

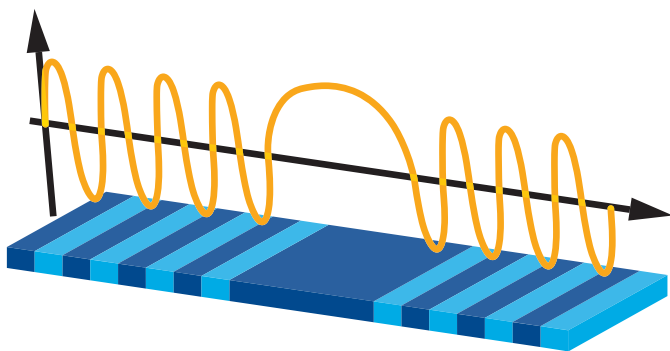


# MULTIPOLE ENCODERS

Freudenberg Sealing Technologies manufactures multipole encoders that are used in wheel bearings, drive shafts, gear shafts, crankshafts, and camshafts of internal combustion engines, axial piston engines, wind turbines, and other applications.

Our encoders have a magnetized rubber exterior consisting of alternating north and south poles. Our encoder compounds can be tailored to particular application needs. Both the magnetic strength and pole size can also be customized to fit your exact specifications. The encoder's magnetic field extends out of the body to the sensitive element within the sensor (diagram below). From a quality standpoint, the multipole encoder is perfectly defined because it gives a part's characteristics at the exact position where the signal is measured by the sensing element, providing an ideal technical interface

Due to its high accuracy, narrow design, and robust construction, the multipole encoder delivers key advantages over mechanical transmitter wheels in radial and axial signal detection. The detection of rotation angle positions is also possible. Whether custom-made or standard (in sizes 40 mm to 200 mm), our multipole encoders have an impressive track record with automotive and general industry customers worldwide.



The invisible magnetic field (yellow wave) can be customized to particular specifications.

## VALUES FOR THE CUSTOMER

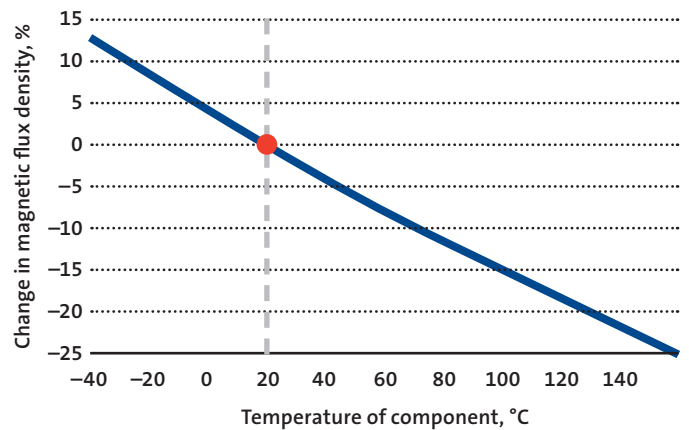
- Our multipole encoders are durable with high accuracy reliability
- Multipole encoders dependably serve for the detection of the rotation angle velocity, rotation speed deformity, and rotation angle positions of shafts
- Our encoders provide weight reduction
- Miniaturization (downsizing) is an important feature
- These encoders accommodate compact installation space
- 100% signal verification on every part



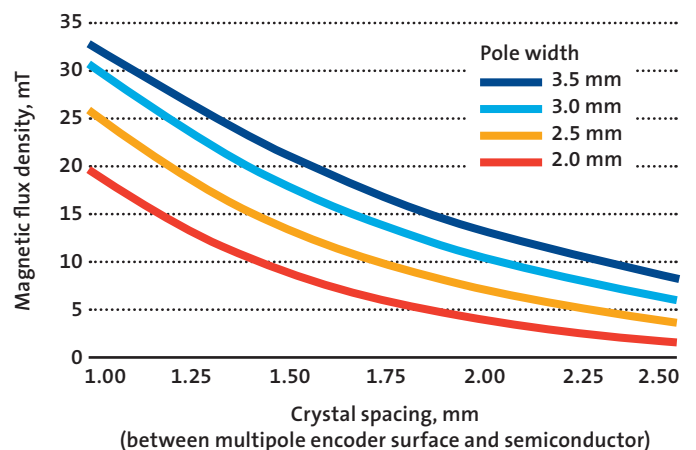
## FEATURES AND BENEFITS

- Our multipole encoders are available with radial or axial signal detection
- Standard dimensions available from 40 mm to 200 mm
- These products are part of a system consisting of the multipole encoder, magnetic field sensor, and evaluation unit
- Our experts assist in sensor selection
- A magnet in the sensor is eliminated
- Our encoders come with compounds tailored to the specific application, consisting of an elastomer and magnetic hard filler material
- Our experts assist in sensor selection

Reduction of the magnetic flux density due to influence of temperature, based on room temperature [%]



Influence of pole width and crystal spacing on the magnetic flux density



The information contained herein is believed to be reliable, but no representation, guarantees or warranties of any kind are made to its accuracy or suitability for any purpose. The information presented herein is based on laboratory testing and does not necessarily indicate end product performance. Full scale testing and end product performance are the responsibility of the user.

[www.fst.com](http://www.fst.com)