

| POSITION

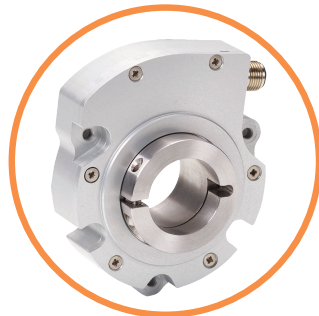
Sensata specializes in speed and position sensors for extreme applications. Backed by decades of experience, Sensata designs sensors that offer uncompromising quality, performance and reliability.

Position Technologies



OPTICAL TECHNOLOGY

Optical sensing technology is the most precise and offers the highest resolution of the position sensing technologies. It is also resistant to environmental magnetic interference and, when enclosed in a metal housing, highly resistant to EMI. Optical encoders are well sealed, allowing them to operate in harsh and dirty environments. They are also highly resistive to shock and vibration, and are capable of withstanding a 50 g, 11 msec shock pulse and 20 g's of vibration (5 to 2000 Hz).



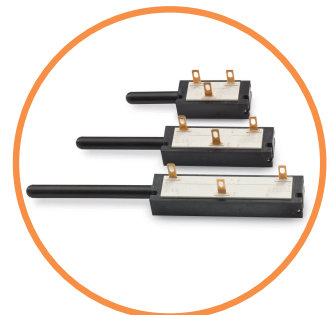
MAGNETIC TECHNOLOGY

Magnetic encoders use a disc that has been magnetized with multiple, north/south pole pairs that are in the form of radial lines or patterns. In place of a photodetector, magnetic encoders use an ASIC designed to detect alternating north and south poles as the disc is rotated past it. As the ASIC senses the change in magnetic poles, internal electronics convert it into a digital electrical signal that is then passed through the device's output. Ideal applications for magnetic encoders include wind energy, tree harvesting, traction motors for rail equipment and pavement profiling.



HALL EFFECT TECHNOLOGY

In a Hall effect sensor, the internal disc is magnetized with a single pole pair. The disc is attached to the sensor's rotor which is then coupled to the motion being measured. The sensor's ASIC is designed to detect the change in the direction of the magnetic field as the disc rotates above it. These changes in magnetic field are converted to an analog signal that is ratiometric (proportional) to the angle of the rotating disc. Hall effect sensors are typically used to resolve angular position with an analog output. They excel in steering, pedal and throttle for off-road equipment, dancer controls in web processing, flow control valves and elevator door opener applications.



POTENTIOMETRIC TECHNOLOGY

Potentiometric sensing technology is available in one of three configurations: wirewound, conductive plastic and hybrid. Potentiometers have several benefits including small package size and weight, resistance to electromagnetic interference (EMI), temperature stability and are able to work at very high (300C max) and low (-55°C) operating temperatures.

Key Products

H25 Optical Encoders



The H25 series is the flagship of the BEI Sensors product line and was designed from the ground up for the industrial marketplace. The H25 series offers features such as EMI shielding, 40 lb. ABEC 7 bearings, matched thermal coefficients on critical components, and custom high-efficiency optics. The encoder meets NEMA 4 and 13 requirements (IP66) when ordered with the shaft seal. The H25 encoders are available in absolute or incremental versions, in addition to a patented incremental programmable option, Model H25 Omnicoder®, which allows for virtually unlimited resolution variations up to 10,000 PPR.

- Available in absolute, incremental, or programmable versions
- 40 lb. ABEC 7 standard bearings
- Dual preloaded bearing assembly Allows up to a 20 year service life when installed properly

H20 Optical Encoders



The H20 is an extremely rugged encoder designed to economically fill the resolution range up to 4096 cycles per turn. This compact unit features a shock resistant disc, heavy duty bearings, and EMI shielding. The H20 conforms to NEMA 4 and 13 requirements (IP66). The H20 is also available in a hub shaft style with a flex mount (inset) for easy mounting directly to small motors.

- Available in incremental versions
- Same durability and ruggedness as the H25 series but at a more economical price point
- Built to last in extreme environments including: wet, dirty/dusty, extended temperature, high shaft load, corrosive/washdown hazardous area, and high shock/vibration

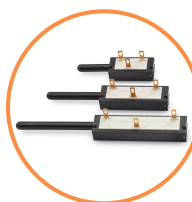
HS35 Optical Encoders



The HS35 incremental optical encoder combines the rugged, heavy-duty features usually associated with shafted encoders into a hollow shaft style. Its design includes dual bearings and shaft seals for NEMA 4 (IP65), a rugged metal housing, and a sealed connector. The typical hollow shaft product is supported by, and clamped to, the driving shaft. A flexible tether is used to keep the housing from rotating.

- Available in absolute or incremental versions
- IP65 environmental rating
- Built to last in extreme environments including: wet, dirty/dusty, extended temperature, high shaft load, corrosive/washdown hazardous area, and high shock/vibration

9600 Linear Position Sensor



Designed for a variety of space-limited feedback applications that require high accuracy. The BEI Sensors 9600 Series Linear Position Sensor is ideally suited for use where reliability in a harsh operating environment is a primary consideration. Industrial, vehicular, appliance, machine tool and robotic applications benefit from the unit's high temperature stability. The solderable terminal tabs, suitable for use with .110" (2.8mm) PDI styled crimped wiring lugs, and durable spring-loaded plunger, make installation and operation easy.

The 9600 Series is available in three standard sizes and provides excellent life at 1,000,000 full cycles (5 million dither cycles), which means high reliability in demanding installations.

- Range of Motion 12.7 to 38.1mm (0.5", 1.0" and 1.5")
- Standard operating temperature of -40C to +135C
- Built to last in harsh environments with extended temperatures