

## Installation Instructions for the RPNS090AA1B11A Hall-Effect Rotary Position Sensor

ISSUE 1  
50035277

### GENERAL INFORMATION

The RPN Series Rotary Position Sensors use a magnetically biased, Hall-effect integrated circuit (IC) to accurately sense rotary movement of the actuator shaft. Rotation of the actuator shaft changes the IC's position relative to the magnets. The resulting flux density change is converted to a linear output.

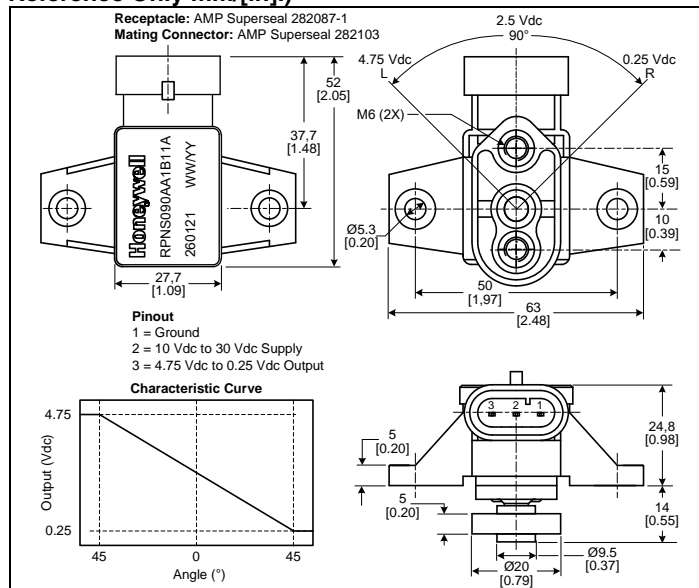
### MOUNTING INFORMATION

Mount the sensor using the two easily accessible mounting holes. Mounting screw tightening torque is 2,5 N m  $\pm$  0,5 N m [22.1 in lb  $\pm$  4.4 in lb].

**Table 1. Output**

| Angle        | Output   |
|--------------|----------|
| Left (-45°)  | 4.75 Vdc |
| 0°           | 2.5 Vdc  |
| Right (+45°) | 0.25 Vdc |

**Figure 1. Mounting and Dimensional Diagram (For Reference Only mm/[in].)**



**Table 2. Specifications**

| Characteristic                          | Parameter                           |
|---|-------------------------------------|
| Supply voltage                          | 10 Vdc to 30 Vdc                    |
| Current consumption (maximum)           | 20 mA                               |
| Output signal delay (approx)            | 3 ms                                |
| Reverse polarity protection             | yes                                 |
| EMC                                     | 200 V/m ISO 11452-3                 |
| Operating and storage temperature range | -40 °C to 125 °C [-40 °F to 257 °F] |
| Protection class                        | IP67 DIN 40050                      |
| Accuracy                                | $\pm$ 1.6%                          |
| Hysteresis                              | none                                |
| Linearity                               | $\pm$ 2°                            |
| Housing material                        | PA66 plastic                        |
| Shaft material                          | stainless steel                     |
| Expected life                           | 30x10 <sup>6</sup> cycles           |
| Mechanical end stop                     | no                                  |

**⚠ 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.

**SALES AND SERVICE**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

**E-mail:** [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

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

**Phone and Fax:**

|               |                         |
|---------------|-------------------------|
| Asia Pacific  | +65 6355-2828           |
|               | +65 6445-3033 Fax       |
| Europe        | +44 (0) 1698 481481     |
|               | +44 (0) 1698 481676 Fax |
| Latin America | +1-305-805-8188         |
|               | +1-305-883-8257 Fax     |
| USA/Canada    | +1-800-537-6945         |
|               | +1-815-235-6847         |
|               | +1-815-235-6545 Fax     |