

Linear Position Sensor

Automotive Products



DESCRIPTION

The Linear Position Sensor is a non-contacting, analog output sensor designed to measure linear position of a moving mechanism. The sensor is designed for many high-temperature, high-accuracy applications. The sensing range may be factory calibrated from 2 mm to 16 mm travel range or may be calibrated in the customer's assembly process.

The sensor electronics include EMC (Electromagnetic Compatibility) components to meet most typical automotive requirements.

The sensor shown above mounts to a turbocharger vacuum actuator. In this application, an O-ring face-seal is used for crimp-on attachment to the vacuum actuator. Custom housing/connectors may be designed for specific applications.

FEATURES

- Non-contacting Hall-effect design for enhanced reliability and long life – tested to over 10 million actuations
- Programmable sensitivity and offset allows for customization of the output voltage for various linear travel ranges
- Programmability allows customer calibration in the application to compensate for mechanical stack-ups and temperature effects
- Output voltage range between 0 V and supply voltage
- Output ratiometric to supply
- Temperature range of -40 °C to 160 °C
- Reverse voltage protection
- Short circuit protection
- Tested to vibration levels up to 40 g
- May be configured with two Hall sensors for redundancy

TYPICAL APPLICATIONS

Designed for many high temperature, high vibration, automotive, under-hood environments found in:

- Turbocharger vane position
- Exhaust Gas Recirculation (EGR) valve position
- Vacuum actuator position
- Solenoid position
- Drive-mode (gear-shift position)

Linear Position Sensor

TABLE 1. OPERATING CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Unit
Supply voltage	4.5	–	5.5	V
Supply current	–	–	10	mA
Linearity	–	0.25	1	%
Accuracy	–	2	3	% full scale
Operating temperature	-40 [-40]	–	160 [320]	°C [°F]

FIGURE 1. OUTPUT VOLTAGE VS POSITION

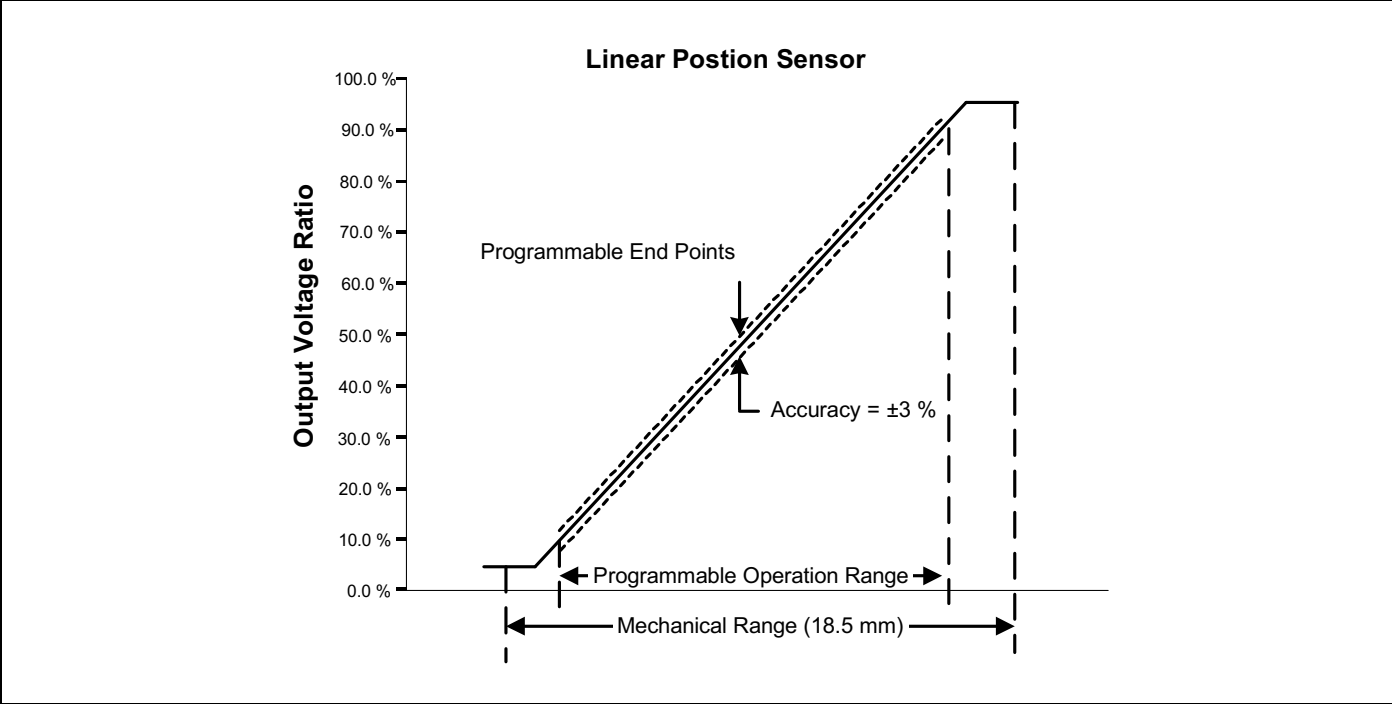
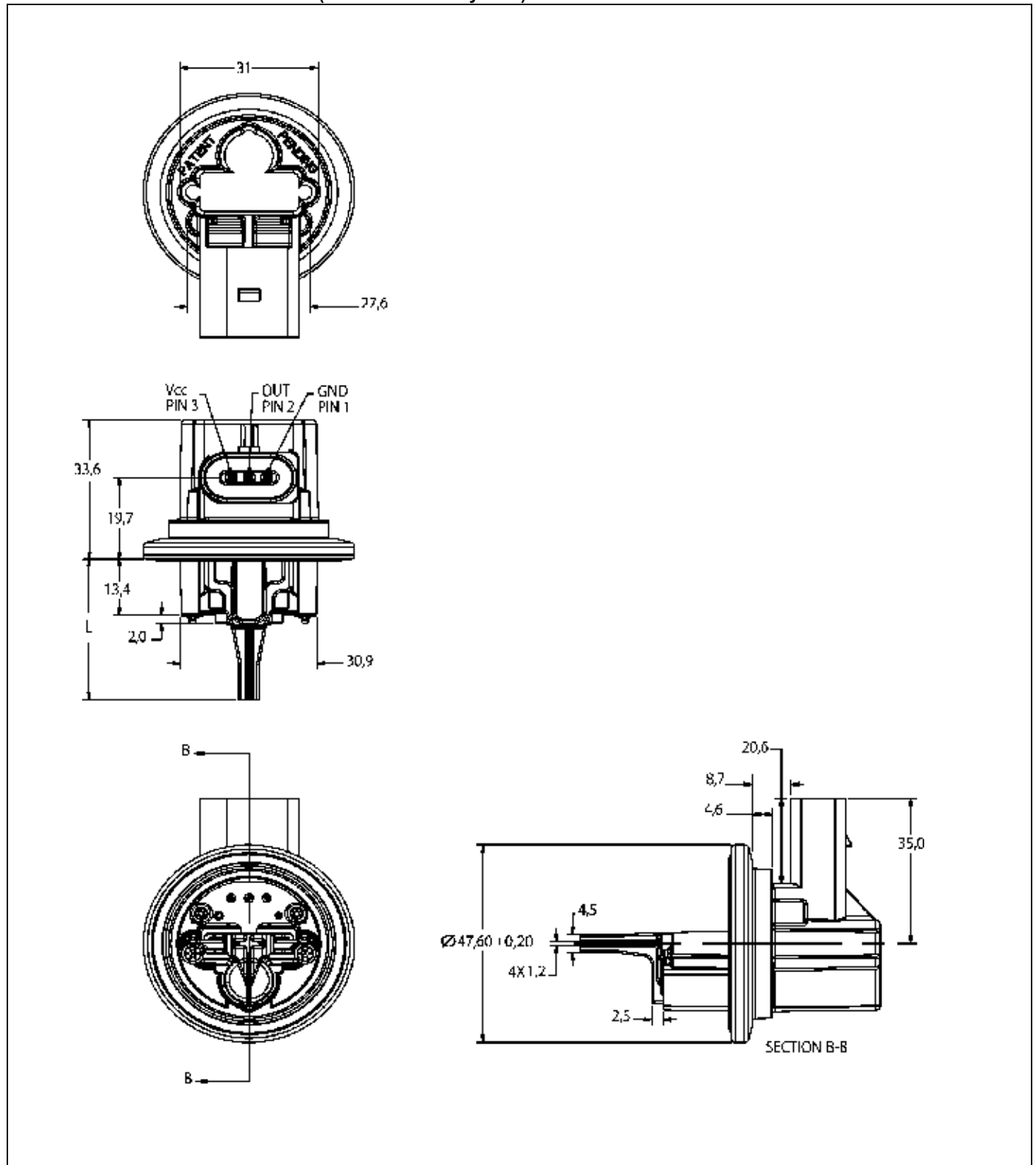


FIGURE 2. EXAMPLE OF THE LINEAR POSITION SENSOR MOUNTED IN A TURBO VACUUM ACTUATOR COVER



FIGURE 3. DIMENSIONAL DRAWING (For reference only: mm)



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.

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- 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.

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

Internet: www.honeywell.com/sensing

Phone and Fax:

USA/Canada +1-800-537-6945

+1-815-235-6847

+1-815-235-6545 Fax

Europe +49 6232 299 0

+49 6232 299 111 Fax

Asia Pacific +81-3-5440-1425

+81-3-5440-1358 Fax

Automation and Control Solutions

Sensing and Control

Honeywell

11 West Spring Street

Freeport, Illinois 61032

www.honeywell.com/sensing

007442-1-EN IL50 GLO Printed in USA
March 2005
© 2005 Honeywell International Inc.

Honeywell