

## Non-contacting and touchless Rotary Sensors



### A Comparison of Rotary Sensors

Non-contacting rotary sensors come in a great variety of designs - sizes, materials, and electrical interfaces - to meet almost any application requirement.

# Non-Contacting and Touchless Rotary Sensors



## Technology with a Future

Thanks to an abundance of non-contacting and touchless rotary sensors that are easily adapted to diverse areas of use, there is a custom solution for nearly any application.

Depending on their sensing technology and design, sensors from Novotechnik are suitable for temperature ranges up to  $-40\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$ , and meet protection requirements as high as IP69K. They are also tested for compliance with stringent demands that exceed the applicable standards. Many series are available with redundant output signals, making them suitable for applications that require functional safety.



## The Perfect Match for Any Application

There is virtually no limit to the possible uses for Novotechnik sensors. The applications span a wide spectrum: from mobile applications in agricultural vehicles such as tractors and harvesters, to forklifts and concrete pumps, to dancer arms on textile machinery. Actuating drives, control valves, material handling systems, industrial robots, and wind direction indicators are also interesting applications for these versatile rotary sensors. Standard, modified standard, or completely new sensors designed according to your specifications – we have a solution. Talk to us.



## Safety and Reliability

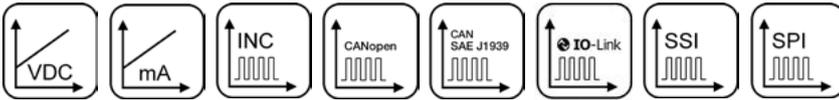
The outdoor use of mobile machinery and industrial trucks places very high demands on sensors. Our rotary sensors maintain their reliable function even under adverse operating conditions. They are optimized for the demands of mobile applications, including the highest EMC standards such as pulses and radiated emissions according to ISO 11452.

Our commitment to quality is demonstrated by the fact that we were one of the first companies in the world to have our operations certified to IATF 16949. At Novotechnik our process begins with stringent and demanding specifications and ends with the inspection of every single product. This helps ensure that every product we manufacture performs exactly as designed.

Each batch of sensor components within the production and supply chain can be traced using the type identification on the sensor.

The expertise that we have gathered over more than 70 years is the foundation of our success, especially in safety-related applications.

# Non-Contacting and Touchless Rotary Sensors



## Compact Touchless Single-turn Sensors

The magnetic Hall effect rotary sensors of the RFC-4800 and RFD-4000 series have proven themselves in many industrial and mobile applications. They are compact and easy to install, and they acquire the rotation angle over the entire 360 degrees, at a resolution of up to 14 bit.

## Multiturn Sensors Utilizing the GMR Effect

A highlight among non-contacting rotary products: The multiturn sensors of the RSM-2800 and RMB-3600 series, which utilize the GMR effect (Giant-Magneto-Resistance) in addition to the Hall effect. They provide absolute position values, do not require any reference signals, and need neither a power supply nor a buffer battery in order to acquire rotations. Their measuring range is up to 16 rotations, and the measuring value is provided in analog form or via SPI or SSI interface.

## Hall Sensors for Superior EMC Standards

When several sensor elements are combined, and the entire signal processing fits into a few components, the construction of complex systems with very small footprints becomes a possibility.

These systems are largely free of wear and tear, and they are not influenced by fluctuating field strengths from the positioning magnets.

Both the non-contacting, shaft-driven RSC-2800 and RSA-3200 series, and the touchless RFE-3200 series with external position markers, allow for measurements over up to 360°.

In addition, this technology features high resolutions, good dynamics, high mechanical tolerances, and flexibility of specialized solutions for customer-specific requirements.

## Robust and Precise: Heavy-Duty Sensors

The rougher the environmental conditions, the more the technology needs to shine. The RSX-7900 and the RFX-6900 series are well-equipped for tough environmental conditions. Thanks to the sturdy metal casing and molded electronics, they comply with the protection requirements of IP67 and/or IP6k9k, and they are also suited for mobile applications with high EMC requirements.

## Freedom of Design and a Great Variety of Interfaces

Due to their compact footprints and a wide variety of mounting accessories and connectors, the rotary sensors are easily integrated into the most diverse applications. And they come with a great variety of electrical interfaces: from single- and redundant-channel designs with analog signals, to digital interfaces such as SPI, SSI or Incremental, to CANopen and IO-Link.

For further information click on the image



## Fascination with technology

Wherever positions and angles need measuring with the utmost precision, sensors from Novotechnik are a first-rate solution. The expertise in measuring technology that we have amassed over the years is just one of the secrets behind our success story that goes all the way back to 1947.

Demand for precision and reliability. Solution-oriented thinking. Curiosity with new materials and production methods. A keen sense of service. These traits support our mission to continuously improve our measuring systems.

The greatest secret of our success, however, is our passion for devising the best possible solution for each individual customer and application. To this end, we will continue to focus on the strengths that made us the successful company we are today.

Logistics, construction, agriculture, medical, test and measurement, automotive... Leading equipment manufacturers from a multitude of industries place their trust in position transducers and rotary sensors from Novotechnik.

In the automobile industry alone, more than 25,000 of our sensor components are installed into new cars each and every day. Over 100 million throttle sensors from Novotechnik have been installed in safety-relevant X-by-wire applications without field failures.

## Representatives worldwide

Today, Novotechnik is represented in all of the world's major markets, by our own subsidiaries or approved dealers.

Wherever our customers are, they can rely on first-class service and customer care thanks to this tightly-knit network.

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