



Product Training Module: Hall-Effect Rotary Position Sensors RTY Series



Honeywell

Agenda

- **In this training module, you will learn the following about Honeywell's RTY Series Hall-effect Rotary Position Sensors:**
 - How the RTY Series senses rotary movement, and the technology behind its operation
 - Their key benefits to design engineers
 - Their use in Industrial and Transportation applications



Introduction

- The RTY Series are Hall-effect Rotary Position Sensors that provide cost-effective angle monitoring
- They offer design engineers the following benefits:
 1. Long life
 2. Non-contact position sensing
 3. Configurability
 4. Rugged use in harsh environments
 5. Protection against installation errors
 6. Drop-in replacement
 7. Flexibility
- They are designed for use in transportation and industrial applications
- We'll now discuss these benefits in detail



How Does the RTY Series Sense Rotary Movement?

- The RTY Series Hall-effect Rotary Position Sensors use a magnetically biased, Hall-effect integrated circuit (IC) to sense rotary movement of the actuator shaft over a set operating range
- Rotation of the actuator shaft changes a magnet's position relative to the IC
- The resulting flux density change is converted to a linear output
- The IC, together with conditioning and protection circuitry, and the permanent magnet, is sealed in an IP67-qualified rugged package for durability in most harsh environments



Rugged package for harsh environments

Features and Benefits

1. 12 M cycle product life★

- Provides long life in the application

2. Solid-state Hall-effect technology

- Provides non-contact operation, long life, low torque actuation, and reduces worn-out mechanisms

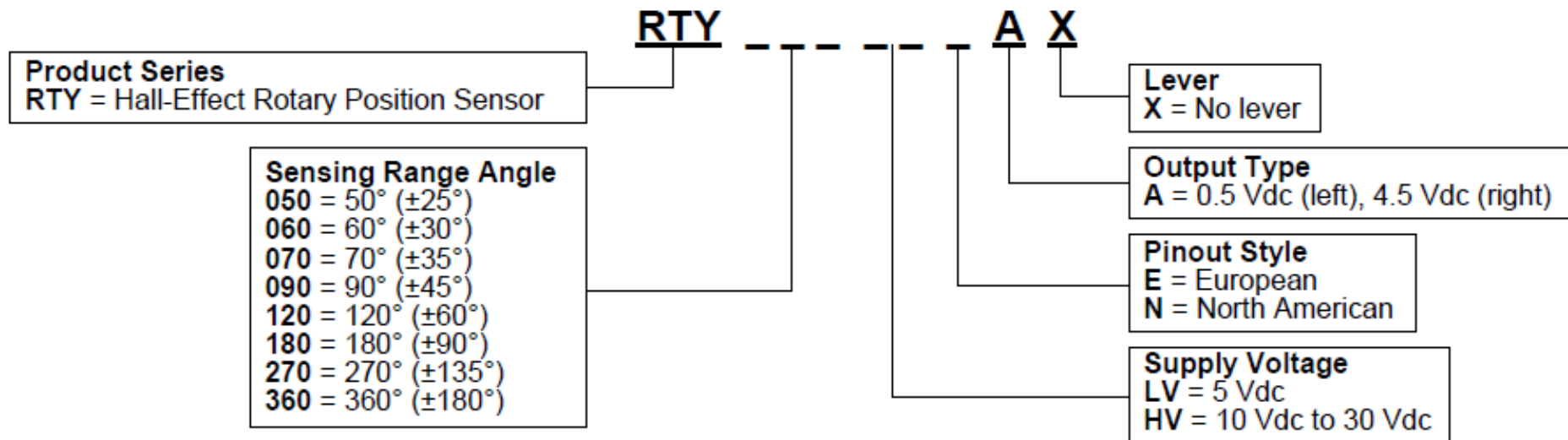
★ = competitive differentiator

Provides long life in the application

Features and Benefits

3. Variety of options

- Allows design engineers to choose the configuration that meets their needs
 - Sensing range angle, pinout style, and supply voltage






Flexible configuration

Features and Benefits




- 4. Rugged IP67-sealed package with integral connector**
 - Allows for use in harsh environments
- 5. Automotive-grade EMI/EMC testing, integrated reverse polarity, and short circuit**
 - Provides protection against installation errors and frequencies in the environment
- 6. Industry-standard AMP termination, 32 mm mounting pitch, North American and European pinout styles, and compact package**
 - Provides drop-in replacement
- 7. Eight operating ranges up to 360°**
 - Provides flexibility in multiple applications, allowing OEMs the range of travel needed for the application

Rugged. Compact. Flexible.

Potential Transportation Applications

	Potential Applications	Use in Application	Customer Benefits
	<ul style="list-style-type: none"> • Trucks • Buses • Off-road, industrial, construction, agricultural vehicles and equipment • Cranes 	Position and movement detection of pedals, throttles, gear shifts, levers, steering linkages, hitches	<ul style="list-style-type: none"> • Accuracy • IP67 rating and EMC testing meet customer requirements • 12M life cycle helps reduce warranty concerns
	<ul style="list-style-type: none"> • Buses • Trucks 	Senses angular travel of the suspension system	<ul style="list-style-type: none"> • Validates the correct height for the application's system requirements, potentially aiding vehicle ingress/egress, trailer height for warehouse docking, and suspension performance monitoring • IP67 rating and EMC testing meet customer requirements • 12M life cycle helps reduce warranty concerns
	<ul style="list-style-type: none"> • Boat engines 	Senses boat engine tilt/trim position	<ul style="list-style-type: none"> • Accurate position reporting helps operator maintain peak performance of the boat and protects against propeller damage • IP67 rating, EMC testing, and AMP seal connector protect against marine conditions • 12M life cycle helps reduce warranty concerns

Potential Industrial Applications

	Potential Applications	Use in Application	Customer Benefits
	<ul style="list-style-type: none"> Valve control 	Senses valve angle position	<ul style="list-style-type: none"> Accurate positioning IP67 rating, EMC testing, and AMP seal connector protect against dust and wet conditions 12M life cycle helps reduce warranty concerns
	<ul style="list-style-type: none"> HVAC damper control 	Senses damper angle position	<ul style="list-style-type: none"> Accurate positioning IP67 rating, EMC testing, and AMP seal connector protect against dust and wet conditions 12M life cycle helps reduce warranty concerns
	<ul style="list-style-type: none"> Irrigation pivot control 	Senses steering angle of the irrigation equipment	<ul style="list-style-type: none"> Accurate positioning delivers water where it is needed, potentially reducing water consumption and increasing crop yield IP67 rating, EMC testing, and AMP seal connector protect against dust and wet conditions 12M life cycle helps reduce end-user replacement requirements and warranty exposure

RTY Series Online Resources

- To access more information about the RTY Series, [click here](#).

RTY Series
Hall-Effect Rotary Position Sensors

Product Features

* = Competitive Differentiator

1. *12 M Cycle Product Life

Provides long life in the application

Where to Buy 



click hotspots to view features

About Honeywell Sensing and Control Products

- For more information about all of Honeywell Sensing and Control sensor and switch solutions, visit <http://sensing.honeywell.com>



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