Magnetic ring system

In this system, a circular magnet with alternating poles (north and south) magnetized around the circumference is secured to a rotating shaft, and a magnetic sensor is placed so as to detect the poles as they pass by.

The active sensor delivers a pulse train with a frequency that is proportional to the shaft speed. This sensor is easy to implement and offers good performance over a wide range of operating conditions.
Such a system also provides best in class integration capabilities.

Electricfil solution - ready technologies

Characteristics

- Temperatures -40°C to +160°C
- Zero-speed sensing (crankshaft), TPO function (camshaft)
- Low signal-processing requirements
- Large airgaps up to 2.5 mm

- Magnetic ring diameter:
  - camshaft: 40 mm to 80 mm
  - crankshaft: 80 mm to 150 mm
- Unlimited signal pattern capabilities
- Interface: 3-wire, digital pulses

Electricfil knowhow

- Wide range of packages and interfaces
- Wide range of ASICs available
- Patented magnetic patterns

Application domains

Engine management

Camshaft and crankshaft