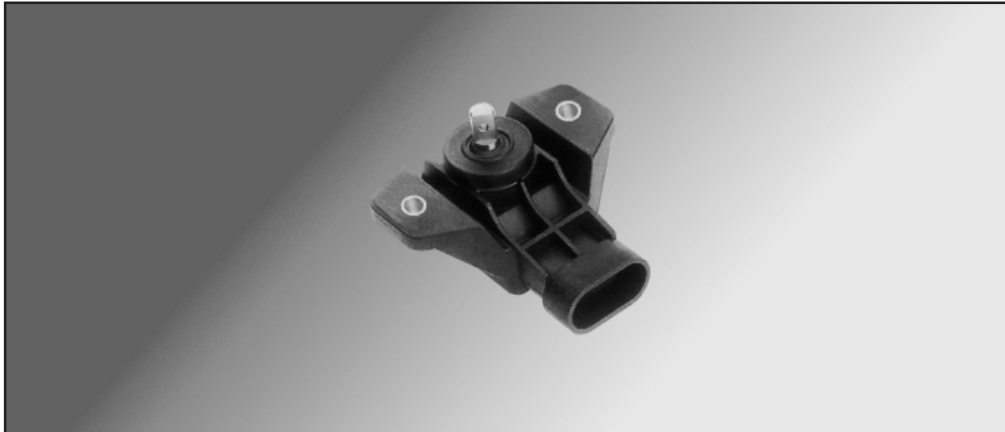


## RPN Series Hall Effect Rotary Position Sensor



### Features

- Solid-state Hall effect technology
- Integrated reverse polarity, short circuit and EMC protection
- 90° measuring range with 360° allowable rotation
- Rugged sealed package with integral connector

### Benefits

- Long service life, low torque actuation and greatly reduced wear-out mechanisms
- Resistant to damage from incorrect wiring and electrical noise
- Wide operating angle tolerant to overtravel
- Durable in harsh environments

### Description

RPN Series Rotary Position Sensors use a magnetically biased Hall effect integrated circuit (IC) to accurately sense rotary movement of the actuator shaft. This IC, together with conditioning and protection circuitry and two permanent magnets, is sealed in a rugged package.

### Operation

Rotation of the actuator shaft changes the Hall effect IC's position relative to the magnets. This results in a change in the flux density detected by the Hall effect IC as the shaft is rotated. The output of the IC is converted to a linear output over 90° of travel.

### Installation

The sensor is flange mounted with two easily accessible mounting holes. Connection is by AMP Superseal 1.5 Series.

### Typical Applications

The compact design and rugged construction make this sensor the ideal solution for detecting position and movement of features such as pedals, throttle, gear shift, levers, linkages, suspension and hitches in:

- Trucks
- Off road vehicles
- Industrial vehicles and equipment
- Construction vehicles and equipment
- Agricultural vehicles and equipment
- Cranes

#### **WARNING**

##### **MISUSE OF DOCUMENTATION**

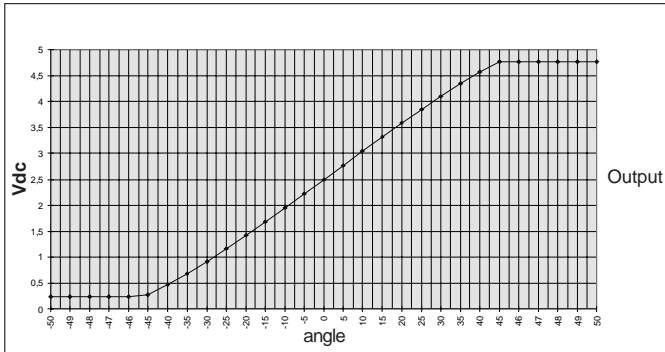
- The information presented in this product sheet (or catalogue) is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

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

## Technical Data

Supply voltage	10 to 30 Vdc	Measuring principle	Solid state Hall effect
Current input	15 mA max	PIN assignments	Pin 1 = GND Pin 2 = Vcc Pin 3 = Output
Output signal	0.25 to 4.75 V	Temperature range	-25 °C to +85 °C (-40 °C to +125 °C as an option)
Accuracy	± 0.5°	Output temperature drift	≤ 1 mV/°C
Linearity	± 2.5°	Degree of protection	IP 67
Load resistance	≥ 5 kOhm	EMC protection	In accordance with DIN 40 839
Output	Resistant to continued short circuits		
Measuring range	± 45°		
Reverse polarity protection	Yes		
Mechanical angle of rotation	360°		

## Output Characteristics



## Order Guide

### RPN Rotary position sensors

RPN1A112                      90° measuring range, standard temperature range, 6 mm plain drive shaft

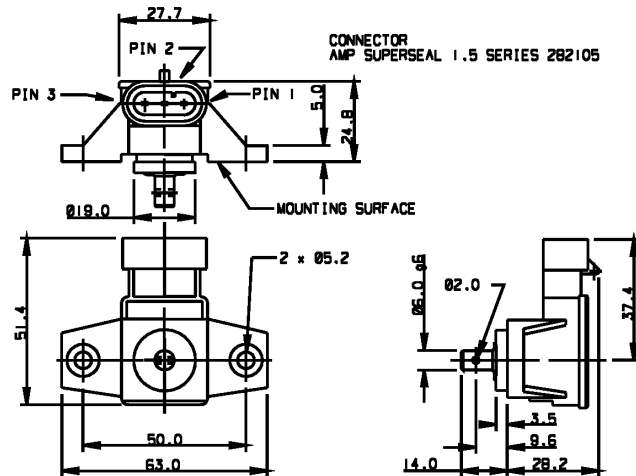
A ±90° (180° total) measuring range version is in development, contact Honeywell for details

Other permutations are possible, contact Honeywell for details

## Mounting Dimensions in mm

### Material

Housing: Nylon 6.6  
25% glass filled  
Shaft: Stainless steel  
Mounting inserts: CuZn



### Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective material and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during that period of coverage, Honeywell will repair or replace 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.

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 at any time 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.

### Sales and Service

Honeywell serves its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or name of the nearest Authorised Distributor, contact your local sales office or:  
INTERNET: [www.honeywell.com/sensing](http://www.honeywell.com/sensing)  
E-mail: [info@micro.honeywell.com](mailto:info@micro.honeywell.com)

This publication does not constitute a contract between Honeywell and its customers. The contents may be changed at any time without notice. It is the customer's responsibility to ensure safe installation and operation of the products. Detailed mounting drawings of all products illustrated are available on request. © Honeywell 2000

# Honeywell

Honeywell Control Systems Ltd  
Newhouse Industrial Estate  
Motherwell ML1 5SB  
Scotland, UK

[www.honeywell.com/sensing](http://www.honeywell.com/sensing)