

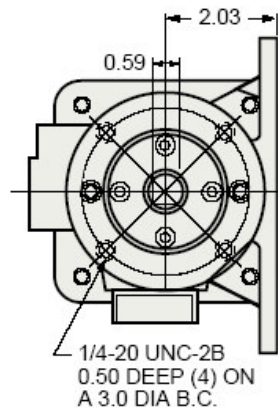
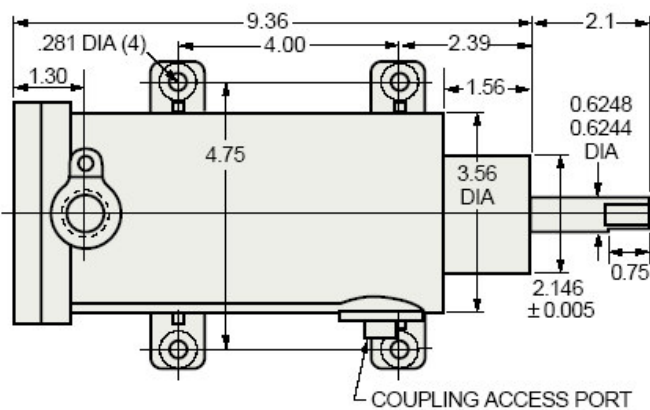
**SHOCK PROOF OPTICAL ENCODER, SERIES H40**

The H40 is an ultra heavy duty encoder whose internal structure is totally isolated from severe shock and shaft loading conditions. The optics and electronics are supported in shock absorbing material within the heavy cast outer housing. The encoder shaft is flexibly coupled to the high load capacity bearings and shaft assembly, which is carried in the outer housing. The shaft bearing assembly is removable, installation (press pulleys, gears onto the shaft) is possible while the H40 shaft bearing assembly is out of the housing. This prevents from damaging the internal coupling or encoder. Also the shaft is available in a replacement kit if the 5/8 shaft should ever get damaged. An Underwriters Laboratories listed version of this model is available.

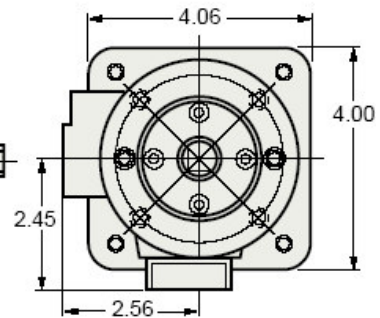
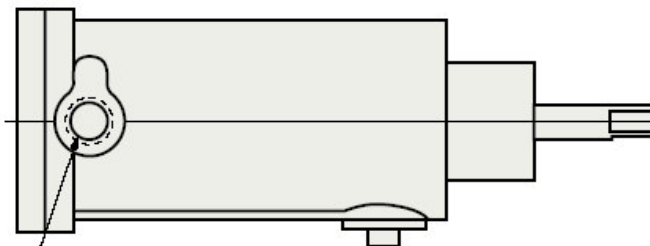


**H40A**

TOLERANCES: .XX = ± 0.01; .XXX = ± 0.005

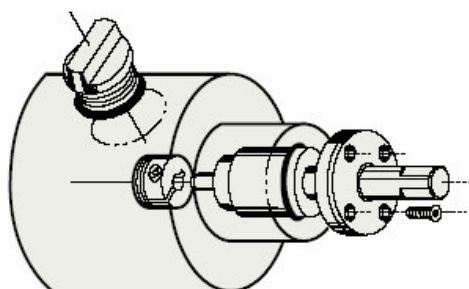


**H40B**

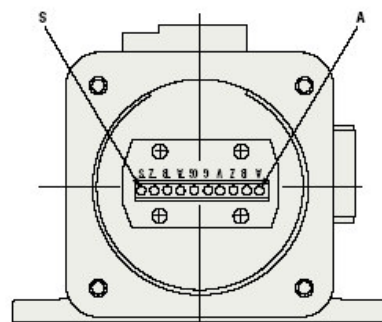


1/2 - NPSF (DRYSEAL) STRAIGHT PIPE THREADS  
NOTE: THIS WIRING PORT WILL BE SEALED WITH A PIPE PLUG IF THE EM OR EC OPTION IS SPECIFIED

**Field Replaceable Coupling and Bearing Assembly**



**Rear View**





## SHOCK PROOF OPTICAL ENCODER, SERIE H40

### MECHANICAL AN ENVIRONMENTAL SPECIFICATIONS

**Shaft Diameter:** 5/8" nominal

**Flats On Shaft:** Two flats, 0.75" long X 0.30" deep at 90°

**Shaft Loading/Bearing Life:** Refer to Figure 1

**Shaft Runout:** 0.001" T.I.R. at mid-point of shaft

**Starting Torque at 25° C:** 10.0 in-oz (max)

**Bearings:** Class 52100 SAE high carbon steel

**Shaft Material:** 1070 carbon steel, 303 stainless steel optional

**Enclosure:** Die cast aluminum, hard anodized with dichromate sealed finish. Shaft seals and sealed bearings are standard to achieve environmental ratings.

**Maximum RPM:** 10,000 RPM (see Frequency Response)

**Coupling Windup:** The H40 uses an internal coupling  
Windup error (degrees) =  $\alpha \times 7.5 \times 10^{-4}$  rad/sec<sup>2</sup>  
where  $\alpha$  = angular acceleration in rad/sec<sup>2</sup>

**Weight:** Approx 9 lbs

**Enclosure Rating:** NEMA 4 X & 6 (IP66), outdoor Non-Hazardous locations, NEMA 4 X & 13 (IP66), indoor Non - Hazardous locations

**Hazardous Area Rating:** The optional Underwriters Laboratories listed version is for use in hazardous Locations ; NEMA Enclosure 7. Class 1, Group D, , Division 1 ; NEC Class 2 circuits only

**Temperature:** Operating, 0° to 70° C; extended Temperature testing available; storage; -25° to 90° C unless extended temperature option called out

**Shock:** 200 G's at 11msec

**Vibration:** 5 to 2000 Hz @ 20 G's

**Humidity:** 100% RH

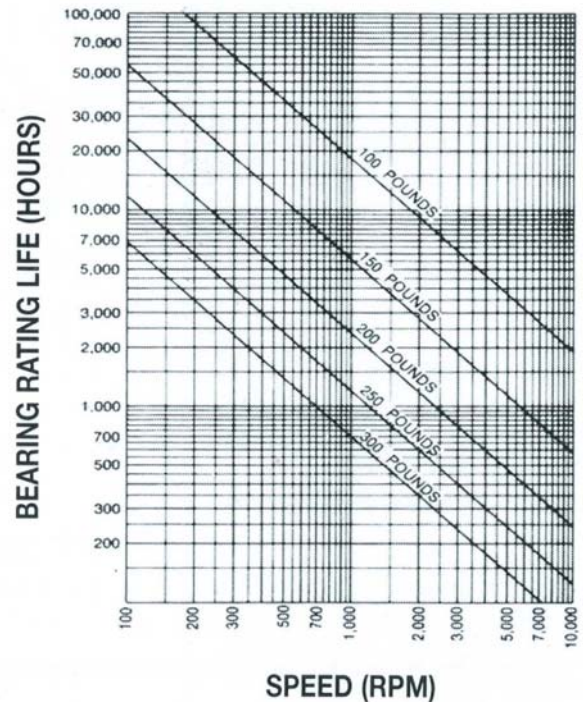
### INCREMENTAL OUTPUT

The operating temperature of the **incremental** version of H40 is from -40° to +100°C. The max. resolution is 96000 cpt, frequency response is 300 kHz. Several electronics are available: universal push-pull 5-30 VDC, regulated with supply 5-30V and output 5V RS422, transistorized in push-pull 11-30VDC.

### ABSOLUTE OUTPUT

H40 is also available in **absolute** single- and multi-turn versions with the most common interfaces: parallel, SSI, but also bus systems: CANopen and DeviceNet.

FIGURE 1: Bearings Life vs Speed at various Radial Loads



### CERTIFICATIONS

The Model H40 Encoder is available with the following certifications:



EN 55011 and  
EN 61000-6-2



U.S. Standards Class I,  
Group D, division 1



Canadian Standards Class I  
Group D, Division 1