



3045A



High Resolution VRS Sensor, 15,9 mm [0.625 in] M16 diameter, 300 Vp-p, -55 °C to 120 °C [-67 °F to 250 °F], 24 DP (module 1.06) or coarser, 15 kHz, 65 mm [2.55 in] approx. length

Actual product appearance may vary.

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: 5/8 in (M16), 3/8 in (M12)
- Housing materials/style: stainless steel threaded
- Terminations: MS3106 connector, prelead
- Output voltages: 17 Vp-p to 170 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

High Resolution VRS sensors are designed for use in applications where precise timing pulse is required, and/or fine pitch gears are used. Proper alignment of the sensor is required. 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 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 temperature and hazardous location applications, as well as low-cost molded versions.

Product Specifications	
Diameter	15,9 mm [0.625 in]
Available Metric Thread	M16
Test Condition Specifications	Surface Speed = 25 m/s [1000 in/s], Gear = 8 DP [module 3.17], Air Gap = 0.127 mm [0.005 in], Load Resistance = 1.25 kOhm
Min. Output Voltage (Peak to Peak)	300 Vp-p
Pole Piece Shape and Size	Chisel; 1,14 mm [0.045 in] width
Typ. Operating Temperature Range	-55 °C to 120 °C [-67 °F to 250 °F]
Gear Pitch Range	24 DP (module 1.06) or coarser
Typ. Operating Frequency	15 kHz
Max. Inductance	450 mH
Coil Resistance	910 Ohm to 1200 Ohm
Min. Surface Speed	0,38 m/s [15 in/s]
Mounting Thread	5/8-18 UNF-2A
Vibration	Mil-Std 202F, Method 204D
Material	Stainless steel threaded
Approximate Housing Length	65 mm [2.55 in]
Termination	MS3106 Connector
Weight	70 g [2.5 oz]
Series Name	High Resolution