
Datum: Mai 2018
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Pressemitteilung

4 black aces for your speed detection RHEINTACHO offers 4 speed sensor series for mobile electric drives

What are you looking for when considering the use of speed detection inside your electric drive? High IP-rating? Zero-Hz-capability? Different connectors? High temperature resistance? – We recommend, to have a close look on RHEINTACHO's speed sensor series FQ, FP, FM and FK. The chances are high that you find exactly what you are searching for.

Since more than a decade, the Freiburg-based specialists are supplying speed sensors for the demanding use in electric drive systems for various applications: Material handling, indoor-vehicles, electric fan drives and many others.

General features

All models of these sensor families are equipped with a proven differential-hall technology for safe and reliable detection of rotational speed even in critical electrical and magnetic environmental conditions. The 2-channel design allows not only detection of rotational speed but also the direction of rotation.

Especially in the price-sensitive market of electric drives, users can choose RHEINTACHO sensors matching their needs regarding

- The required signals
- The necessary protection class for their specific applications.
- Interface via cable
- Connector integrated into the sensor body

A wide variety of cable lengths and connector types round off the customization options.

The sensors can be used in a wide range of temperatures (up to +140 °C) due to the housings made of high-quality plastic as well as other constructive measures. The housing material used has exceptional mechanical properties. For example, compression strength and material durability reach values that already allow for substitution of metal housings depending on the respective application. Among other features, the electrical structure provides a very wide range of possible supply voltages and a high level of EMC stability. The Hall elements which are used cover a wide frequency range.

The geometric design as flange sensor automatically ensures the proper installation position required for good signal determination.

The most important features at a glance:

- 2-channel differential-hall sensor
- Housing made of high-performance plastic
- Large detection distance possible
- Wide frequency range
- Wide temperature range

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Where this success story started: The FK series

The FK series has proven over the last decade as a kind of world-standard for speed detection inside electric drives. And the many copies are to be seen as a grant of honors for an outstanding successful product.

The 2-channel sensor design allows for both the speed and direction of rotation to be measured simultaneously using two phase-shifted signals. The temperature resistance and EMC resistance of this sensor achieves top values, thanks to its electronic design and the use of specially chosen materials.

FM series – the all-integrated-sensor

With the FM series, RHEINTACHO added a model, featuring connectors integrated directly into the sensor housing to its sensor portfolio. The sensor is made of a proven high-tech-plastic. The intelligent design, allows for the use of various connectors. And what is even more important to achieve the best possible installation: various connector outlet directions are possible. This is increasing your flexibility of design significantly.

The connector output can be turned to 0°, 90° and 270°. This allows for the optimal adjustment according to the individual installation situation. The connector can be produced to be compatible with various common standards e.g.: AMP, Deutsch, and Yazaki.

With the mating plug in use the entire unit is in accordance with the IP67 protection class. One of the standards the EMC values fulfil is the EN 13309:2010 construction machinery standard, amongst others. The mating plug can safely be assumed to be the limiting factor in light of the sensor's temperature resistance of up to 140°C.

0-Hz-detection and highest temperature stability: FP series

The FP comes with completely new designed sensor electronics. Resulting into major differences to the existing sensor series.

- Standstill detection (from 0 Hz)
- High temperature resistance

These features are achieved thanks to smart electronic design, a careful choice of components and the use of state-of-the-art sensing elements.

The other specifications are set to offer a high grade of exchangeability with the other discussed sensor series:

- Insertion depth: 35 mm and 45 mm
- Protection class: IP65

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FQ series – the one for the dirty jobs

Thanks to a smart design of the sensor head with its cable outlet in either 90° or 180°, the FQ is achieving the high protection class of IP69K.

Thanks to different sensor lengths, cable outlet directions and connector options, this product line offers users a high degree of flexibility, enabling adaptation to entirely individual requirements. And even if none of the available models is suitable, RHEINTACHO will be pleased to draw on its recognised expertise in customised solutions to develop the right solution for you.

Why IP69K? RHEINTACHO Sales Manager Wolfgang Sexauer: "There is one main reason why we were motivated to develop this new series. We see a tendency to specify higher IP classes in many applications for safety reasons, than was the case a few years ago."

The FQ product line is consequently a further development of the well-established FK product line, which fulfils protection class IP65.

RHEINTACHO wholeheartedly welcomes higher specifications from users in regard to its sensors. "Our experience has shown that specifying too low an IP class and putting the onus on users via operating and maintenance instructions, is not practical. This simply doesn't work", continues Wolfgang Sexauer. "When a machine is to be cleaned with a steam jet for practical reasons, it is difficult to convince the operators otherwise – regardless of what is found in the operating manuals. Subsequent problems "in the field" are then inevitable. Whether in consideration of all actual costs a more cost-effective, lower-specified component is then the means of choice is at least questionable. And just for this reason we are expanding the proven FK product line to include the FQ series with its higher protection class. We always strive to offer the best technical and economic solution, tailored to the specific application."

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RHEINTACHO sensor series for mobile electric drives

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