

## Interactive Catalog Replaces Catalog Pages

Honeywell Sensing and Control has replaced the PDF product catalog with the new **Interactive Catalog**. The **Interactive Catalog** is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.



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**Sensing and Control**

Honeywell Inc.

11 West Spring Street  
Freeport, Illinois 61032



SUNSTAR自动化 <http://www.sensor-ic.com/> TEL: 0755-83376489 FAX:0755-83376182 E-MAIL:szss20@163.com

# Solid State Sensors

## Position Sensors

### FEATURES

- Magnetic sensing using Hall effect technology
- 3.8 to 30 volt supply voltages (SS400/SS100)
- Wide variety of package sizes
- Sensor only and combination magnet/sensor units
- Digital and analog outputs
- Solid state reliability

### OPERATION

MICRO SWITCH solid state Hall effect position sensors produce either a digital or analog output. Digital output sensors are in one of two states — on or off. Analog sensors provide a continuous voltage output which increases with a strong magnetic field and decreases with a weak magnetic field.

There are three types of digital sensors, bipolar, omnipolar and unipolar. Bipolar sensors require positive gauss (south pole) to operate and negative gauss (north pole) to release. Omnipolar sensors operate with either the north or the south pole. Unipolar sensors require a single magnetic pole (south) to operate. Release is obtained by moving the south pole away from the sensor. Analog sensors operate by proximity to either magnetic pole. Digital and analog sensor only devices are operated by the magnetic field from a permanent magnet or an electromagnet. Actuation mode depends on the type of magnets used. Integral magnet supplied position sensors are mechanically operated by a magnet mounted on a plastic plunger.

### DIGITAL POSITION SENSORS, GENERAL INFORMATION

Digital position sensors are available in a variety of packages: molded plastic, ceramic substrate and threaded cylindrical housings.

- 3 pin in-line plastic packages for printed circuit board mounting with a single output.
- 3 pin plastic packages for surface-mount assembly, identical to industry standard SOT-89 packages.
- Environmentally protected aluminum or plastic housings with color coded leadwires.

### APPLICATION

**Typical sensor applications include:**

- Ignition timing
- Power sensing
- Valve position
- Robotics control
- Current sensing
- Linear or rotary motion detection
- Length measurement
- Flow sensing
- RPM sensing
- Security systems

**Sensors are used in:**

- Brushless DC motors
- Utility meters
- Water softeners
- Gasoline pumps
- Welding equipment
- Balance scales
- Interlocks
- Flowmeters
- Magnetic card readers
- Vending machines
- Home appliances
- Computer equipment
- Medical instruments
- Copy machines
- Laboratory equipment

### DEFINITIONS

**Current Sinking (NPN)** — A transistor configuration where loads are normally connected between the output and a supply voltage. When the transistor is ON current flow is from the load into the transistor.

**Current Sourcing (PNP)** — A transistor configuration where loads are normally connected between the output and ground. When the transistor is ON current flow is from the transistor into the load.

**Differential (Hall effect transducer)** — The difference between the operate and release values of a Hall effect transducer.

**Maximum Operate Point** refers to the level of magnetic field which will insure the digital output transducer turns ON under any rated condition.

**Minimum Release Point** refers to the level of magnetic field that insures the transducer is turned OFF.

Magnetic gauss values are found in each order guide.

**For magnet ordering information see page 25.**

For absolute maximum ratings, see pages 75 and 76.