Honeywell

Honeywell Sensing and Control

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3055A

High Temperature VRS Sensor, 6,4 mm [0.250 in] M8 diameter, 4.7 Vp -p, -40 ºC to 230 ºC [-40 ºF to 450 ºF], 36 DP (module 0.70) or coarser, 70 kHz, 23 mm [0.90 in] approx. length

Actual product appearance may vary.

table>

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), 1/4 in (8M)
Housing material/style: stainless steel threaded
Terminations: MS3106 connector, preleaded
Output voltages: 4.7 Vp-p to 125 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 Temperature VRS sensors are designed for use in applications where the sensor is exposed to temperatures up to 260 ºC [450 ºF]. Sealed Front-End versions are available for applications where the sensor is exposed to fluids, lubricants or adverse environmental conditions. 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 resolution and hazardous location applications, as well as low-cost molded OEM versions.

Supporting Documentation

None Available

Product Specifications	
Diameter	6,4 mm [0.250 in]
Available Metric Thread	M8
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)	4.7 Vp -p
Pole Piece Shape and Size	Round; 1,02 mm [0.040 in] diameter
Typ. Operating Temperature Range	-40 °C to 230 °C [-40 °F to 450 °F]
Gear Pitch Range	36 DP (module 0.70) or coarser
Typ. Operating Frequency	70 kHz
Max. Inductance	13 mH
Coil Resistance	137 Ohm
Min. Surface Speed	0,89 m/s [35 in/s]
Optimum Actuator	28 DP (module 0.90) ferrous metal gear
Mounting Thread	1/4 -40 UNS -2A
Vibration	Mil-Std 202F, Method 204D
Material	Stainless steel threaded
Approximate Housing Length	23 mm [0.90 in]
Termination	30 AWG Teflon -insulated leads, 610 mm [24 in]
Weight	14 g [0.5 oz]
Series Name	High Temperature

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