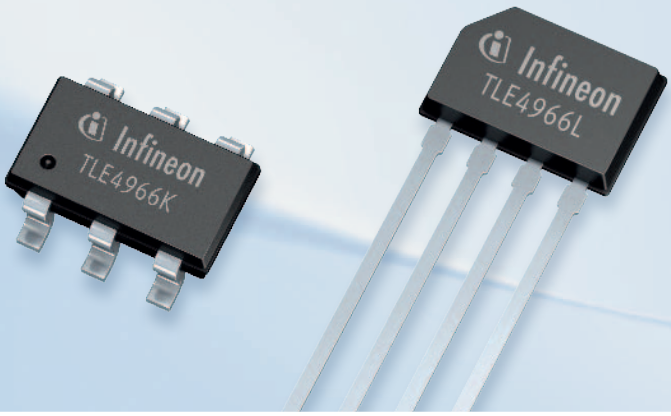
Product Brief



Speed & Direction Sensor TLE4966

Hall-Effect Index Counting Switch with Direction Detection

The TLE4966 Hall Sensor family are double Hall Switches with two output pins for applications with a rotating pole wheel. The fix distance of the Hall plates realized on-chip ensure the optimal solution to cancel out mounting uncertainties and reduce overall system tolerances. Depending on product variant, the sensor provides either a speed and direction signal at the interface pins or two speed signals related to the switching of the two Hall elements.

The TLE4966K/L and TLE4966 -3K can be directly used to realize a robust index counting system. Additional development of algorithms for direction detection becomes obsolete. The built in direction detection is reliable and provides with each index step a valid direction signal.

The speed and direction signals of TLE4966K/L and TLE4966 -3K can be fed directly into the capture/compare unit of a standard µController. This ensures fast and easy system set up. The TLE4966-2K on the other hand has two phase shifted indexing signal outputs. These signals comes directly from the two integrated Hall elements. The direction detection can be calculated by a µController. The monolithic solution ensures minimal tolerances and a highly reliable system.

A lot of index counting sensors have to operate at remote locations. Therefore the TLE4966 family is equipped with robust supply and I/O pins that allows system designers to realized remote sensor modules with a minimum of additional hardware components.

Product	Interface	Threshold	Package	Ordering Code
TLE4966K	Speed and direction	±7.5mT	PG-TSOP6-6	SP000392740
TLE4966-2K	Two phase shifted speed	±7.5mT	PG-TSOP6-6	SP000788888
TLE4966-3K	Speed and direction	±2.5mT	PG-TSOP6-6	SP000835522
TLE4966L	Speed and direction	±7.5mT	PG-SSO-4	SP000014135

www.infineon.com/hall-switches

Features/Benefit

- Wide range of supply voltage
  - 2.7–18V
  - Operation at unregulated power supply
- Over & reverse voltage robustness
  - -18–24V
- Reliable switching even in harsh environments
  - Active error and stress compensation
  - Compensation of temperature effects
  - -40°C to 150°C operating range
- Integrated speed & direction detection
- Package variety
  - Small 6 pin SMD package – TSOP6-6
  - Leaded 4 pin PG-SSO-4 package
- Fix 1.45mm distance of the Hall plates

Application Fields

- Index counting
- Rotational speed and direction detection
- Motor driven positioning systems
  - Window lifter
  - Power closing systems
  - Sun blinds
  - Garage door

RoHS

AEC Qualified

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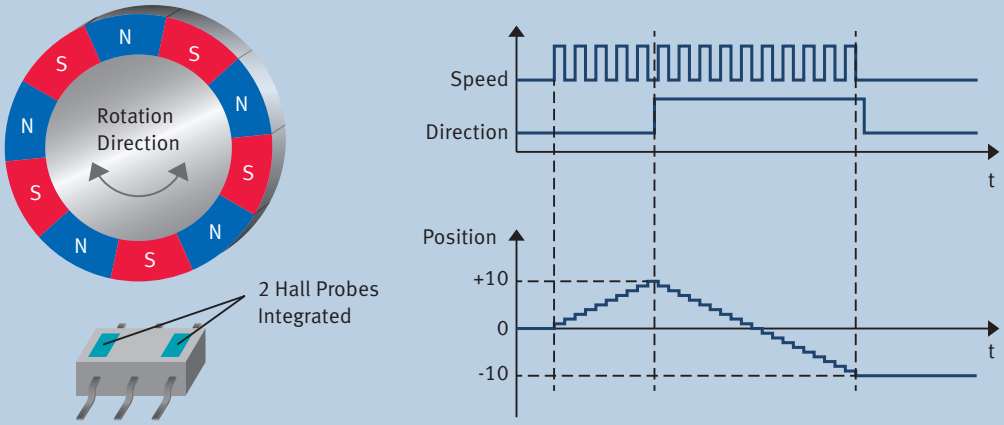
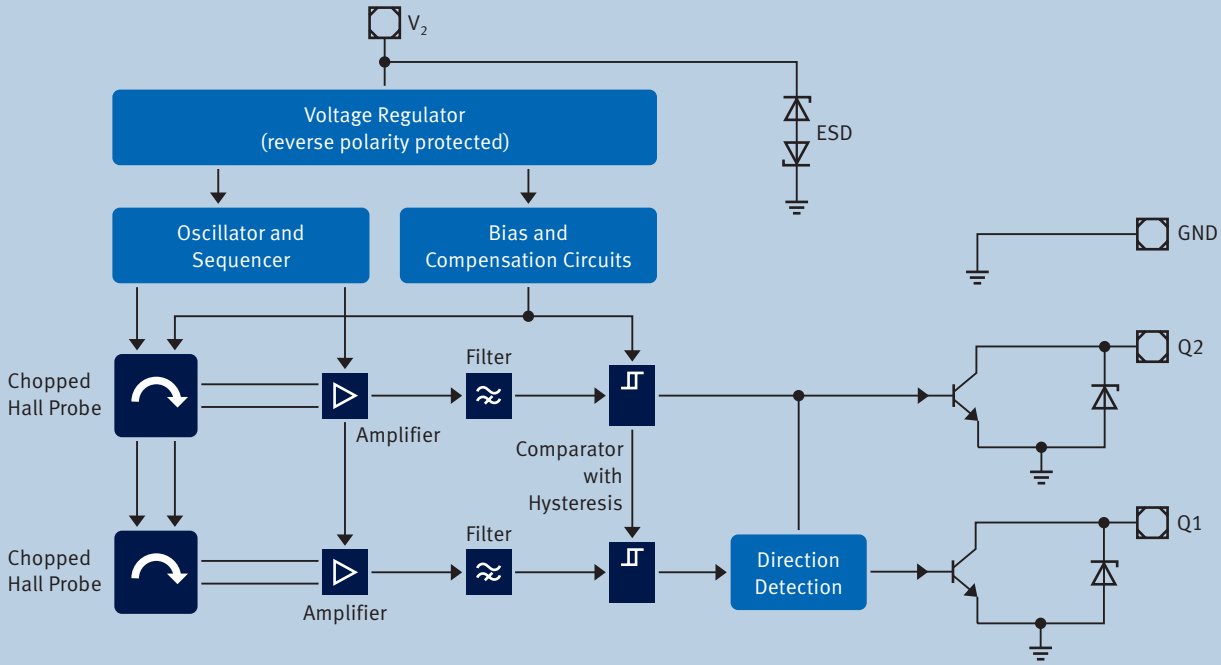
TLE4966 Operates with a Pole Wheel



The number of pole pairs defines the positioning accuracy of the system.

Block Diagram of TLE4966K/L and TLE4966-3K



Block Diagram of TLE4966K/L and TLE4966-3K double Hall Sensor with direction detection.
The distance of the Hall elements on the chip is 1.45mm.

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