

# RH 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%  $\pm$ 15% duty cycle

Logic 0: +.6 Vdc maximum

Logic 1: +4 to +4.9 Vdc @ 5mA

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

50%  $\pm$ 15% duty cycle

Logic 0: +.6 Vdc maximum

Logic 1:  $V_O = V_S \times R_L$

$$R_L + 2.2k$$

##### Output Impedance:

2.2K Ohms  $\pm$ 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 24 diametral pitch gear

.005 to .030 with a 20 diametral pitch gear

.005 to .085 with a 12 diametral pitch gear

.005 to .100 with an 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

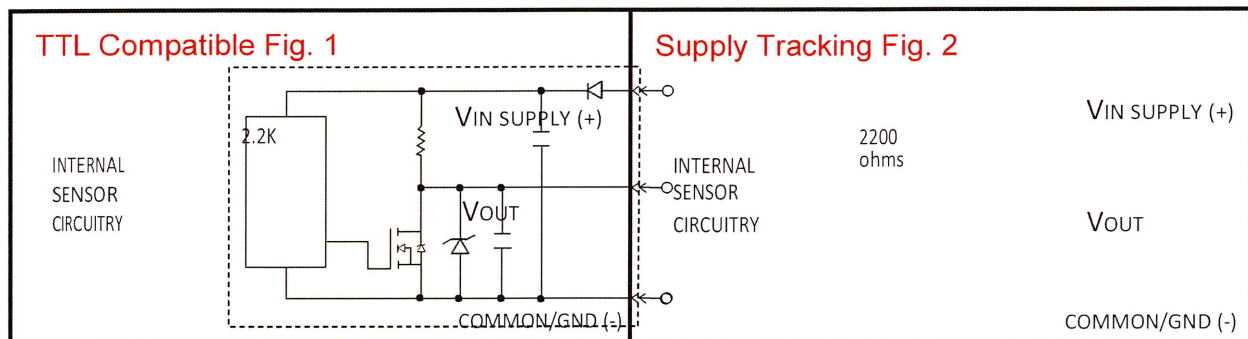
##### Leads:

AWG #24 Teflon, 200°C

##### Cable:

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

Rotational alignment of sensing face is not required for optimum output signal.



Note: Either output will work with any AITEK Tachometer