Honeywell

584XX Series

Digital Magnetic Speed Sensors

DESCRIPTION

Honeywell's 584XX Series Digital Magnetic Speed Sensors combine active electronics with features of Variable Reluctance Sensors in a single package. The 584XX Series produce constant amplitude output signals suitable for direct use in many digital and logic control applications.

Because the digital signal conditioning is done internally, interface circuitry is no longer required. This circuit changes the waveform generated by the sensor coil into a digital square-wave output.

FEATURES AND BENEFITS

- Senses moving ferrous metal
- Output signal of integrated circuit allows for direct use in digital equipment
- Minimizes the need for interface circuitry, reducing installation and maintenance costs
- Enhanced stability due to precisely-matched components
- Extremely precise relationship between the physical position of any sensed object and the electrical signal produced provides improved accuracy to timing and positioning applications
- Enhanced sensitivity with the capability to produce full output of +5 to 30 V at speeds as low as 3 in per second at gaps of .050 in, or 1 in per second at gaps of .005 in. Constant output amplitude independent of speed, and air gap (within sensing range), allows for full output at almost zero speeds.
- Excellent resistance to water, oil, shock and vibration damage extend product life and operating reliability
- Wide variety of supply voltages allow application flexibility
- Allows for the reduction in noise, often vital in potential positioning and synchronization applications
- Pre-leaded or connector versions allow application flexibility
- Standard thread sizes improve compatibility and interchangeability with other standard types of speed sensors

POTENTIAL APPLICATIONS

Industrial:

- Computing
- High-speed counting
- Positioning
- Tachometry
- Synchronization
- Routing
- Flow metering
- Machine control

Transportation:

- Engine, motor, or pump RPM sensing
- Over/under speed sensing
- Wheel speed detection

584XX Series

5/8 584XXHV HIGH VOLTAGE OPERATING CHARACTERISTICS

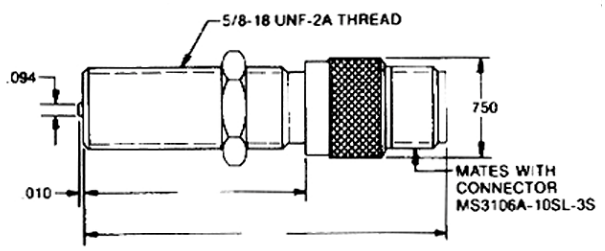
Characteristic	Measure
Supply voltage	10 Vdc to 30 Vdc @ 15 mA max. High Voltage (HV)
Operating temperature range	-40 °C to 107 °C [-40 °F to 225 °F]
Output signal: square wave	Low: 350 mV max. @ 20 mA maximum current sink
	High: $\frac{RL \times Vs}{RL + 2.2K}$ RL = load resistance in K ohms; Vs = supply voltage in Vdc
Vibration	Meets MIL-STD 202F, method 204D
Housing material	300 Stainless Steel

584XXHV PHYSICAL CHARACTERISTICS

Sensors with 5/8-18 UNF-2A mounting thread, MS3106 connector, 10 kHz typical frequency response

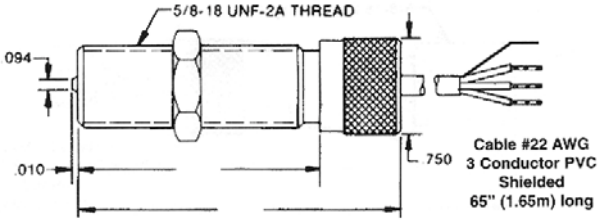
Model	Thread length	Overall length	Weight
58426HV	45 mm [1.8 in]	76 mm [3.0 in]	85 g [3.0 oz]
58426HVA30	76 mm [3.0 in]	104 mm [4.1 in]	142 g [5.0 oz]

Mates with 41009(VR) connector or CA310 cable assembly



Sensors with 5/8-18 UNF-2A mounting thread, AWG 22 PVC shielded cable (1,65 m [65 in] long), 10 kHz typical frequency response

Model	Thread length	Overall length	Weight
58424HV	45 mm [1.8 in]	63 mm [2.5 in]	85 g [3.0 oz]



Digital Magnetic Speed Sensors

1/4, 3/8, 5/8 584XXLV LOW VOLTAGE OPERATING CHARACTERISTICS

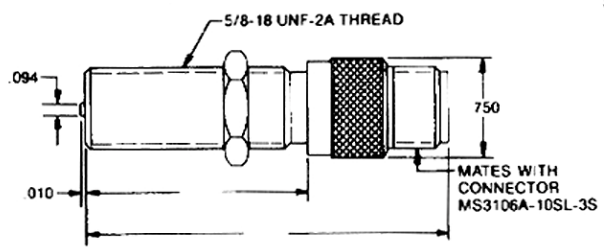
Characteristic	Measure
Supply voltage	5 Vdc to 15 Vdc @ 15 mA max. Low Voltage (LV)
Operating temperature range	-40 °C to 107 °C [-40 °F to 225 °F]
Output signal: square wave	Low: 350 mV max. @ 20 mA maximum current sink
	High: $\frac{RL \times Vs}{RL + 2.2K}$ RL = load resistance in K ohms; Vs = supply voltage in Vdc
Vibration	Meets MIL-STD 202F, method 204D
Housing material	400 Stainless Steel

584XXLV PHYSICAL CHARACTERISTICS

Sensors with 5/8-18 UNF-2A mounting thread, MS3106 connector, 10 kHz typical frequency response

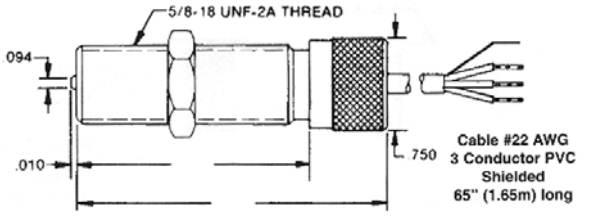
Model	Thread length	Overall length	Weight
58426LV	45 mm [1.8 in]	76 mm [3.0 in]	85 g [3.0 oz]
58426LVA30	76 mm [3.0 in]	104 mm [4.1 in]	142 g [5.0 oz]

Mates with 41009(VR) connector or CA310 cable assembly



Sensors with 5/8-18 UNF-2A mounting thread, AWG 22 PVC shielded cable (1,65 m [65 in] long), 10 kHz typical frequency response

Model	Thread length	Overall length	Weight
58424LV	45 mm [1.8 in]	63 mm [2.5 in]	85 g [3.0 oz]



Sensors with 3/8-24 UNF-2A mounting thread, AWG 26 teflon leads (2 m [79 in] long), 50 kHz typical frequency response

Model	Thread length	Overall length	Weight
58423LV	25 mm [1.0 in]	38 mm [1.7 in]	85 g [3.0 oz]