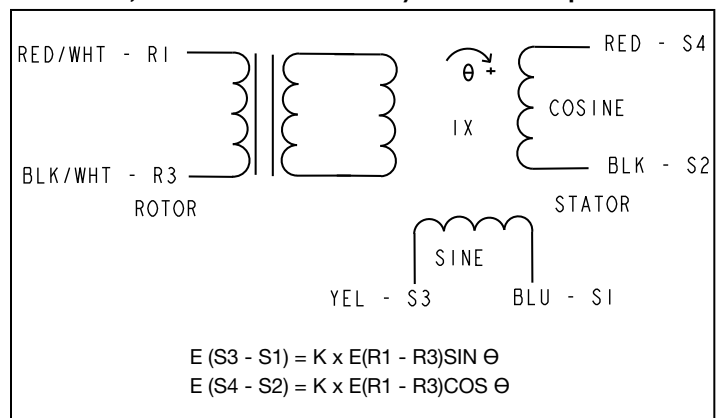
Characteristic	Parameter
Mounting concentricity	<0.0005 in
Primary winding	rotor
Friction torque	≤0.5 oz in
Shaft runout	≤0.0015 TIR <sup>1</sup>
Shaft radial play	≤0.0006 in with 4 oz load
Shaft end play	≤0.0005 in with 8 oz load
Weight	< 5 oz

Note 1. TIR stands for Total Indicator Runout.

**Table 3. Environmental Specifications**

Characteristic	Parameter
Vibration	MIL-S-81963B, Section 3.7.1, 15 g, 10 Hz to 2000 Hz, 4 h each on 3 axes
Shock	MIL-S-81963B, Section 3.7.2, 50 g, 11 ms duration, 3 axes, 2 directions, 5 impacts each axis/direction, 30 total
Storage temp.	MIL-STD-810G, 501.5 and 502.5, -50.8 °C to 93.3 °C
Humidity cycle	MIL-STD-202 G Condition 106
Thermal cycle	RTCA/DO-160D Section 5, -50.8 °C to 93.3 °C extreme temperatures, 100 °C, 10 °C per minute transition
Sealing	IP64 NEMA
EMC	MIL-STD-461 RS-101, RE-101, RE-102
Outgassing	SP-R0022 (NASA outgassing requirements)
Endurance	MIL-hdbk-218 (6.2): 1200 hr at 1150 rpm
Material: housing shaft	416 stainless steel 303 stainless steel

**Figure 1. Electrical Schematic (Positive Direction of Rotation Clockwise, Viewed from Shaft End) and Phase Equations**



# Honeywell Hawk™ Resolvers

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Figure 2. Mounting Dimensions for Fully Housed Resolver with Bearing/Shaft (For reference only. in.)<sup>1</sup>

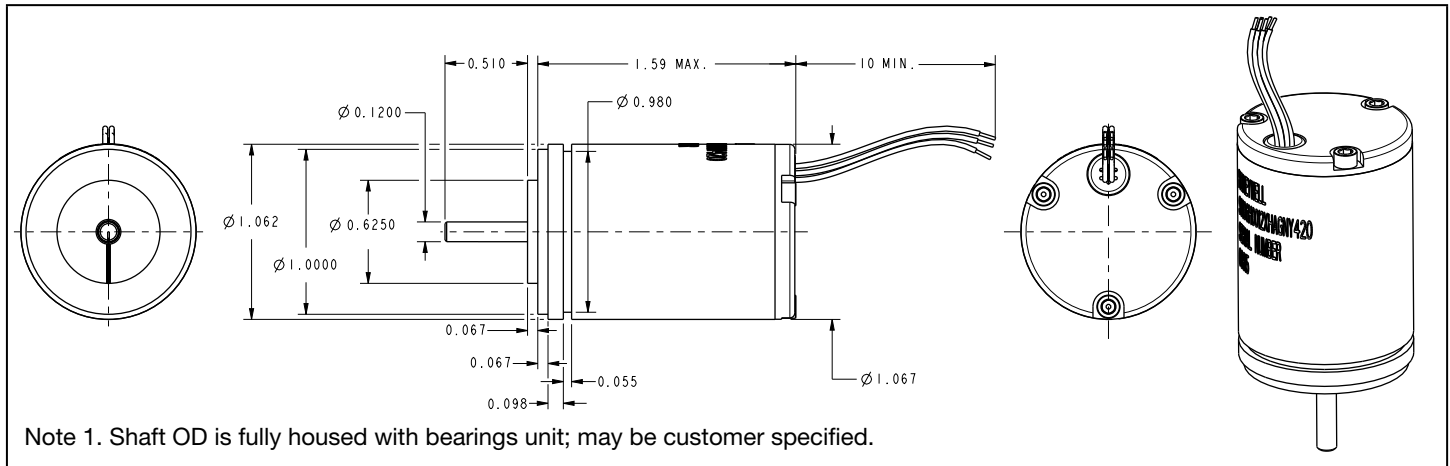


Table 4. Order Guide

Catalog Listing	Description
S10H01XHAGNYG	Honeywell Hawk™ 1-Inch Series Resolvers, single speed, 1.0 in OD, fully housed with transformer, 0.1 in inside diameter, 7 V, 5000 Hz, leadwire, series 11 NEMA servo-mount enclosure, no bolt pattern, 1.0 transformation ratio, ±420 arcsec accuracy, stainless steel housing
S10H01XHAGNXG	Honeywell Hawk™ 1-Inch Series Resolvers, single speed, 1.0 in OD, fully housed with transformer, redundant, 0.1 in inside diameter, 7 V, 5000 Hz, leadwire, series 11 NEMA servo-mount enclosure, no bolt pattern, 0.45 transformation ratio, ±420 arcsec accuracy, stainless steel housing

### ⚠ WARNING PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### WARRANTY/REMEDY

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 other 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.

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