Honeywell

Honeywell Sensing and Control

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Actual product appearance may vary.

Low-Cost Molded VRS Sensor, 6,2 mm [0.243 in] diameter, 10 Vp -p, -18 ºC to 60 ºC [0 ºF to 140 ºF], 32 DP (module 0.80) or coarser, 19 mm [0.75 in] approx. length

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Features

Self-powered operation
Direct conversion of actuator speed to output frequency
Simple installation
No moving parts
Designed for use over a wide range of speeds
Adaptable to a wide variety of configurations
Customized VRS products for unique speed sensing applications
Housing diameters: 0.505 in 7/16 in, 0.292 in, 1/4 in
Housing material/styles: plastic smooth or threaded
Terminations: Crimp, pin, preleaded
Output voltages: 10 Vp-p to 190 Vp-p

Potential Applications

Engine RPM (revolutions per minute) measurement on aircraft, automobiles, boats, buses, trucks and rail vehicles
Motor RPM measurement on drills, grinders, lathes and automatic screw machines
Motor RPM measurement on precision camera, tape recording and motion picture equipment
Process speed measurement on food, textile, paper, woodworking, printing, tobacco and pharmaceutical industry machinery
Motor speed measurement of electrical generating equipment
Speed measurement of pumps, blowers, mixers, exhaust and ventilating fans
Flow measurement on turbine meters
Wheel-slip measurement on autos and locomotives
Gear speed measurement

Low-Cost Molded VRS Sensors are designed for use in OEM (Original Equipment Manufacturer) applications. Passive VRS (Variable Reluctance Speed) Magnetic Speed sensors are simple, rugged devices that do not require an external voltage source for operation. A permanent magnet in the sensor establishes a fixed magnetic field. The approach and passing of a ferrous metal target near the sensor's pole piece (sensing area) changes the flux lines of the magnetic field, dynamically changing its strength. This change in magnetic field strength induces a current into a coil winding which is attached to the output terminals. The output signal of a VRS sensor is an ac voltage that varies in amplitude and wave frequency as the speed of the monitored device changes, and is usually expressed in peak to peak voltage (Vp-p). One complete waveform (cycle) occurs as each target passes the sensor's pole piece. If a standard gear were used as a target, this output signal would resemble a sine wave if viewed on an oscilloscope. Honeywell also offers VRS sensors for general purpose, high output, power output, high resolution and high temperature, as well as hazardous location applications.

Supporting Documentation
None Available

Product Specifications	
Diameter	6,2 mm [0.243 in]
Test Condition Specifications	Surface Speed = 25 m/s [1000 in/s], Gear = 20 DP [module 1.27), Air Gap = 0.127 mm [0.005 in], Load Resistance = 100 kOhm
Min. Output Voltage (Peak to Peak)	10 Vp -p
Pole Piece Shape and Size	Round; 1,83 mm [0.072 in] diameter
Typ. Operating Temperature Range	-18 ºC to 60 ºC [0 ºF to 140 ºF]
Gear Pitch Range	32 DP (module 0.80) or coarser
Max. Inductance	11 mH
Coil Resistance	130 Ohm
Material	Plastic threaded
Approximate Housing Length	19 mm [0.75 in]
Termination	26 AWG PVC -insulated leads, 610 mm [24 in]
Weight	4.2 g [15.0 oz]
Series Name	Low-Cost Molded