

# DH SERIES Zero Velocity - Magnetic Hall Effect Sensors - 5/8 and 3/4 Threads

## Specifications

### Power Supply

**Power Supply Voltage:**

4.5 - 24 Vdc

**Power Supply Current:**

50 mA maximum

### Outputs

**Output Voltage:**

Essentially square wave fanout to 10 TTL inputs

**TTL Compatible:** (See Figure 1)

50% ±10% duty cycle

Logic 0: +.6 Vdc maximum

Logic 1: +4 to +5 Vdc @ 5mA

**Supply Tracking:** (See Figure 2)

50% ±10% duty cycle

Logic 0: +.6 Vdc maximum

Logic 1: 
$$V_O = \frac{V_S \times R_L}{R_L + 2.2k}$$

**Output Impedance:** 2.2K Ohms ±5%

**Output Current:** 20 mA sink maximum

**Output Current - Short Circuit:**

5 mA maximum with 10V power supply

**Reverse Battery Voltage:** -30 Vdc

**Defined Power on State - High**

**Single Tooth/Valley Compatible**

### Mechanical

**Target Frequency:**

0 to 15 kHz

**Target Air Gap:**

.005 to .025 with a 32 diametral pitch gear

.005 to .055 with a 24 diametral pitch gear

.005 to .100 with a 20 diametral pitch gear

.005 to .120 with a 12 diametral pitch gear

.005 to .175 with an 8 diametral pitch gear

**Automatic Calibration:**

Power up +3 edges

Running Update

## Environmental

**Operating Temperature:**

-40°C to +125°C

**Thermal Shock:**

100 cycles air to air (-40° to +130°C)

1 min. ramp time with 30 min. soak

**Salt Spray:**

Per MIL-STD-202, method 201, test cond. B, 5% NaCl for 48 hrs. No visible corrosion

**Humidity:**

92% RH@ 40°C for 90 hrs. No visible corrosion.

**Dielectric Strength:**

Per MIL-STD-202, method 301, 1000 Vrms (60Hz) for 5 sec. leads to case. 1.0 mA max. leakage.

**Insulation Resistance:**

Per MIL-STD-202, method 302, 500 Vdc for 30 sec. leads to case. 100 mega-ohm min.

**Vibration:**

Per MIL-STD-202, resonant frequency search, sine method 204, test cond. C&D (20g); random method 214a, test cond. A&B (7.56g) for 15 min.

**Shock:**

Per MIL-STD-202, method 213b (sawtooth), test cond. H&I (1 00g, 6 ms), 3 shocks, mutually perpendicular planes

## Materials

**Housing:**

300 series stainless steel

**Connector:** MIL Style

Mates with MS3106A10SL-3S

**Leads:** (Available on special request)

AWG #24 Teflon, 200°C

**Cable:**

AWG #20 Irradiated cross-linked polyolefin, 125°C

**Alignment:**

Rotational alignment of sensing face is required for optimum output signal. Align flats with direction of rotation.

