



# Sensor Bearings

NBC's Sensor Bearings are a special kind of bearings in which sensors are integrated within the bearing unit in order to measure the critical parameters like Shaft Speed (RPM), direction of rotation, and temperature. They are compact, reliable, simple and ready to mount. It is an integrated solution provided to the user for greater accuracy and precision, even a slightest rotary motion can be monitored with this bearing.

## Features

- ✓ High speed, low torque and low noise bearing
- ✓ Integrated with sensors capable to measure
  - ▶ Speed up to 15,000 RPM
  - ▶ Direction of Rotation (CW or CCW)
  - ▶ Temperature from -30°C to 125°C
- ✓ Equipped with reverse polarity, over voltage & over current protection
- ✓ EMI/EMC compliant with ingress protection grade of IP67

## Benefits

- ✓ Compact & robust design yielding reliable results & ready to use
- ✓ Generates quadrature wave-form pulses flawlessly read by controller
- ✓ Onboard condition monitoring of system
- ✓ Hassle free & integrated solution for EV OEM

## Application

- ✓ Electric vehicles
- ✓ Forklifts
- ✓ Tractors
- ✓ Conveyors
- ✓ Electric motors
- ✓ Road rollers
- ✓ High precision robotic arms

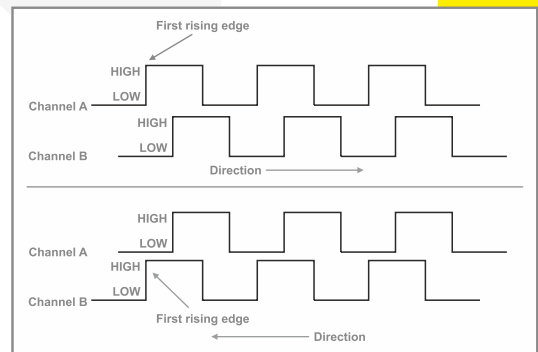
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## Features

The functioning and specifications of the Sensor are explained as follows:

- ✓ The Sensor Bearing will have 4 wires namely:
  - ▶ Vcc (Power) – 5 to 18V
  - ▶ Gnd (Ground) – 0V
  - ▶ SigA – Square Wave Pulse A
  - ▶ SigB – Square Wave Pulse B
- ✓ RPM Measurement: Either SigA or SigB can be used
- ✓ Direction Measurement: Will require both SigA and SigB, e.g. if SigA is leading – CW, and if SigB is leading – CCW direction



## Technical Data

Sensor	Pulse Ring	Cable	Casing
Highly precise, reliable and accurate sensor capable of providing data readable by all the controllers in the market, in all weather conditions.	Premium quality magnetic pulse ring with equidistant poles, for accurate generation of data. Great range of precision provided as per application.	High quality automotive grade cable with EMI protection. Cable length completely customizable as per the customer needs.	Robust casing with ingress protection which can bear shocks and vibrations thereby preventing the internal circuitry, making the bearing weather proof.

### Typical critical parameters that can be monitored are:

- ✓ Rotational Speed – up to 15,000 RPM's
- ✓ Temperature – up to 150 degrees centigrade
- ✓ Direction of Rotation – clockwise or counter clockwise
- ✓ Angular Position – up to 360 degrees