

## SMART Position Sensor, 100° and 180° Arc Configurations

### Superior Measurement. Accurate. Reliable. Thinking



The Honeywell SMART Arc Position Sensor is one of the most durable, adaptable, lightweight, and non-contact position sensors available, enabling absolute position sensing with enhanced accuracy. This simple, robust, arc position sensor offers an IP69K sealed package, eliminating mechanical failure mechanisms, reducing wear and tear, improving reliability and durability, and minimizing downtime.

The SMART Arc Position Sensor is a non-contact sensing solution, providing highly accurate motion control and improving operation efficiency and safety. This Honeywell position sensor utilizes magnetoresistive technology to detect the position of a magnet relative to the sensor in one of two available sensing ranges:

- 0° to 100°
- 0° to 180°

They use a patented combination of an ASIC (Application-Specific Integrated Circuit) and an array of MR (magnetoresistive) sensors to accurately and reliably determine the position of a magnet attached to a moving object so that the object's position can be determined or controlled.

The MR array measures the output of the MR sensors mounted along the magnet's direction of travel. The output and the MR sensor sequence determine the nearest pair of MR sensors to the center of the magnet location. The output of these two MR sensors is then used to determine the position of the magnet between them.

#### VALUE PROPOSITIONS (★ = competitive differentiator)

<p>★ <b>Reliable, durable:</b> Non-contact design reduces wear and tear, improving reliability and durability, minimizing downtime</p> <p>★ <b>Easy to install:</b> Installation takes four steps (1: position device; 2: drill holes 3; mount sensor; 4: locate magnet/connect sensor) vs. up to 14 steps some competitive products require, simplifying installation and reducing set-up costs</p> <p>• <b>Rugged:</b> Honeywell utilizes unique package materials with no moving parts within the sensor, making it resistant to vibration, shock, and extreme temperatures</p> <p>★ <b>Flexible:</b> Air gap tolerance of 7,8 ±2,5 mm [0.307 ±0.098 in] or 9,2 ±2,5 mm [0.36 ±0.09 in] (100°) and</p>	<p>8,5 ±2,5 mm [0.338 ±0.098 in] (180°) between sensor and magnet expands application use</p> <p>★ <b>Cost effective:</b> Adaptable, non-contacting design allows customers to eliminate unnecessary connections for installation, reducing installation steps/time and components</p> <p>• <b>Accurate:</b> 100° configuration accurately measures values down to 0.06° while the 180° configuration accurately measures values down to 0.11°</p> <p>★ <b>Adaptable:</b> Electronics on board allow for flexible packaging and component compatibility with existing systems</p>	<p>★ <b>Lightweight:</b> Lighter in weight than optical encoders</p> <p>★ <b>Self-diagnostics feature</b> can reduce equipment downtime by providing predictive maintenance input</p> <p>• <b>Combined patented MR sensor and ASIC technology</b> provide enhanced differentiation and performance</p> <p>• <b>IP67, IP69K sealing</b> allow use in many harsh applications</p> <p>• <b>RoHS-compliant</b> materials meet Directive 2002/95/EC</p>
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## POTENTIAL APPLICATIONS

### Transportation

- Aerial work lift platform, front end loader and digger/excavator boom position
- Scissor lift position
- Refuse truck lift and automatic reach arm position
- Mobile crane steering
- Timber harvester/processor equipment cutter arm angle
- On-board loader weighing system position

### Industrial

- Telescoping conveyor elevation
- Power generation contact angle
- Rail-road crossing arms position

### Military

- Remote weapon systems elevation
- Chassis suspension systems position height
- Military vehicle door position

### Aerospace:

- Ground-based solar panels elevation and azimuth
- Ground-based satellite dish elevation and azimuth

### Medical:

- Robotically-assisted surgery equipment position
- Patient bed elevation

### Find out more

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.

To learn more about Honeywell's sensing and control products, call **+1-815-235-6847/1-800-537-6945**, visit [sensing.honeywell.com](http://sensing.honeywell.com), or e-mail inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

## 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

#### 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.**

### WARNING

#### MISUSE OF DOCUMENTATION

- The information presented in this document 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.**

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