

TorqueSense

In order to achieve maximum efficiency in industrial drive trains and processes, it is essential to have precise knowledge of the torque and its distribution.

Schaeffler's TorqueSense torque measurement module offers a mechatronic solution that allows applications and processes to be monitored and controlled with significantly greater precision as the torque is recorded right where it is applied.

Features:

- Plug & play
- High precision even at low torque
- Non-contact and maintenance-free
- Scalable shaft diameter and measuring range
- Rotational speed can also be measured
- No loss of rigidity



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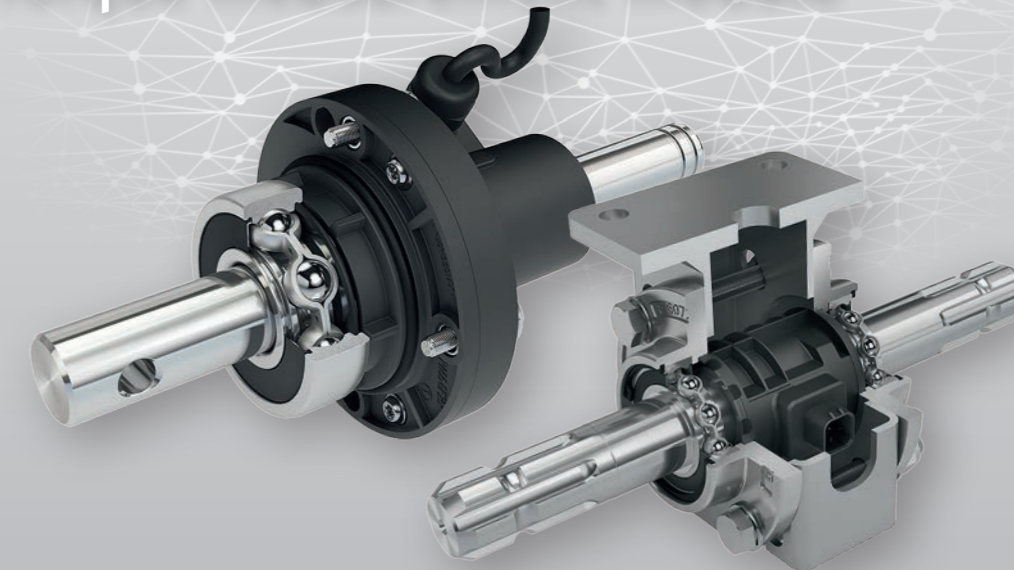
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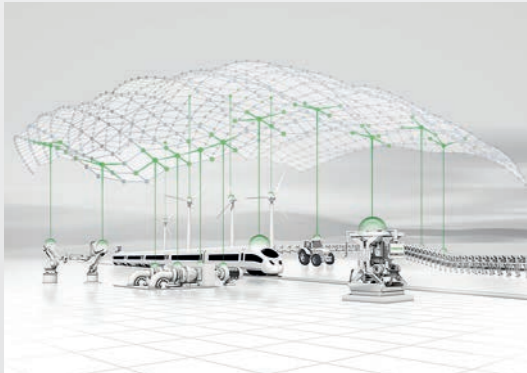
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TorqueSense

Torque measurement module



Added value through digitalization

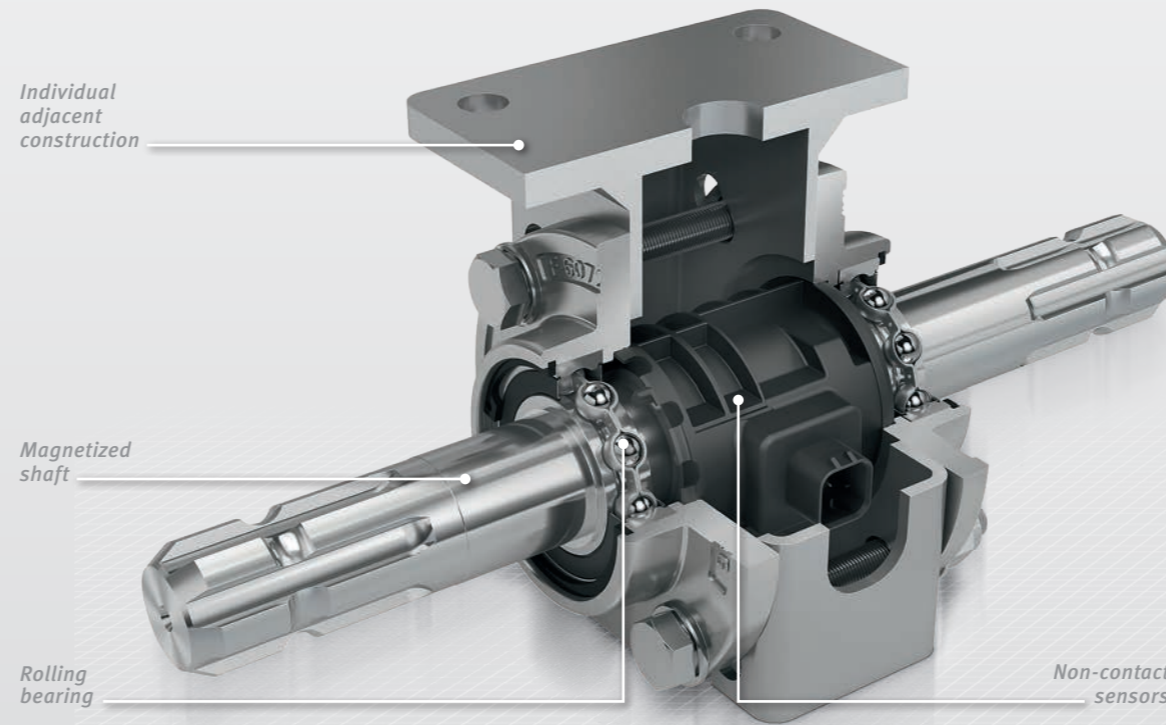


The digital revolution and the linking of components and systems increase the efficiency of machines and equipment.

Schaeffler is shaping the field of digital transformation with a clear vision and specific solutions.

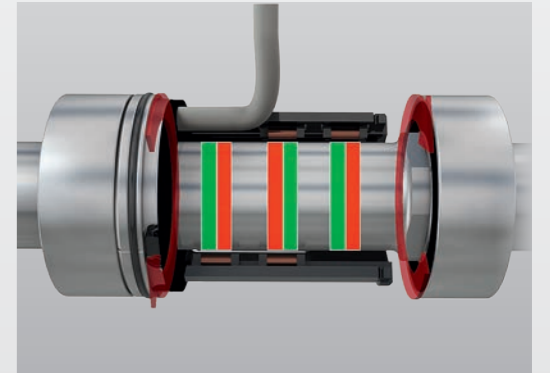
Schaeffler's Smart EcoSystem offers a standardized hard and software infrastructure from components equipped with sensors through to digital services and business models:

- You can reliably and precisely gather important data for controlling processes and machine monitoring with sensors and mechatronic products such as the **TorqueSense Module**.
- Use Schaeffler's unique domain expertise in the form of digital services to automatically generate relevant information from the collected data and to receive specific recommended actions.
- Benefit from our various digital solutions for industrial applications and use these solutions in a targeted manner to **control processes, maximize availability, and optimize product quality**.



Functional principle:

- Two or more magnetic tracks are applied to a sensor shaft.
- If no load or torque is applied, the magnetic field of the tracks runs inside the material and is therefore not measurable from the outside.
- If a torque acts on the shaft, the resulting surface tension forms a magnetic field along the magnetic tracks.
- The strength of this magnetic field is proportional to the transmitted torque.
- Magnetic field sensors record the magnetic field and convert it into electrical voltage (0 – 5 V).
- This electrical voltage can be directly processed by a control unit.



The application of torque to a magnetized shaft changes its magnetic field. The sensor function is primarily based on the linearity between the torque and the magnetic field.