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

Ouput Voltage:

Essentially square wave fanout to 10 TTL inputs

TTL Compatible: (See Figure 1)

50% ±30% duty cycle

Logic 0: +.6 Vdc maximum

Logic 1: +4 to +4.6 Vdc @ 5mA

Supply Tracking: (See Figure 2)

50% ±30% 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

Mechanical

Target Frequency:

0 to 15 kHz

Target Air Gap:

.005 to .020 with a 20 diametral pitch gear
.005 to .045 with a 12 diametral pitch gear
.005 to .060 with a 8 diametral pitch gear

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 (100g, 6 ms), 3 shocks, mutually perpendicular planes.

Materials

Housing:

300 series stainless steel

Leads:

AWG #24 Teflon, 200°C

Cable:

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

TTL Compatible

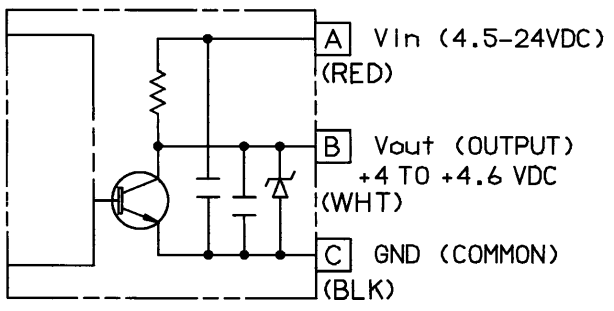

Figure 1

Supply Tracking

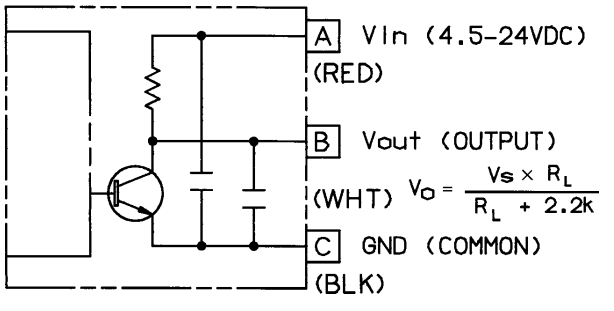

Figure 2

Note: Either output will work with any AI-Tek / Airpax Tachometer.