

# Hercules Encoders

## Series 7000

### Industrial Potentiometer

- Enclosure: 3" Cube
- NEMA 12/13 or NEMA 4 type Sealing
- Flush or Flange Base
- Double Shielded ABEC 5 Ball Bearings, Internal mount provides higher level of reliability
- Steel Gear Drive protects against Shock and Vibration
- 1:1 Standard Ratio, Others available
- 1K, 5K, 10K Ohm 1W Pots, Continuous Mechanical Rotation
- Ideal for Dancer Applications
- Limit Switches Option - Rated at 5 amp - 115VAC standard Gold Crosspoint Contacts Standard
- Operating Temperature Rating:  $-55^{\circ}$  to  $+105^{\circ}$  C ( $-67^{\circ}$  to  $+221^{\circ}$  F) for harsh industrial environments

## Specifications

### Mechanical

Standard Shaft Size (Dia.)	.3747"
Shaft Extension(s)	0.80" with .50x.05" flat
Shaft Seals	Neoprene or PTFE Options
Mounting	Refer to dimensional drawings
Bearings	3/8" ID, ABEC 5P Shielded
Radial Loading	30 lbs. Operating
Axial Loading	15 lbs. Operating
Mechanical Angle	Continuous
Rotational Life	10,000,000 Cycles Typical
Standard Gear Ratio	1:1 (Others available)
Housing	Black Anodized Aluminum
Weight	Standard: 24 oz., Sealed: 34 oz.
Connector	3, 6 Pin MS3102 or 18" Cable Out

### Electrical

Power Rating at $40^{\circ}$ C	1 Watt
Dielectric Strength	500 Vac
Resistance Element	Conductive Plastic
Standard Resistance Values	1K, 5K, 10K Ohm
Resistance Tolerance	$\pm 10\%$
Electrical Angle	$320^{\circ} \pm 5^{\circ}$
Wiper Assembly	Precious Metal
Independent Linearity	$\pm 1\%$
Resolution	Essentially $\infty$

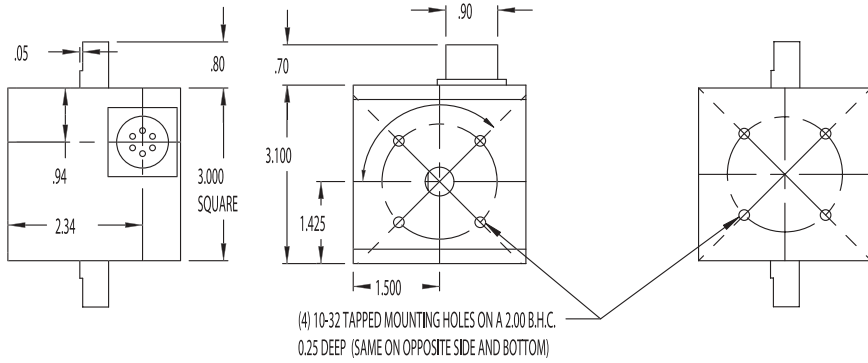
### Environmental

Operating Temp.	$-55^{\circ}$ to $+105^{\circ}$ C
Temperature Coefficient	$\pm 400$ ppm/ $^{\circ}$ C
Vibration	10 to 2000 Hertz at 15 g's
Humidity	100% Relative Humidity
Enclosures (Sealed)	NEMA 4 type - Watertight
(Standard)	NEMA 12/13 equiv. — Dust-, Oil-Tight

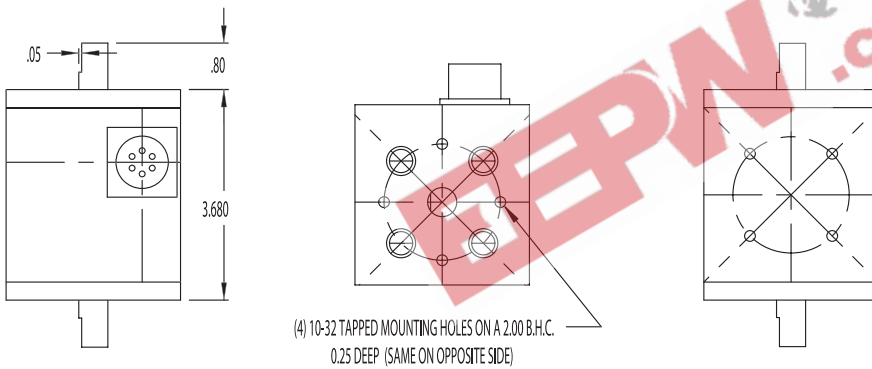


# Dimensional Drawings

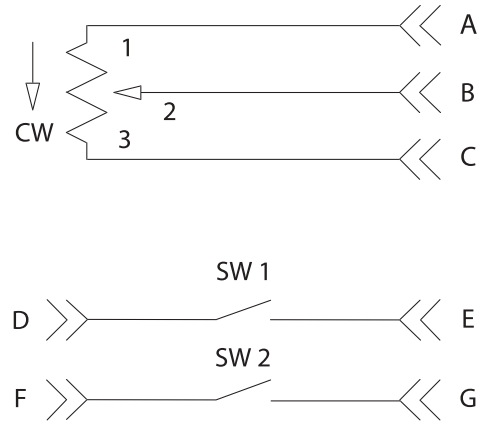
## Series 7000 Standard



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# Wire Drawings



WE RECOMMEND THE CURRENT SINKING MODE

# Ordering Information

**7 3 1 2** — **1K** — **XXXX** — **C** — **SW1**

### Shaft Extension

1=Single  
2=Double

### Mounting Type

1=10-32 BHC on shaft ends and base  
2=Flanged base (BHC on shaft ends)

### Housing Type

Blank=Standard Housing  
S=Sealed (Elastomer)  
T=Sealed (PTFE)

### Pot Resistance

1K=1K OHM, 1 Watt  
5K=5K OHM, 1 Watt  
10K=10K OHM, 1Watt  
X=Customer Specified

### Gear Ratio

Blank=1:1 (Standard)  
X=Customer Specified  
(Consult Factory)

### Limit Switches

SW1=One Adjustable Limit Switch  
SW2=Two Adjustable Limit Switches

### Connector

Blank=MS 3-Pin (Standard)  
6=MS 6 Pin  
C=Cable Out

\*Gear ratio is available to 1:4.57, i.e.,  $70^{\circ} \pm 1^{\circ}$  = full pot travel Engineering assistance is available for determining requirements.  
Gear ratio= external shaft rotation: internal potentiometer shaft rotation.