

## HALL Position Sensors



### MLX90316 Absolut Rotary Position Sensor IC MLX90333 Absolut 3D Position Sensor IC

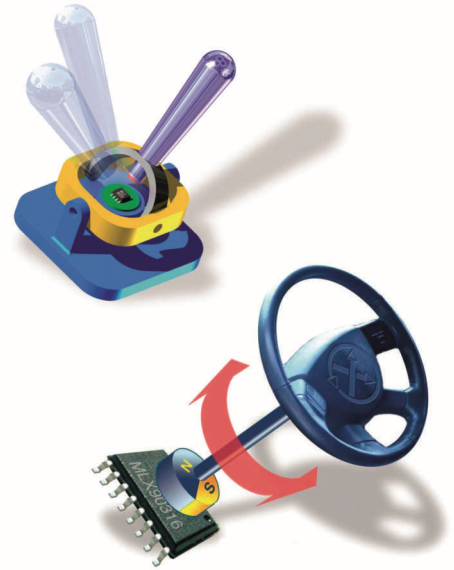
The **MLX90xxx HALL position sensors** are monolithic sensor IC featuring the Triaxis™ Hall technology. Conventional planar Hall technology is only sensitive to the flux density applied orthogonally to the IC surface. The Triaxis™ Hall sensor is sensitive to the 3 components of the flux density ( $B_x$ ,  $B_y$  &  $B_z$ ) applied to the IC using **Integrated Magneto Concentrator (IMC)**.

The **MLX90316** senses the absolute rotary (angular) position of a diametrically magnetized magnet rotating above it. It enables the design of novel generation of non-contact rotary position sensors.

The **MLX90333** senses the absolute position of a magnet moving above it. It enables the design of non-contact joystick (3D) and linear (1D) position sensors.

Intrinsic Linearity Compensation through Front-End Calibration is applied in manufacturing process.

Melexis Hall position sensors are for both automotive and industrial applications qualified.



### General Features

- ◆ Triaxis™ Hall technology - non contact
- ◆ Simple & robust magnetic design
- ◆ Programmable Linear Transfer Characteristics
- ◆ Selectable Analog (Ratiometric), PWM, 14 bit Serial Protocol
- ◆ 12 bit Angular Resolution
- ◆ 10 bit Angular Thermal Accuracy
- ◆ 40 bit ID number
- ◆ Power supply range: 4.5 to 5.5V
- ◆ Operating temperature range: -40° C to 150° C
- ◆ Single Die - SO8 Package
- ◆ Dual Die (Full Redundant) - TSSOP16 Package

### Special Features

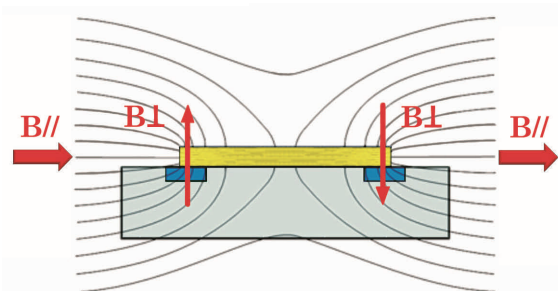
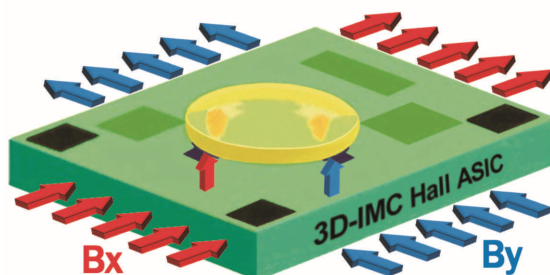
#### MLX90316

- ◆ Absolute 2D Rotary Position Sensor IC
- ◆ Full 360 Degrees or limited Angle Applications

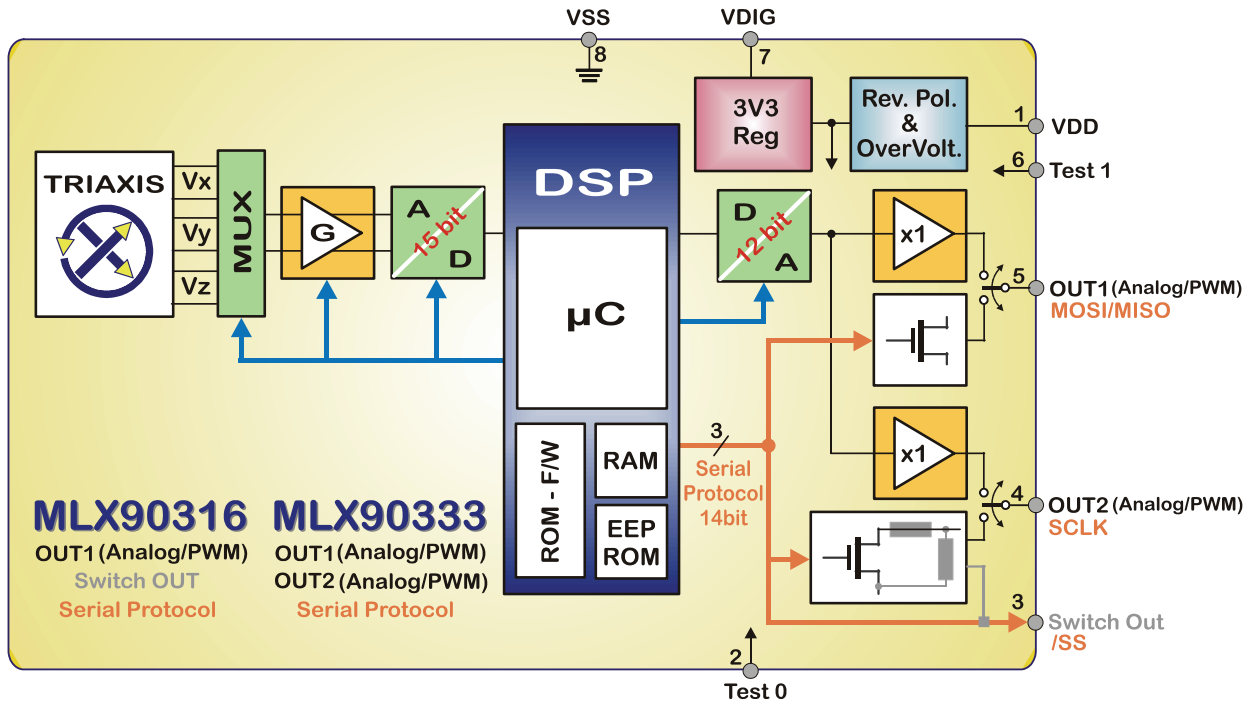
#### MLX90333

- ◆ Absolute 3D Positions Sensor IC - Dual Output
- ◆ Programmable Formula for Magnetic Angles

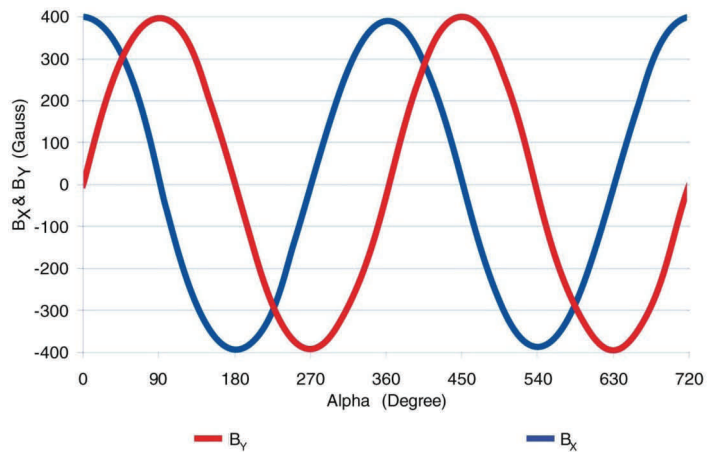
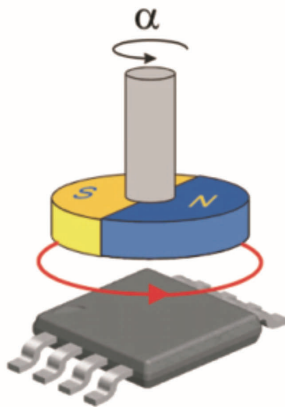
### IMC Technology



# Blockdiagram MLX90316 / MLX90333



## Rotary-2D Application



## Joystick-3D Application

