

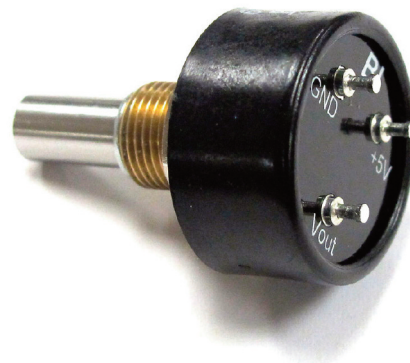
# Model 6120

## Position Sensor

### 7/8" Diameter

### Non-Contacting Hall Effect

### Single Turn



#### MODEL STYLES AVAILABLE

6121	1/8" Shaft, 1/4" Bushing
6124	6 mm Shaft, 3/8" Bushing
6126	1/8" Shaft, 3/8" Bushing
6127	1/4" Shaft, 3/8" Bushing
612x-XXXX	Custom models are available; Contact Customer Service for special features

#### ELECTRICAL<sup>1</sup>

Output Voltage	0.2 Vdc (4%) to 4.8 Vdc (96%) Typical (see Feature Codes table)
Output Overvoltage Limits	10 Vdc to -0.3 Vdc; output may be shorted to ground or supply without damage
Output Current	±8 mA Max.
Output Load	1 kΩ Min., 10 kΩ Typical
Operating Input Voltage Range	4.5 to 5.5 Vdc
Supply Voltage Absolute Limits	20 Vdc Max., -10 Vdc Min.
Independent Linearity <sup>2</sup>	±0.5% (0.25% Available)
Hysteresis	0.2% Max.
Resolution	0.088° for 360° travel, 0.011° for 45° travel
Supply Current	8.5 mA Typical, 12 mA Max.
Dielectric Strength	750 V rms
Insulation Resistance	1,000 MegΩ Min.
Electrostatic Discharge (ESD)	Passes 2 kV human body model and 15 kV air discharge
Bulk Current Injection (BCI)	Passes 2-500 MHz at 200 mA
Actual Electrical Travel	360° Typical (see Ordering Information)
Temperature Coefficient of Output Voltage	± 20 ppm/°C

#### MECHANICAL

Total Mechanical Travel	360° Continuous (320° with stop feature)
Bearing	Bearing Bronze Bushing
Weight	0.6 oz. Typical
Static Stop Strength	40 in. oz.
Panel Nut Tightening Torque	25 in. lb. Max.
Rotational Speed	500 RPM Max.

<sup>1</sup> Specifications subject to change without notice.

<sup>2</sup> Linearity is measured between 1% and 99% of input voltage.

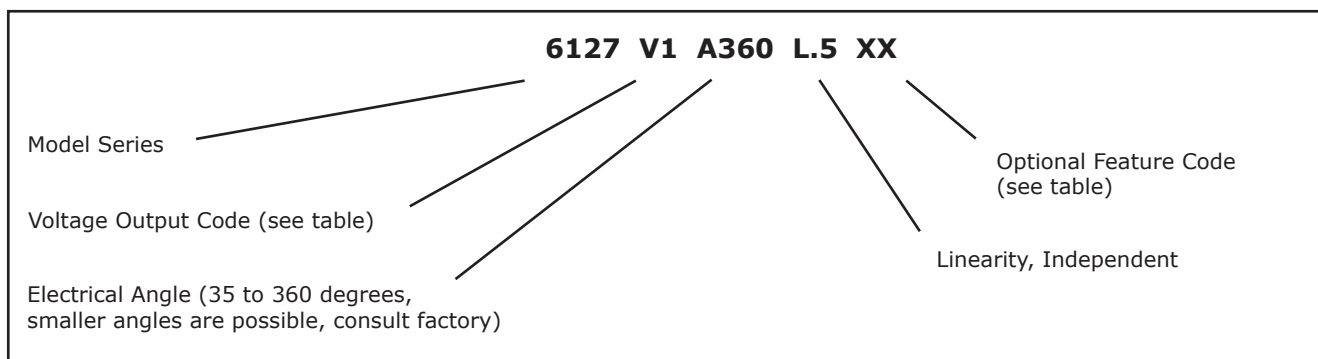


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## ENVIRONMENTAL

Operating Temperature Range	-40°C to +125°C
Shock	Per MIL R-39023, 6 ms Saw-tooth 100 G's
Vibration	Per MIL R-39023, 10 G's, 100 to 500 Hz
Moisture Resistance, Powered	Per MIL 202G, Method 106G
Rotational Life	10 million shaft revolutions with up to 8 oz sideload
Storage Temperature Range	-55°C to +125°C
Ingress Protection Rating (IP Code)	IP50, IP66 available as option (feature code ES)

## ORDERING INFORMATION



## FEATURE CODES

Voltage Output Codes	
V0	≤ 3% to ≥ 96%
V1	4% to 96%
V2	5% to 95%
V3	10% to 90%
V4	15% to 85%
V5	20% to 80%

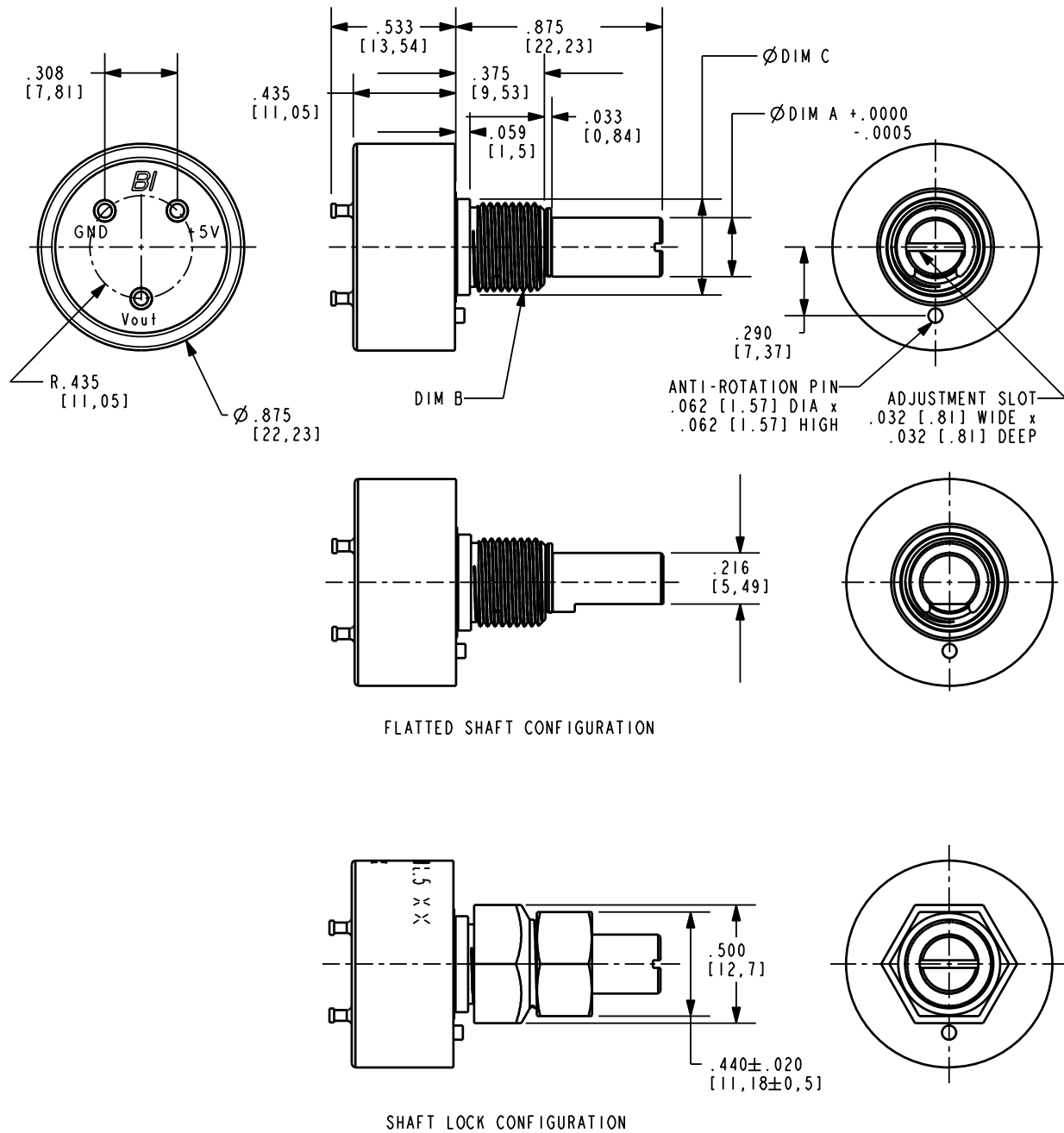
When V0 is used the angle specified is the theoretical angle over which the output would vary if the output could actually reach 0% and 100% of Vcc.

Optional Feature Codes	
ST	Stop (320°)
FS	Flatted Shaft (slot standard)
LT	Linearity Data
SL	Shaft Lock 6127 only
CW	Reverse Direction
ES	Seal (IP66) 6124 or 6127 only

When multiple Optional Feature codes are used the P/N shall be in the same sequence as listed in this table (top to bottom).

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## OUTLINE DRAWING



DIM	6121	6124	6126	6127
A	.1248	6 mm	.1248	.2497
B	1/4-32 UNEF	3/8-32 UNEF	3/8-32 UNEF	3/8-32 UNEF
C	.281	.406	.406	.406

- NOTES:
1. UNIT SHIPS WITH NUT AND WASHER (NOT SHOWN).
  2. FOR SLOTTED OR FLATTED SHAFT, OUTPUT IS AT 50% IN POSITION SHOWN.
  3. DIMENSIONS: INCHES [mm].
  4. TOLERANCES:  $\pm .015$  [ .38] UNLESS NOTED.