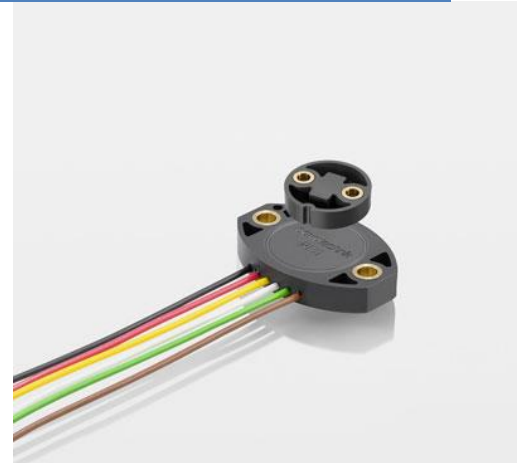


**Inexpensive, yet powerful:**

## Super-Flat Non-Contacting Rotary Sensor

*When it comes to position and angular measurements, today's manufacturers often choose magnetic technologies. Hall Effect-based sensors, for instance, yield absolute measurements which are reliable even under tough environmental conditions. Their relatively low cost in comparison with other measurement technologies makes them suitable for countless applications in machine engineering and plant design as well as for mobile applications. In light of recent developments, this trend is expected to continue.*



Novotechnik, a company that specializes in sensor technologies (see Box #2), has responded to the increasing demand for simple, flat, and affordable rotary sensors with the development of its new RFD component series (Figure 1). These non-contacting Hall Effect-based components are mechanically and electrically compatible with their predecessor, the RFA, yet distinctly more economically priced – in the absence of technological sacrifices. These highly reliable and powerful sensors are suitable for measurement angles of up to 360°. They offer a 12 bit resolution and an independent linearity of +/- 0.5%, and they are available in single, partially, or completely redundant designs.

The extremely flat sensor housing measures only 7mm in height. It is made of a sturdy thermoplastic material, and its two injection molded screw mounts are reinforced with brass bushings (distances between bores: 31mm). The included matching position transducer also features a small foot print, with a diameter of 22.2mm and a height of 5.6mm. It, too, is constructed of a thermoplastic material with injection molded brass bushings. Lateral installation offsets of +/- 1.5mm will not compromise measurement integrity. In addition, the sensor side is clearly labelled, thus simplifying installation. These sturdy sensors are sure to be widely used in the

fields of industrial and automotive technology, especially in light of their technological and economical advantages coupled with their attractive design.

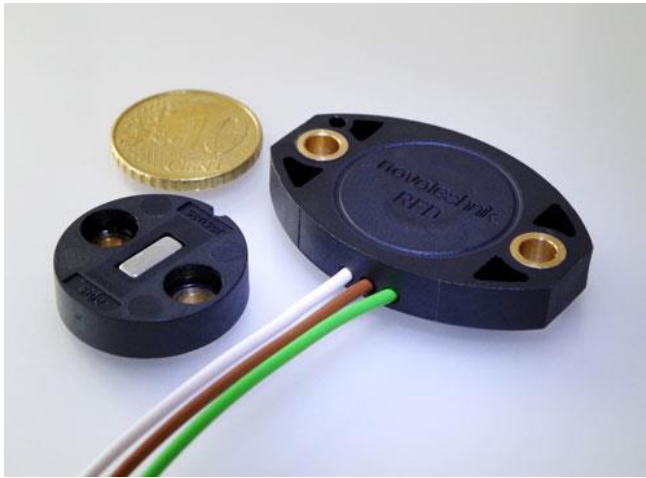


Figure 1: Inexpensive, yet powerful – super-flat non-contacting rotary sensor. Easy installation and attractive design. (Photo: Novotechnik)

### Box #1: The Hall Effect

When a current flows through a Hall component, and a magnetic field is applied perpendicular to both, it yields a voltage that

runs transversely in relation to the current. Since this voltage is proportionally related to the intensity of the magnetic field, it allows for the performance of non-contacting angular measurements by way of a positioning magnet installed on a rotating shaft (Figure 2). When several sensor components are combined, and the entire signal processing fits into a few components, the construction of complex sensor systems with tiny footprints becomes a possibility. The Hall Effect-based rotary sensors are largely unencumbered by wear and tear, and not influenced by fluctuating field strengths from the positioning magnets. This technology further

impresses through high resolutions and good dynamics, high mechanical mounting tolerances, and the possibility of rapidly devising specialized solutions for customerspecific demands.

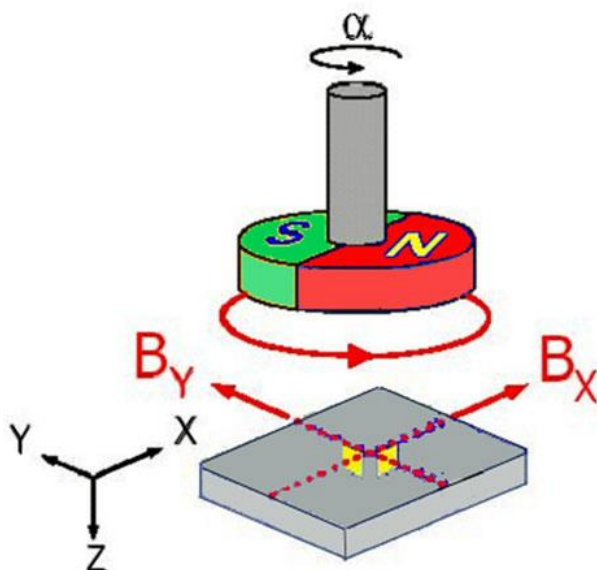


Figure 2: Angular measurement technology utilizing the Hall Effect (Photo: Novotechnik)

### **About Novotechnik**

Headquartered in Ostfildern, Germany, Novotechnik has been a leader in the development of measurement technologies for over 65 years. Today, more than 200 employees are constantly striving for excellence in Germany alone. Their product – powerful position transducers and rotary sensors that are essential for production, control, and measuring as well as automotive applications, worldwide. The wide assortment of products includes position transducers and rotary sensors based on different functional principles, specialized solutions for the automotive industry as well as signal conditioners and measuring devices. It covers virtually any conceivable application, while specialized demands are met with customized solutions.

### **About Mikkelsen Electronics**

Danish owned Mikkelsen Electronics provide both standard and customized products always based on a qualified dialogue.

Mikkelsen Electronics represent a number of the best producers of components within the industry. Macromelt, RFID, sensors of all kinds and cables - also fiber optics - from well-known brands such as Henkel, Novotechnik, Contelec, Huber+Suhner and BEI Duncan are among the long lasting partnerships. Through own production facilities in Denmark and dependable producers in Estonia and China Mikkelsen Electronics have built up a thorough experience in tailored and specialized projects.

Mikkelsen Electronics are producing after the IPC standard and are UL-certified and ISO 9001:2008-certified. Additionally, the company has an AAA credit rating.

With a sales office in Sweden and based in Denmark, Mikkelsen Electronics export to a number of European countries.

### **Questions?**

If you have any questions about this product and the technology behind please feel free to contact Tage Søndergaard at +45 44 34 03 09 or [tas@mi-ec.com](mailto:tas@mi-ec.com).

For questions regarding Mikkelsen Electronics, please contact Managing Director Jürgen A. Haberl at +45 44 34 03 02 or [jah@mi-ec.com](mailto:jah@mi-ec.com).