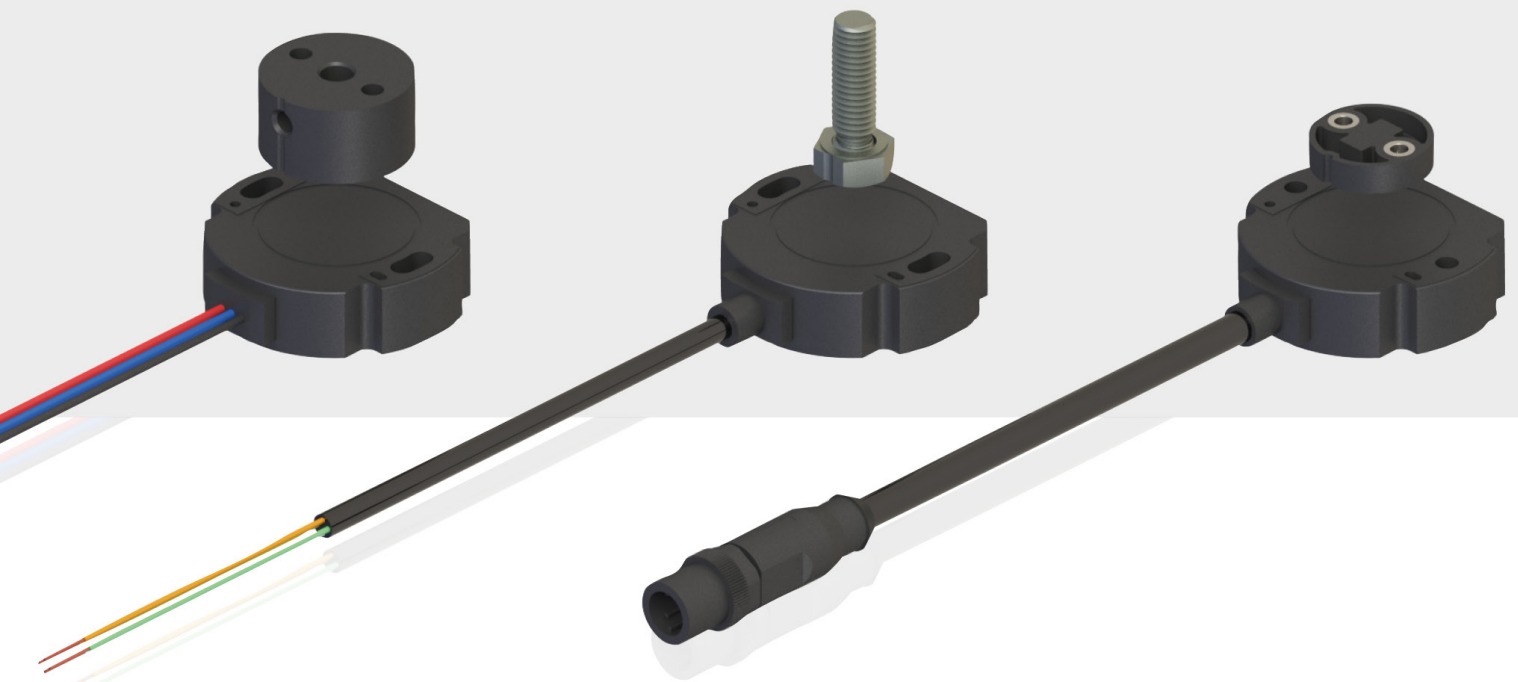


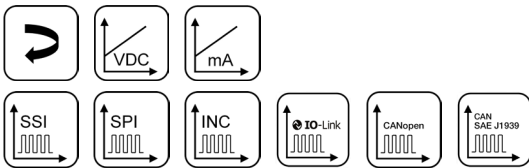
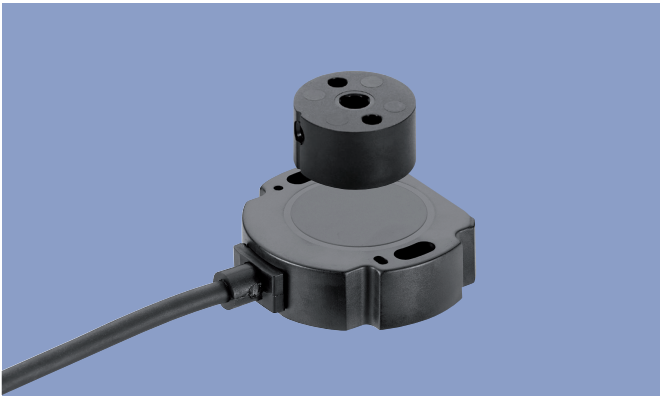
**NOVOHALL
Rotary Sensor
Touchless**

RFC-4800



**One For All
Universally Applicable Magnetic
Angle Sensor**

- Touchless hall technology
- Electrical range up to 360 °
- 2 part design, mechanically decoupled
- High protection class IP69
- Resolution up to 14 bits
- Temperature range -40° C to +105° C
- One and multi-channel versions
- Wide range of use in industrial and mobile applications
- For highest EMC requirements such as ISO pulses and interference fields according to ISO 11452 and ECE directive
- Suitable for safety-related applications according to DIN EN ISO 13849 (depending on the version)
- Numerous analog and digital interfaces as well as fieldbus



Applications

- Manufacturing Engineering (textile machinery, packaging machinery, sheet metal and wire machinery)
- Medical Engineering
- Mobile working machines (industrial trucks, construction machinery, agricultural and forestry machinery)
- Marine applications



The two-part design consisting of sensor and magnetic position marker offers great flexibility when mounting. The absence of shaft and bearing makes the assembly much less sensitive to axial and radial application tolerances - separate couplings are obsolete.

Measurements can be made transmissively through any non-ferromagnetic material. With its completely encapsulated electronics the sensor is perfectly suited for use in harsh environments.

Single and multi-channel versions are available and suitable for use in safety-related applications.

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 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.

Contactless Angle Measurement

Since sensor element and position magnet are separated from each other, the angle measurement takes place completely contactless without mechanical wear. Working distances between 0 and 9 mm can be realized by numerous position markers.

- Measuring angle between 0 ... 30 and 0 ... 360°
- Flat design
- Separate position markers with different mounting options
- Various options of electrical outlets: lead wires, cable or connector output

Hall sensors - Robust Position Detection

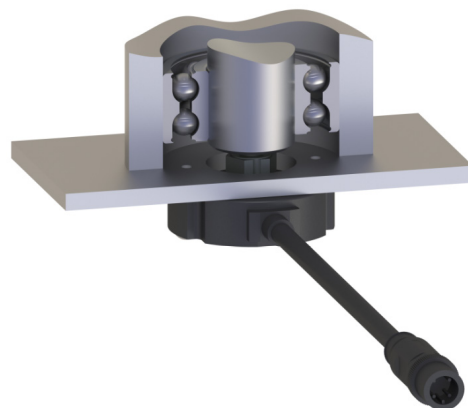
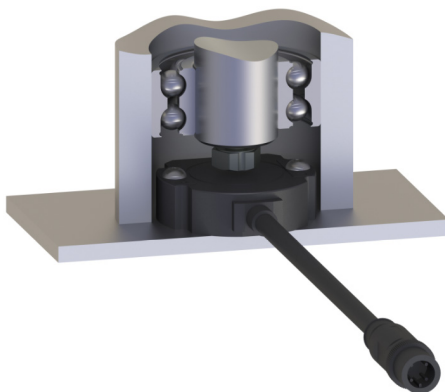
The sensors are optimally shielded against electromagnetic interference from their environments – surpassing even the applicable regulations. Our multi-channel rotary sensor designs support safety-related applications.

- European E1 approved
- Depending on the interface, suitable for safety-related applications according to DIN EN ISO 13849
- Position, speed and volatile revolution counter
- Resolution up to 14 bits
- One and multi-channel versions
- Supply voltage 5 VDC, 24 VDC and 12/24 VDC

Resilient in Harsh Environments

With our large testing facility and our own EMC lab, we are equipped to conduct extensive environmental testing. This enables us to meet our customers' expectations when it comes to challenging outdoor applications. Novotechnik sensors and position markers can withstand extreme environmental conditions, even where aggressive substances are present. The electronics are completely encapsulated and can therefore be used in a wide variety of applications.

- Protection class up to IP69 (electronics encapsulated)
- Temperature range -40 ... +105°C
- Interference immunity up to 200 V/m acc. to ISO 11452-5
- Wear-free, unlimited mechanical life

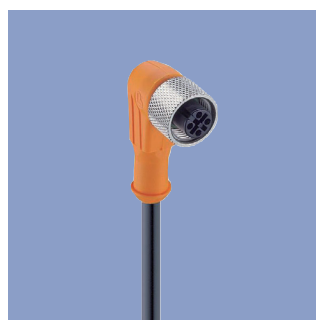


Required Accessories



- Position markers and magnets in various designs for different working ranges between sensor and position marker

Recommended Accessories



- Mating cables and adapter cable M12 in various lengths



Ordering Specifications

Preferred types printed in bold

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

Analog interface

- 11_:** Ub = 24 VDC, Voltage output 0.1 ... 10 VDC
12_: Ub = 24 VDC, Current output 4 ... 20 mA
2_: Ub = 5 VDC, 5 ... 95%/10 ... 90% ratiometric to Ub (0.25 ... 4.75 VDC/0.5 ... 4.5 VDC)
3_: Ub = 12/24 VDC, Voltage output 0.25...4.25 VDC/0.5 ... 4.5 VDC
32_: Ub = 12/24 VDC, Current output 4 ... 20 mA

Digital interface

- 41_:** SSI, Ub = 5 VDC, Gray-Code
44_: SSI, Ub = 24 VDC, Gray-Code
51_: Incremental, Ub = 5 VDC, TTL-compatible
53_: Incremental, Ub = 24 VDC, TTL-/HTL-compatible
55_: Incremental, Ub = 12/24 VDC, open collector
8_: SPI, Ub = 5 VDC, Binary code
A_: IO-Link, Ub = 24 VDC
6_: CANopen, Ub = 12/24 VDC, one- and two-channel
J_: CAN SAE J1939, Ub = 12/24 VDC, one- and two-channel

Electrical connection

- 20_:** Cable, 4-pole, shielded, L = 0,5 m, 1 m, 3 m, 5 m, 10 m
25_: Cable, 4-pole, unshielded, L = 0,5 m, 1 m, 3 m, 5 m, 10 m
3_: Cable, 5-pole, shielded, L = 1 m
4_: Lead wires, L = 0,5 m
43_: Cable, 8-pole, shielded, L = 1 m, 3 m, 5 m, 10 m
5_: Connector M12x1, 4-pin/5-pin/8-pin, with cable, shielded, L = 0,15 m
55_: Connector M12x1, 4-pin, an Kabel, unshielded, L = 0,15 m
552: Connector AMP Superseal, 4-pin, with cable, unshielded, L = 0.15 m
 Cable versions and assembled connectors on request

R F C - 4 8 5 1 - 6 3 6 - 1 1 1 - 2 0 2

Series

214: Digital interface

Analog interfaces

- 6:** One-channel version (1x supply voltage Ub, 1x output)
7: Partly redundant version (1x supply voltage Ub, 2x output)
8: Fully redundant version (2x supply voltage Ub, 2x output)
 03: Angle 0° ... 30° min.
06, 12, 18, 24, 36
 36: Angle 0° ... 360° max.
 Other angles on request

Mechanical version

- 4851:** Elongated hole mounting for easy adjustment
 4852: Round hole mounting
4853: Elongated hole mounting, without diagnostic function
 4854: Round hole mounting, without diagnostic function

SSI/SPI/Incremental interface

- 4801: Elongated hole mounting
4802: Round hole mounting

Other configurations e.g. with internal shielding against magnetic fields on request

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

Representatives worldwide

Novotechnik is represented in all of the world's major markets with our own subsidiaries or by approved dealers and representatives. 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 at <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: +49 711 4489-250 support@novotechnik.de