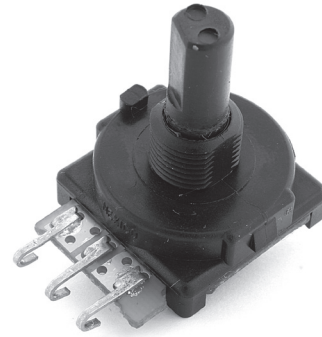


Rotary Position Sensor Line Guide



Select Rotary Position Sensors. Firmly positioned as the leader. The Honeywell Sensing and Control (S&C) Rotary Position Sensor lineup is comprised of encoders, potentiometers, Hall-effect rotary position sensors, and precision-crafted resolvers.

Our **Encoders** are available in both mechanical and optical versions, and are best for potential applications requiring panel-mounted, manually-operated rotary sensing.

Potentiometer Sensors utilize precision technology developed for potential military applications. Our proprietary conductive plastic offers extensive temperature range and infinite resolution, and is designed to provide precision position measurement.

Hall-Effect Rotary Position Sensors are offered in a variety of sensing ranges, supply voltages, and output configurations.

Resolvers are offered in pancake, brushless, and canned styles. Honeywell S&C is one of a handful of companies offering this highly precise sensor technology. But that's what you'd expect from an industry leader.

FEATURES

ENCODERS

510E Series.

Features: Mechanical encoder • Employs 2-bit gray code with up to 36 positions or a 4-bit gray code • Cost effective • Eliminates need for A/D converters • Stability from -40 °C to 105 °C [-40 °F to 221 °F] • Positive detent feel • Continuous electrical travel • Horizontal and vertical mounting

Benefits: Operates as a cost-effective, high-resolution incremental switching device. The "L" channel leads the "R" channel by 90° electrically in the clockwise position. Often used in limited-space panel-mounted applications where the need for costly, front-panel displays can be completely eliminated. Potential applications include robotics, irrigation controls, audio/visual equipment, and EKG and defibrillation machines.

600 Series.

Features: Optical encoder • Dual quadrature output generating 128 pulses per channel • Cost effective • Eliminates need for A/D converters • Stability from -40 °C to 65 °C [-40 °F to 149 °F] • Cable and printed circuit terminations available • Stainless steel shaft • Nickel-plated bushing • PC terminals and cable leads available • Outputs are TTL compatible

Benefits: Enhanced life, no contact device capable of approximately 10 million revolutions. Outputs two square waves in quadrature at a rate of 128 pulses per channel per revolution. Potential applications include industrial motion sensing and control, motor/flow control, robotics, low-to-high input for test and measurement, robotics, medical equipment and instrumentation, precision joysticks and computer peripherals.

CERMET AND WIREWOUND POTENTIOMETERS

309/409 Series.

Features: Compact • Modular package • Cermet element • 1 W power rating • Enhanced performance • 409: sealed for board washing • PC and solder-hook terminals

Benefits: Reduced cost potentiometer that offers the temperature stability of a cermet element and a 1 watt power rating in a compact body. Stable over operating temperature. Potential applications include audio consoles, lighting controls, precision joysticks, telecom control systems, manual controls, medical equipment, telecommunications, and marine controls.

389 Series.

Features: Cermet element • 1 W power rating • Small size • Stackable – up to 6 modules • Rotary, push-pull, and momentary options • 1/4 in or 1/8 in diameter shafts • Single, dual-concentric,

Rotary Position Sensor Line Guide

Quality. Reliability. Enhanced life. Global reach.

Honeywell S&C rotary position sensors deliver the features you need and quality you demand. Even better, we offer worldwide support and manufacturing.

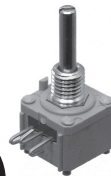
Encoders: Our mechanical encoders have 2-bit and 4-bit graycode outputs for absolute electrical reference applications. Manually operated optical encoders output two square waves in quadrature. Various resolutions, PC terminals, or cable leads are available.

Potentiometers: The Honeywell S&C lineup is legendary in military and aerospace industries for reliability, durability, and enhanced life. Our potentiometer designs allow customization to your specs and cost requirements without sacrificing reliability and accuracy. Measuring linear, rotary position, or displacement, these units easily withstand exposure to harsh chemicals and high temperatures.

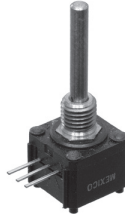
Resolvers: These non-contact, enhanced precision rotary position sensors are available in standard styles and are fully customizable, offering remarkable specs for impressive performance.



Encoders		510E Series	600 Series
Type		mechanical	optical
Pulse per revolution		16, 9, 6, 4	128
Output		2- or 4-bit grey code	quadrature square wave
Temperature range		no	-40 °C to 65 °C [-40 °F to 149 °F]
Expected rotational life		100K cycles	10 million rotations min.
Operating speed		50 rpm max.	300 rpm max.
Terminals		PCB pins	PC type B-66, PC type C-24, cable, cable/connector



Cermet and Wirewound Pots			
	309/409 Series	389 Series	43/RA20 Series
Type	309: compact modular house 409: sealed for board washing	multiple sections available	RA20 meets MIL-R-19
Expected rotational life	25K cycles	25K cycles	10K cycles
Element type	cermet	cermet	wirewound
Power rating	1 W	1 W	2 W
Terminal type	PC, solder hook	PC, solder hook	solder lug
Resistance range	100 Ohm to 5 mOhm	linear: 5 Ohm to 5 mOhm; tapered: 100 Ohm to 2 mOhm	43: 10 Ohm to 50 kOhm RA20: 50 Ohm to 15 kOhm
Bushing type	standard	standard	standard, locking
Potentiometer type	industrial	industrial	industrial
Electrical taper	linear, tapered	linear, tapered	linear



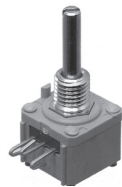
Cermet and Wirewound Pots

58/RA30 Series

591 Series

73 Series

Type	RA30 meets MIL-R-19	multiple sections available	10-turn construction
Expected rotational life	25K cycles	25K cycles	50K cycles
Element type	wirewound	cermet	wirewound
Power rating	4 W	1 W	2 W
Terminal type	solder lug	PC, solder hook	solder lug
Resistance range	58: 50 Ohm to 50 kOhm RA30: 25 Ohm to 25 kOhm	500 Ohm to 100 kOhm	100 Ohm to 100 kOhm
Bushing type	standard, locking	standard	standard
Potentiometer type	industrial	commercial	precision
Electrical taper	linear	linear	linear



Conductive Plastic Pots

308/408 Series

380/53/RV4 Series

381 Series

Type	308: compact modular house 408: sealed for board washing	RV4 meets MIL-PRF-94	metal case and nickel-plated shaft
Expected rotational life	50K cycles	100K cycles, 25K cycles	25K cycles
Element type	conductive plastic	conductive plastic	conductive plastic
Power rating	0.5 W	2 W	1 W
Terminal type	PC, solder hook	solder lug	solder lug
Resistance range	308: 100 Ohm to 1 mOhm 408: 500 Ohm to 10 kOhm	100 Ohm to 1 mOhm 500 Ohm to 10 kOhm	100 Ohm to 5 mOhm
Bushing type	standard, locking	standard, locking	standard, locking
Potentiometer type	industrial	industrial	industrial
Electrical taper	CW audio, linear	linear, tapered	CW audio, linear

Rotary Position Sensor Line Guide



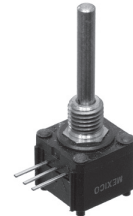
Conductive Plastic Pots

388 Series

392/RV6 Series

574 Series

Type	multiple sections available	RV6 meets MIL-PRF-94	low mounting profile
Expected rotational life	50K cycles	50K cycles	50K cycles
Element type	conductive plastic	conductive plastic	conductive plastic
Power rating	0.5 W	0.5 W	0.5 W
Terminal type	PC, solder hook	PC, solder hook	PC with bracket
Resistance range	linear: 100 Ohm to 5 mOhm; tapered: 500 Ohm to 2 mOhm	100 Ohm to 5 mOhm	1 kOhm to 100 kOhm
Bushing type	standard	standard	standard
Potentiometer type	industrial	industrial	commercial
Electrical taper	linear, tapered	linear, tapered	linear



Conductive Plastic Pots

575 Series

578 Series

585 Series

590 Series

Type	thermoplastic panel mount		carbon elements/metal shaft	multiple sections available
Expected rotational life	50K cycles	2.5M cycles	10K cycles	50K cycles
Element type	conductive plastic	conductive plastic	carbon	conductive plastic
Power rating	0.5 W	0.5 W	0.05 W	0.5 W
Terminal type	PC, solder hook	PC	PC	PC, solder hook
Resistance range	1 kOhm to 50 kOhm	1 kOhm to 10 kOhm	1 kOhm to 10 kOhm	100 Ohm to 1 mOhm
Bushing type	standard	standard	standard	standard
Potentiometer type	commercial	precision	commercial	commercial
Electrical taper	linear, tapered	linear	CW audio, linear	linear



Conductive Plastic Pots

MKV Series

SensorCube Series

TH100 Series

	MKV Series	SensorCube Series	TH100 Series
Type		sealed construction	special electrical and mechanical configurations
Expected rotational life	10 million cycles	10 million cycles	1 million cycles
Element type	conductive plastic	conductive plastic	conductive plastic
Power rating	1 W	1 W	0.5 W
Terminal type	turret	turret	three 20 AWG, 152,4 mm [6.0 in] leads
Resistance range	500 Ohm to 20 kOhm	1 kOhm to 10 kOhm	10000 ohms (total resistance)
Bushing type	no bushing, standard	standard	slotted rotor
Potentiometer type	precision	precision	position transducer
Electrical taper	linear	linear	linear

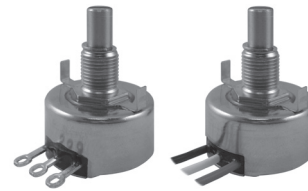


Hall-Effect Rotary Position Sensors

RTY Series

Sensing range	50° (±25°), 60° (±30°), 70° (±35°), 90° (±45°), 120° (±60°), 180° (±90°), 270° (±135°), 360° (±180°)
Redundant version	no
Input voltage	low voltage: 0.5 V to 4.5 V ratiometric high voltage: 0.5 V to 4.5 V non-ratiometric
Output	low voltage: 5 Vdc ±0.5 Vdc high voltage: 10 Vdc to 30 Vdc
Input current	low voltage: 20 mA max.; during output to ground short, 25 mA max. high voltage: 32 mA max.; during output to ground short, 47 mA max.
Operating temperature range	-40 °C to 125 °C [-40 °F to 257 °F]
Connector	AMP super seal
Life	35 M cycles
EMI/EMC	<ul style="list-style-type: none"> • EMI radiated immunity: 100 V/m from 200 MHz to 1000 MHz per ISO11452-2 • EMI conducted immunity: <ul style="list-style-type: none"> - low voltage: 100 mA BCI per ISO11452-4 from 1 MHz to 200 MHz - high voltage: 100 mA BCI per ISO11452-4 from 1 MHz to 400 MHz • EMC: exceeds CE requirements
Housing material	PBT plastic
Dimensions	55 mm L x 43 mm W x 41 mm H [2.17 in L x 1.69 in W x 1.61 in H]

Rotary Position Sensor Line Guide



Hall-Effect Rotary Position Sensors

	RPN Series	HRS100 Series
Sensing range	50° (±25°), 60° (±30°), 70° (±35°), 90° (±45°), 120° (±60°), 180° (±90°), 270° (±135°), 360° (±180°)	90° ±2°, 180° ±2°
Redundant version	yes	no
Input voltage	5 Vdc, 8 to 30 Vdc, 10 Vdc to 30 Vdc	5 Vdc ±10%
Output	0.25 V to 4.75 V, 0.5 V to 4.5 V, 1 V to 9 V, 3 V to 5 V, 4.5 V to 0.5 V, 4.75 V to 0.25 V, 4 mA to 20 mA, 20 mA to 4 mA	5% to 95% of applied Vdd, approx. (programmable) (output ratiometric to supply)
Input current	20 mA max.	5 mA typ.
Operating temperature range	-40 °C to 125 °C [-40 °F to 257 °F]	-40 °C to 85 °C [-40 °F to 185 °F]
Connector	AMP 1-1419168-1, AMP Superseal 282087-1, Deutsch DT04-3P	solder lug, flying wire leads
Life	30 M cycles	10 M cycles
EMI/EMC	EMC: 200 V/m ISO 11452-3	EMI: 30 V/m, 10 kHz to 1000 MHz at 3 m
Housing material	PA66 plastic	metal
Dimensions	63 mm L x 38,8 mm W x 56 mm H [2.48 in L x 1.53 in W x 2.20 in H]	32,27 mm [1.3 in] H x 27,79 mm [1.1 in] W



Resolvers

	Honeywell Hawk™ 1-Inch Series	Cased - Brushless Dual Speed Series	Cased - Brushless Single Speed Series	Pancake - Brushless Multi-Speed Series
Type	fully housed	one-speed and multi-speed resolver and rotary transformer	one-speed, one-pole pair resolver and rotary transformer	multiple pole pairs resolver and rotary transformer
Size diameter	1.06 in	(1/10 in) 30	(1/10 in) 17	(1/10 in) 38 to 63
Speed	1X	1&32	—	12
Accuracy	±7 arcmin	1&32	1.25 arcmin to 3.50 arcmin	3 arcmin to 30 arcsec (low distortion harmonic)
Features	transformer (360°+ mechanical) redundant	—	—	redundant winding



Resolvers

	Pancake - Brushless Dual-Speed Series	Pancake - Dual Speed Series	Pancake - Multi-Speed Series	Pancake - Single Speed Series
Type	one-speed and multi-speed resolver and rotary transformer	one-speed and multiple-speed	multiple pole pairs	one-speed, one-pole pair
Size diameter	(1/10 in) 92	(1/10 in) 31 to 130	(1/10 in) 16 to 67	(1/10 in) 24 to 68
Speed	1&64	1&8, 1&16, 1&32, 1&36, 2&36, 1&64, 1&128	4, 8, 16, 32, 64	–
Accuracy	(multi-speed) 30 arcsec	(multi-speed) 36 arcsec to 4 arcsec	1 arcmin to 5 arcsec	3 arcmin to 30 arcsec
Features	full redundancy (duplex)	simple and duplex	simple and duplex	simple and duplex

or trimmer configurations • Wide range shafts, bushings, terminal styles, resistance values, tapers, and tolerances

- Special detents available

Benefits: Basic construction suits the series for countless design options; over a billion configurations available. Potential applications include audio and lighting controls.

43/RA20 Series.

Features: Wirewound element • 2 W power rating • RA20 meets MIL-R-19 standards • Rugged metal construction

- Nickel-plated brass shaft
- Lock-style bushing available
- Linear taper

Benefits: Very stable over operating temperature. Potential applications include manual controls, welding, and heating.

58/RA30 Series.

Features: Wirewound element • 4 W power rating • RA30 meets MIL-R-19 standards • Rugged metal construction

- Nickel-plated brass shaft
- Lock-style bushing available
- Linear taper

Benefits: Designed to be stable over operating temperature. Potential applications include manual controls, welding, and heating.

591 Series.

Features: Compact size • Cermet element

- 1 W power rating
- Temperature stability
- Linear taper
- PC terminals
- Brass shaft and bushing
- Linear taper

Benefits: Reduced cost potentiometer with the benefits of a cermet element. Designed to be stable over operating temperature. Potential applications include manual controls, welding and heating, telecommunications.

73 Series.

Features: Wirewound element • 2 W power rating • 10-turn construction

- Nickel-plated brass shaft and bushings
- Linear taper

Benefits: Precision-type potentiometer made with a wirewound element. Offers 10 turns for enhanced resolution and accurate output. Potential applications include manual controls.

CONDUCTIVE PLASTIC POTENTIOMETERS

308/408 Series.

Features: Compact • Modular package

- Conductive plastic element
- 0.5 W power rating
- Nickel-plated brass shaft and bushings
- Enhanced performance
- 408: sealed for board washing
- PC and solder-hook terminals
- CW audio and linear tapers available

Benefits: Reduced cost potentiometer that offers 0.5 W power rating in a compact body. Potential applications include manual controls, audio and lighting consoles, medical equipment, precision joysticks, and telecommunications.

380/53/RV4 Series.

Features: Conductive plastic element designed to provide enhanced dynamic noise and enhanced rotational life • 2 W power rating • RV4 meets MIL-PRF-94 standards • 380/53: 2 in L shaft, round

- RV4: 0.875 in L shaft, slotted
- Solder lug terminals
- CW audio and linear tapers available

Benefits: Known as the “quiet ones.” Economical potentiometer with rugged industrial construction. Model 53 is available in special construction that accepts a rotary switch. Potential applications include manual controls (joysticks, panel dials, throttles), electric vehicles, personal mobility, off-road vehicles, forklifts, welding/heating, and telecommunications.

381 Series.

Features: Conductive plastic element

- 1 W power rating
- Solder lug terminals
- Metal case and nickel-plated brass shaft and bushings
- Locking-style bushing, rotary switch, or dual section options available
- Linear taper

Benefits: Robust construction in a low-cost industrial package. Potential applications include manual and audio controls, and telecommunications.

388 Series.

Features: Conductive plastic element

- 0.5 W power rating
- Small size
- Stackable – up to 6 modules
- Rotary, push-pull, and momentary options
- 1/4 in

or 1/8 in diameter shafts • Single, dual-concentric, or trimmer configurations

- Wide range shafts, bushings, terminal styles, resistance values, tapers, and tolerances
- Special detents available

Benefits: Basic construction suits the series for countless design options; over a billion configurations available. Potential applications include audio and lighting controls, precision joysticks, and telecom control systems.

392/RV6 Series.

Features: Compact size • Conductive plastic element • RV6: Designed to meet MIL-PRF-94 standards, solderability, and washability test requirements • 0.5 W power rating • Nickel-plated shaft and bushings

- PC and solder hook terminals
- Linear taper

Benefits: Molded housing offers an internal shaft seal for moisture protection. Potential applications include medical equipment, manual controls, audio equipment, and telecommunications.

574 Series.

Features: Conductive plastic element

- 0.5 W power rating
- Reduced mounting profile
- Quiet electrical output
- Vertical mounting with support bracket
- PC style mounting
- Smooth feel
- Robust construction
- All plastic construction
- Metric bushing
- Linear taper

Benefits: Reduced cost commercial potentiometer with the benefits of a conductive plastic element. Potential applications include welding/heating controls, joysticks, and manual controls.

575 Series.

Features: Conductive plastic element

- 0.5 W power rating
- Reduced mounting profile
- Quiet electrical output
- Solder hook terminals for panel mounting
- Smooth feel
- Robust construction
- All plastic construction
- Linear taper

Benefits: Reduced cost commercial potentiometer with the benefits of a conductive plastic element. Potential applications include welding/heating controls, joysticks, and manual controls.

578 Series.

Features: Conductive plastic element
• 0.5 W power rating • Variable resistor technology • Low mounting profile
• Quiet electrical output • Precision control • PC terminals • Nickel-plated shaft and bushing • Smooth feel • Robust construction • Linear taper • Central tap version available

Benefits: Precision-type potentiometer with low torque and very linear tapers delivers enhanced control. Potential applications include off-road vehicles, electric vehicles, marine controls, material handling, personal mobility, manual controls, telecommunications, and audio equipment.

585 Series.

Features: Compact size • Carbon element
• 0.05 W power rating • Horizontal mount
• PC terminals • Metal shaft and bushings
• Linear taper

Benefits: Designed to be used as a low-wattage component that can be panel mounted or PC mounted. Robust construction in a low-cost commercial package, using carbon composition elements. Potential applications include manual and audio controls, heating equipment, and telecommunications.

590 Series.

Features: Compact size • Conductive plastic element • 0.5 W power rating
• Linear taper • PC terminals
• Brass shaft and bushing • Linear taper

Benefits: Reduced cost potentiometer with the benefits of a conductive plastic element. Potential applications include manual controls, lighting and audio consoles, precision joysticks, welding and heating, and telecommunications.

MKV Series.

Features: Conductive plastic element
• Linearity (accuracy) 0.5 % or less
• 1 W power rating • Servo and bushing mounting • Custom electrical travels

Benefits: A cost-effective way of obtaining enhanced accuracy and enhanced life position feedback. Potential applications include valve position feedback, panel

control, instrumentation, and missile fin feedback position.

SensorCube Series.

Features: Conductive plastic element
• Linearity (accuracy) 2 % or less • 1 W power rating • Sealed construction
• Custom electrical travels

Benefits: Cost-effective potentiometer with sealed construction. Enhanced accuracy and reliability. Potential applications include valve position feedback, panel control, instrumentation, and off-road equipment.

TH100 Series.

Features: Conductive plastic element
• Fully sealed construction • Enhanced rotational torque • Variable resistor technology • 0.5 W power rating • Special electrical and mechanical configurations, including dual tracks and D-shaped rotor holes available • Linear taper

Benefits: Enhanced performance rotary position transducer that works well in potential angle-management applications such as control-lever sensing and equipment position feedback. Potential applications also include off-road vehicles, electric vehicles, marine controls, material handling, and personal mobility.

NON-CONTACT, HALL-EFFECT POSITION TRANSDUCERS RTY Series.

Features: 35 M cycle product life
• Solid-state Hall-effect technology
• Rugged IP67-sealed package with integral connector • Automotive-grade EMI/EMC testing, integrated reverse polarity, and short circuit • Industry-standard AMP termination, 32 mm mounting pitch, North American and European pinout styles, and compact package • Eight sensing ranges up to 360° • Low voltage and high voltage versions

Benefits: Angle monitoring in harsh transportation and industrial applications at a competitive cost. 35 M cycle product life provides long life in the application. Solid-state Hall-effect technology provides non-contact operation, long service

life, low torque actuation and reduces worn-out mechanisms. IP67 sealing and integral connector allows for use in harsh environments. EMI/EMC testing, reverse polarity and short circuit provide protection against installation errors and frequencies in the environment. Industry standard termination, mounting pitch and pinout provide drop-in replacement for existing applications. Choice of sensing ranges provides flexibility in multiple applications, allowing OEMs the range of travel needed for the application. Potential applications include position and movement detection of pedals, throttles, gear shift, levers, steering, linkages, and hitches (trucks, buses, off-road vehicles, industrial/construction/agricultural vehicles and equipment, cranes); suspension displacement/kneeling (buses, trucks); tilt/trim position (boat engines, tilling equipment), as well as industrial valve and HVAC damper control, and irrigation pivot control.

RPN Series.

Features: Solid-state Hall-effect technology • 30 M cycle product life
• Eight sensing ranges up to 360°
• Reverse polarity, short circuit and EMC protection • Choice of operating ranges, outputs, and levers • IP67- or IP69K-sealed package with integral connector

Benefits: Long service life, low torque actuation, and reduced mechanism wear-out. Enhanced resistance to damage from incorrect wiring and electrical noise. Wide choice of sensing ranges provides range of travel for most applications; tolerant to overtravel. Output choices provide application flexibility. Sealed package with integral connector for durability. Often ideal for detecting position and movement of potential applications such as pedals, throttles, gear shift levers, linkages, suspension and hitches in trucks, offroad vehicles, cranes and construction/agricultural/industrial equipment.

HRS100 Series.

Features: Solid-state Hall-effect technology • 10 M cycle product life (typical) • Two sensing ranges • Choice of termination

Benefits: Use of magnetically coupled technology in place of a mechanical wiper assembly provides long life and a cost-effective solution for harsh environments that include temperature, vibration, dither, moisture and dirt. Non-contact operation, long service life, low torque actuation and reduced wear-out of mechanisms. Potential applications include position and movement detection of pedals, throttles, gear shift, levers, steering, linkages, and hitches (off-road vehicles and industrial/construction/agricultural vehicles/equipment), tilt/trim position (boat engines), and industrial material handling equipment (forklifts, robotics)

RESOLVERS

Honeywell Hawk™ 1-Inch Series.

Features: Non-contact magnetic technology • Fully-housed configuration with bearing/shaft • Small outer diameter of 1 inch • Single speed operation (1 magnetic pole pair) • Excitation voltage range of 2 V to 15 V • Excitation frequency range of 2000 Hz to 5000 Hz • Transformation ratio of 0.45 or 1.0 • Accuracy of ± 7 arcmin • Operating temperature range of -50.8 °C to 93.3 °C [-60 °F to 200 °F] • Meets multiple military/aerospace specifications: DO-160D, MIL-STD-202G, MIL-STD-810G, MIL-STD-81963B, MIL-STD-461F; complies with space outgassing requirement SP-R0022

Benefits: Non-contact magnetic technology eliminates mechanical contact, reducing wear and improving reliability and durability by enhancing operation in harsh environments (performance is not affected by sand, dust or water). Small outer diameter of 1 inch allows for use in size-restricted applications. Single speed operation (1 magnetic pole pair) allows for cost-effective angle resolution over a $360^{\circ}+$ range. Wide voltage range allows customers to standardize on a resolver that meets their excitation voltage needs, simplifying sourcing and delivery, and saving time. Frequency range provides a wide variety of choices with which to power the device. Transformation ratios offer customers two choices, increasing flexibility within the application. Accuracy

enables precise motion control of weapon systems and space positioning devices. Wide operating temperature range allows for use in harsh environments and meets standard military and space application requirements. Product delivery up to 1.5 times faster than many competitive products. Customization due to Honeywell's manufacturing process. Global support due to Honeywell's worldwide presence. Engineering expertise due to Honeywell's 30+ years' experience providing accurate, reliable, and durable resolvers for the aerospace and defense industries. Potential applications include providing absolute position feedback of the azimuth and/or elevation angular planes for military electro-optical systems, fire control systems, gimbals, infrared systems, ordnance delivery and test equipment, as well as satellite, space station, space vehicle solar panel array and antennae positioning for optimum function.

Cased-Brushless Dual Speed Series.

Features: (1/10 in) 30 • 20 arcsec accuracy • Speed: 1&32 • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: One-speed and multi-speed resolver and rotary transformer. Potential applications include ATOM – gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Cased-Brushless Single Speed Series.

Features: (1/10 in) 17 • 1.25 arcmin to 3.5 arcmin accuracy • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: One speed, one pole pair resolver and rotary transformer. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Pancake-Brushless Multi-Speed Series.

Features: Redundant winding • (1/10 in) 38 to 63 • 3 arcmin to 30 arcsec accuracy (low-distortion harmonic) • Speed: 12 • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: Multiple pole pairs resolver and rotary transformer. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Pancake-Brushless Dual Speed Series.

Features: Full redundancy (duplex) • (1/10 in) 92 • 30 arcsec accuracy (multispeed) • Speed: 1&64 • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: One-speed and multi-speed resolver and rotary transformer. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Pancake-Dual Speed Series.

Features: Simple and duplex • (1/10 in) 31 to 130 • 36 arcsec to 4 arcsec accuracy (multi-speed) • Variety of speeds available: 1&8, 1&16, 1&32, 1&36, 2&36, 1&64, 1&128 • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available

for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: One-speed and multiple speed. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Pancake-Multi Speed Series.

Features: Simple and duplex • (1/10 in) 16 to 67 • 1 arcmin to 5 arcsec accuracy • Variety of speeds available: 4, 8, 16, 32, 64 • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: Multi-pole pairs. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

Pancake-Single Speed Series.

Features: Simple and duplex • (1/10 in) 24 to 68 • 3 arcmin to 30 arcsec accuracy • Non-contact measurement for enhanced reliability • 360° sensing range • Multi-speed designs available for enhanced accuracies over reduced ranges • Variety of excitation voltages and frequency • Environmentally sealed and qualified to RTCA DO-160D

Benefits: One-speed, one-pole pair. Potential applications include ATOM gunners site position (azimuth and elevation), forward looking radar, missile guidance, solar panel position, and antenna position.

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.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847. Email inquiries to info.sc@honeywell.com

Sensing and Control
Automation and Control Solutions
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
+1-815-235-6847
www.honeywell.com/sensing

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