



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Non-Contacting Hall Effect Single Turn Position Sensor



Model 6120 Series

Features:

- 7/8" diameter
- Non-contacting
- Hall-effect technology
- Single turn
- Multiple styles available
- Custom models available



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

| | |
|---|--|
| 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 ² | ±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. |

¹ Specifications subject to change without notice.

² Linearity is measured between 1% and 99% of input voltage.



General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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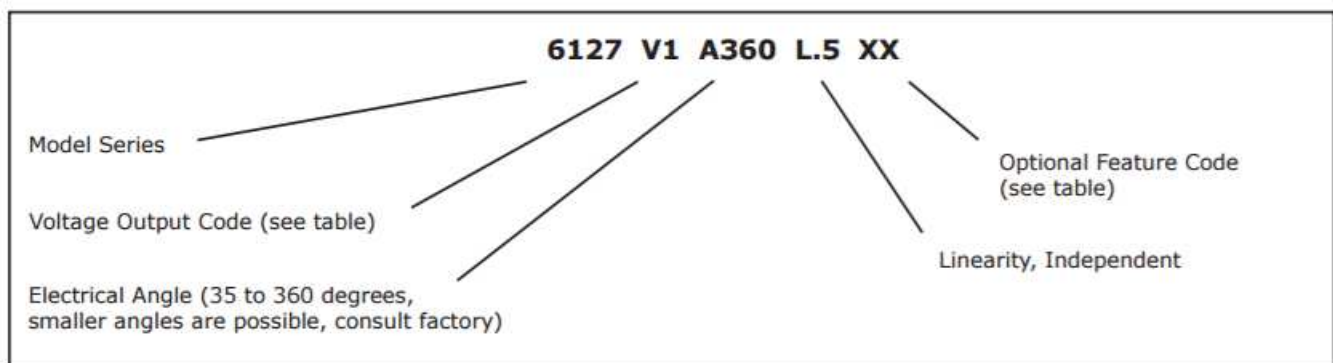
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Environmental

| | |
|-------------------------------------|---|
| 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



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).

General Note

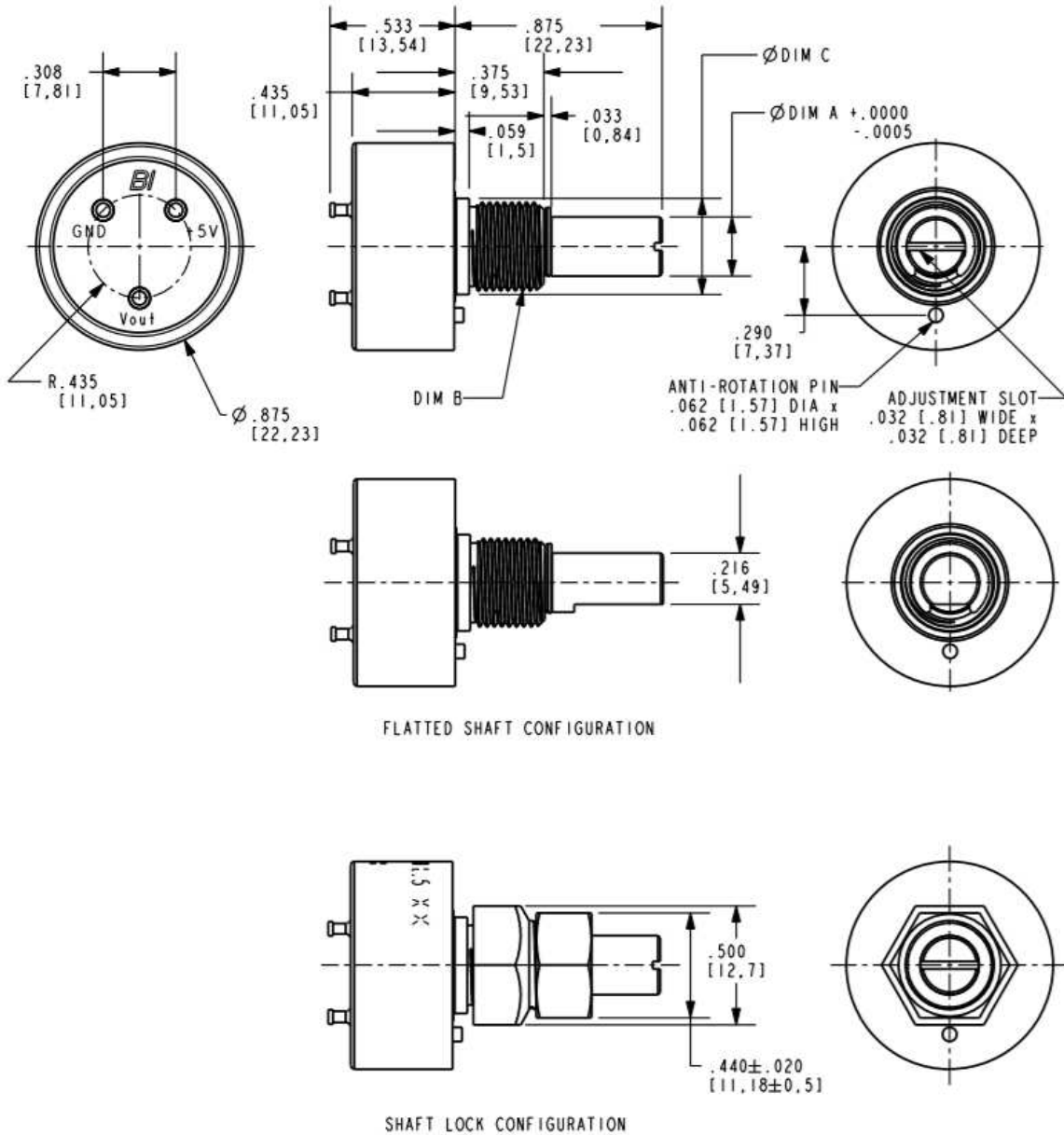
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Outline Drawings



| 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:

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

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