



## TLE 5012B

360° angular sensor with integrated data processing

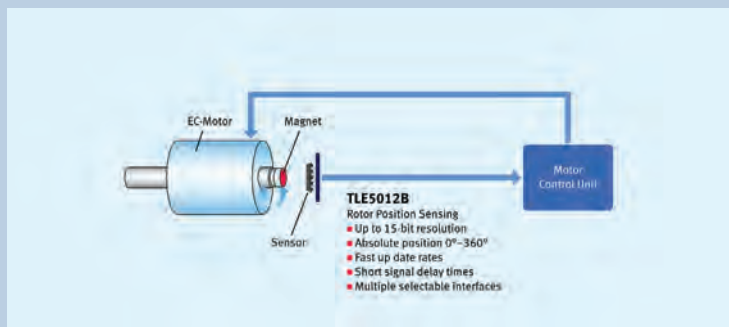
The TLE 5012B measures the orientation of a magnetic field parallel to the package surface. The sensor contains two galvanically separated Wheatstone bridges based on Infineon's well proven and automotive qualified integrated Giant Magneto Resistive (iGMR) Technology.

Built-in signals processing provides highly accurate angular information with short delay times and high update rates which makes the TLE 5012B ideally suited for highly dynamic applications such as e.g. rotor position sensing in electrical drives.

The TLE 5012B offers multiple selectable interfaces

- SPI compatible SSC interfaces
- Pulse With Modulation (PWM)
- Encoder like Incremental Interfaces (IIF)
- Hall Switch emulation Mode (HSM) with selectable number of pole pairs
- Short PWM Code (SPC) Interface

The TLE 5012B supports the design of fail safe systems. Therefore it contains advanced set features for self test and status monitoring as well as specific architectural considerations like e.g. separated data paths for each sensor bridge.



Application example: TLE5012B acting as rotor position sensor.

### Performance TLE 5012B

#### Features

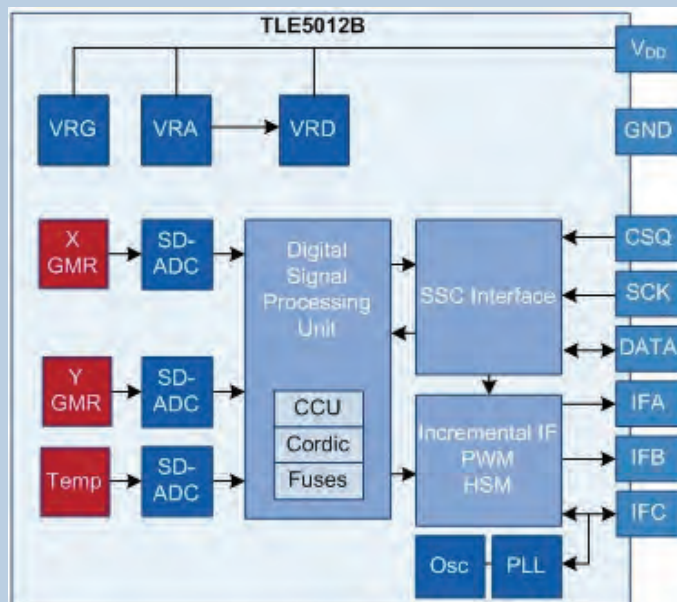
- 360° magnetic angle sensor
- Integrated GMR (iGMR) technology
- On chip signal processing with angle calculation
- 42µs update rate at 15bit angular resolution
- Multiple digital interfaces
- Supply voltage 3.3 or 5.0V
- -40°C to 150°C
- Automotive qualified
- PG-DSO-8 Package

#### Applications

- Magnetic encoder
- Motor communication
- Steering Angle Sensing
- Rotational position measurement

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TLE 5012B block diagram

## Product Variants of TLE 5012B

Sales Name	Interface default setting	Order Code
TLE 5012B E1000	SSC & Incremental Interface (IIF)	SP000905682
TLE 5012B E3005	SSC & Hall Switch Mode (5 Pole pairs)	SP000905686
TLE 5012B E5000	SSC & PWM Interface	SP000905690
TLE 5012B E9000	SSC & SPC (SENT based Short PWM code)	SP000905694

Sales Name	Description	Order Code
TLE 5012B EVALKIT	Evaluation kit containing PGSISI-Box, sensor board (PCB) incl. magnet and software	SP000912902
TLE 5012B EVALBOARD(PCB)	Sensor board (PCB) incl. magnet and software	SP000912898

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