



Application example: Off-axis angle measurement

HALLINONE[®]

FH5401: DUAL INTEGRATED 3D MAGNETIC FIELD SENSOR

Applications

The FH5401 is a versatile magnetic field sensor suited for measuring absolute magnetic field components in three dimensions at two different positions on the chip.

It can be used as 3D magnetic field probe with calibrated scaling. The FH5401 can also be used to evaluate position sensor applications for linear or rotary movement of permanent magnets. It can be used "as is" for a variety of applications. With specific programming even complex applications can be addressed. Due to the two 3D sensors even gradients of the magnetic field can be measured. This reduces the influence of external disturbing magnetic fields in most applications. The FH5401 is well suited for angle based measurements. This almost eliminates effects of changing temperatures of the magnet.

Features

- Measurement range +/-60 mT
- Measurement resolution 4 μ T
- Measurement rate 1 kHz or 0.5 kHz
- Integrated temperature sensor
- Fully calibrated offsets
- Ready-to-use calibration for XY applications
- CORDIC for angle calculation of two magnetic field components
- Linearization of angle with interpolated look-up-table
- Fast SPI Interface
- Four different measurement modes for sequential measurements of different magnetic field components

Special version

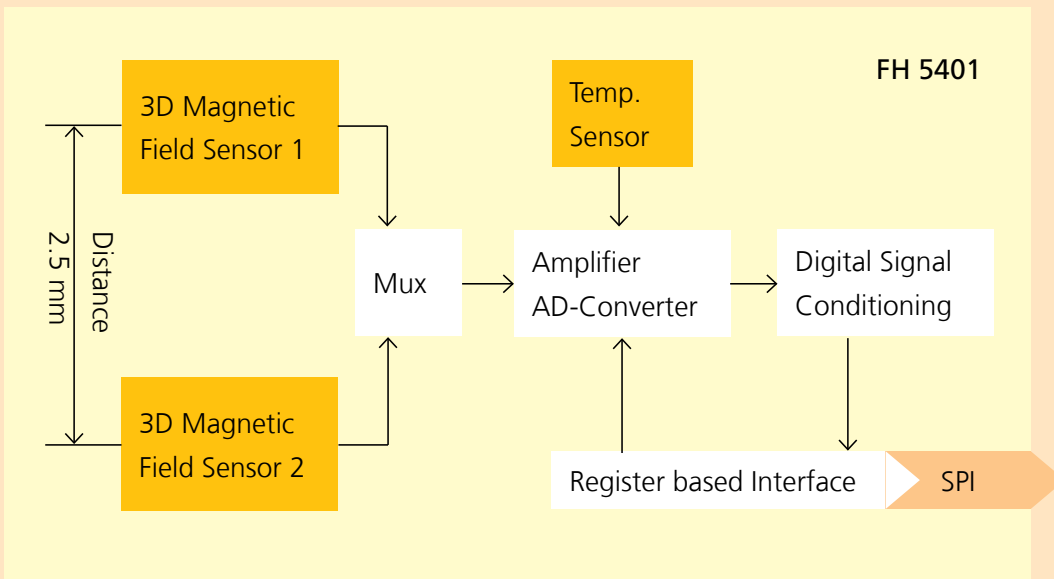
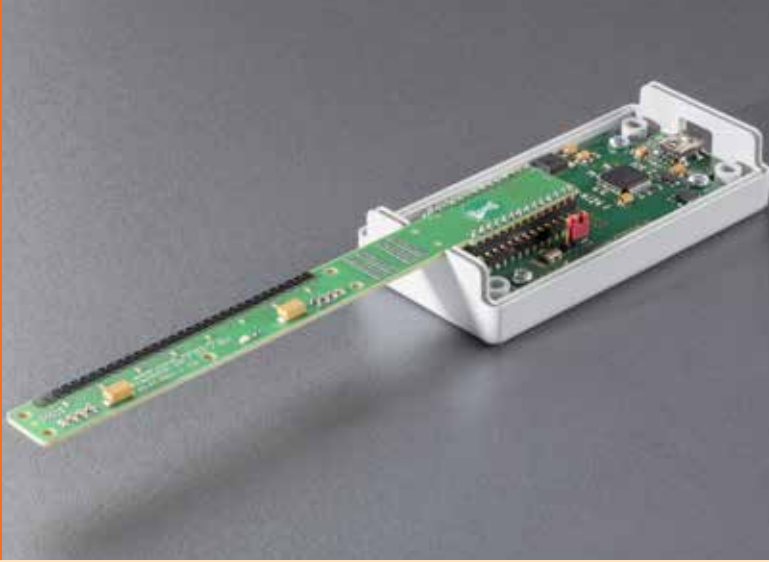
- Magnetic field range up to 2 T
- Measurement speed up to 10 kHz
- Synchronous parallel operation of up to 4096 devices on the same SPI bus

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Block diagram of the sensor chip