

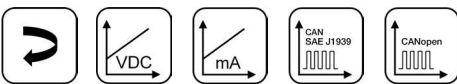
**NOVOHALL  
Rotary Sensor  
Non-contacting**

**RSA-3200**



**Resilient in Harsh Environments -  
Rotary sensor with robust Hall technology  
for mobile machinery**

- Touchless hall technology
- Electrical range up to 360°
- High protection class IP67 resp. IP6K9K (housing side)
- Resolution up to 14 bits
- Temperature range -40°C to +125°C
- One and multi-channel versions
- Optimized for use in mobile applications
- For highest EMC requirements such as ISO pulses and interference fields according to ISO 11452 and ECE directive
- Suitable for safety-relevant applications according to DIN EN ISO 13849
- Interfaces: voltage, current, CANopen, CAN SAE J1939
- Optional linkage lever mounting



**Applications**

- Mobile working machines (industrial trucks, construction machinery, agricultural and forestry machinery)
- Marine applications

Mobile working machines and truck conveyors place very high demands on the sensor system due to the application environment.

The very compact angle sensor RSA-3200 offers reliable function under harsh operating conditions. The sensor is optimized for mobile applications and is certified according to the highest EMC standards such as ISO pulses and interference fields according to ISO 11452.

The position data is provided as an analog current or voltage signal and also via CANopen / SAE J1939 interface.

Single and dual-channel versions are available and suitable for use in safety-critical applications. The stainless steel D-shape shaft is designed with assembly of linkage levers in mind.

**Magnetic Position Measurement**

When a current flows through a Hall element it provides a voltage across the current flow if a magnetic field acts perpendicular to both.

Since this voltage is proportional to the magnetic field strength, a non-contact and absolute angle or displacement measurement can be easily achieved by attaching a position magnet to the moving machine part of the application.

By combining several sensor elements and integrating the complete signal processing in only a few components, complex systems are feasible in the smallest possible space.

The systems are insensitive to aging and independent of field strength fluctuations of the magnets.

Both shafted and touchless 2-part systems enable angle measurement over up to 360°, even over several revolutions or a linear displacement measurement up to 50 mm.

High resolution with great dynamic response, large mechanical tolerances and fast feasibility of customer-specific output options are added benefits of this wear free technology.



### Compact Rotary Sensor with Shaft

The non-contact angle sensor RSA-3200 offers full 360° angle measurement, smaller measurement angles are also available. The stainless steel bushings with a hole spacing of 32 mm allow safe and secure mounting. Various lever arms can be mounted on the stainless steel shaft which is guided in a robust sleeve bearing.

- Standard measuring angles 60°, 120°, 180°, 240°, 360°
- Sintered bronze bushing for high bearing loads
- Typical life 30 Mio. movements
- Industry-specific connector (Micro Quadlock System)

### Hall Sensing Technology - Robust Position Detection

The analog interfaces (ratiometric interface, current and voltage outputs) were developed for safety-related applications according to DIN EN ISO 13849 and are approved to E1 type approval according to the ECE directive. Alternatively, the sensor communicates via fieldbus CANopen or CAN SAE J1939.

- European E1 approved
- Suitable for safety-related applications
- Position and speed
- Resolution up to 14 bits
- One and multi-channel versions
- Supply voltage 12/24 VDC

### Resilient in Harsh Environments

The RSA-3200 meets the requirements of mobile applications: high seal rating, media and temperature resistance as well as excellent EMC robustness. The electronics are completely encapsulated and offer an extremely wide temperature range of -40 to +125°C and can therefore be used in a wide variety of applications. The shaft is sealed against water ingress with a double O-ring seal.

- Protection class up to IP6K9K (electronics encapsulated)
- -40 ... +125°C
- Interference immunity up to 200 V/m according to ISO 11452-5



### Recommended Accessories



- Lever arm Z-RSA-M01



- Connector Kit Micro Quadlock System



### Ordering Specifications

**Preferred types printed in bold**

- Delivery time up to 25 pcs. within 10 working days EXW
- Best low-volume pricing

**Interface**

21\_: 5 ... 95% ratiometric to supply voltage  $U_b$  (0.25 ... 4.75 VDC)  
 22\_: 10 ... 90% ratiometric to supply voltage  $U_b$  (0.5 ... 4.5 VDC)  
**32\_**: **Current output 4 ... 20 mA**  
 34\_: Voltage output 0.5 ... 4.5 VDC  
**35\_**: **Voltage output 0.25 ... 4.75 VDC**  
 61\_/65\_: CANopen, one-channel  
 62\_/66\_: CANopen, two-channel  
 J1\_/J5\_: CAN SAE J1939, one-channel  
 J2\_/J3\_/J6\_/J7\_: CAN SAE J1939, two-channel

**Electrical connection**  
 521: Connector AMP MQS 6-pin, male

**R S A - 3 2 0 1 - 8 3 6 - 3 2 4 - 5 2 1**

**Series**

**Mechanical version**  
**3201: Standard design**  
 3202: with mounted lever arm Z-RSA-M01

**214: Digital interface**

**Analog interfaces**  
**6: One-channel version (1x supply voltage  $U_b$ , 1x output)**  
**7: Partly redundant version (1x supply voltage  $U_b$ , 2x output)**  
**8: Fully redundant version (2x supply voltage  $U_b$ , 2x output)**

03: Angle 0° ... 30° min.  
**06, 12, 18, 24, 36**  
 36: Angle 0° ... 360° max.  
 Other angles on request

For more information and detailed ordering specifications, see <https://www.novotechnik.de/en/products/rotary-sensors-linear-position-transducers/>

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Thanks to this tightly knit network we can ensure that wherever our customers may be located we can provide first-class service and customer care.

Your contacts can be found <https://www.novotechnik.de/nc/en/service/representatives/>

## Technical Support

Do you need further technical information?

Please do not hesitate to contact the representative for your country or contact us directly:

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