

Non-Contacting Single Turn Position Sensor



Model 6150 Series

Features:

- 7/8" diameter
- Non-contacting
- Single turn
- Custom models available



Model Styles Available

| | |
|-----------|--|
| 6153 | 1/8" Shaft, dual ball bearing |
| 615x-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 maximum |
| Output Load | 1 kΩ minimum, 10 kΩ typical |
| Input Voltage | 4.5 to 5.5 Vdc |
| Supply Voltage Absolute Limits | 20 Vdc maximum, -10 Vdc minimum |
| Independent Linearity ² | ±0.5% (0.25% available) |
| Hysteresis | 0.2% maximum |
| Resolution | 0.088° for 360° travel, 0.011° for 45° travel |
| Supply Current | 8.5 mA typical, 12 mA maximum |
| Dielectric Strength | 750 V rms |
| Insulation Resistance | 1,000 Megohms minimum |
| 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 ³ | ± 20 ppm/°C |

Mechanical

| | |
|-------------------------|-----------------------|
| Total Mechanical Travel | 360° continuous |
| Number of Gangs | 1 maximum |
| Weight | 0.4 oz. nominal |
| Shaft Runout | maximum T.I.R. 0.003" |
| Pilot Diameter Runout | maximum T.I.R. 0.003" |
| Lateral Runout | maximum T.I.R. 0.003" |
| Shaft Radial Play | maximum 0.005" |
| Start/Run Torque | maximum 0.5 oz.-in. |
| Rotational Speed | maximum 1,000 RPM |

¹ Specifications subject to change without notice.

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

³ Measured with 5 VDC supply and 50% of electrical travel



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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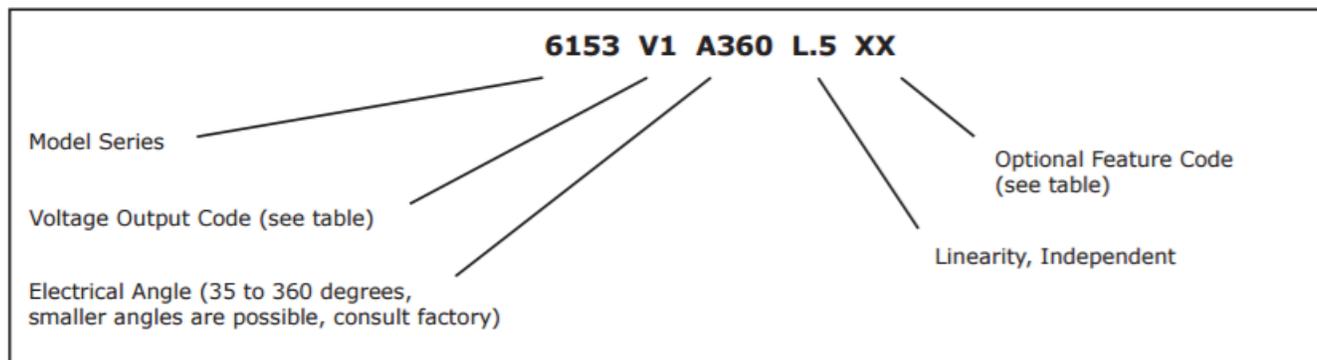


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Environmental

| | |
|-------------------------------------|---|
| 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 | 50 million shaft revolutions with side load < 0.33 lb, 100 million with side load < 0.25 lb |
| Storage Temperature Range | -55°C to +125°C |
| Ingress Protection Rating (IP Code) | IP50 |

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 | |
|------------------------|-------------------|
| FS | Flatted Shaft |
| SS | Slotted Shaft |
| LT | Linearity Data |
| CW | Reverse Direction |
| | |
| | |

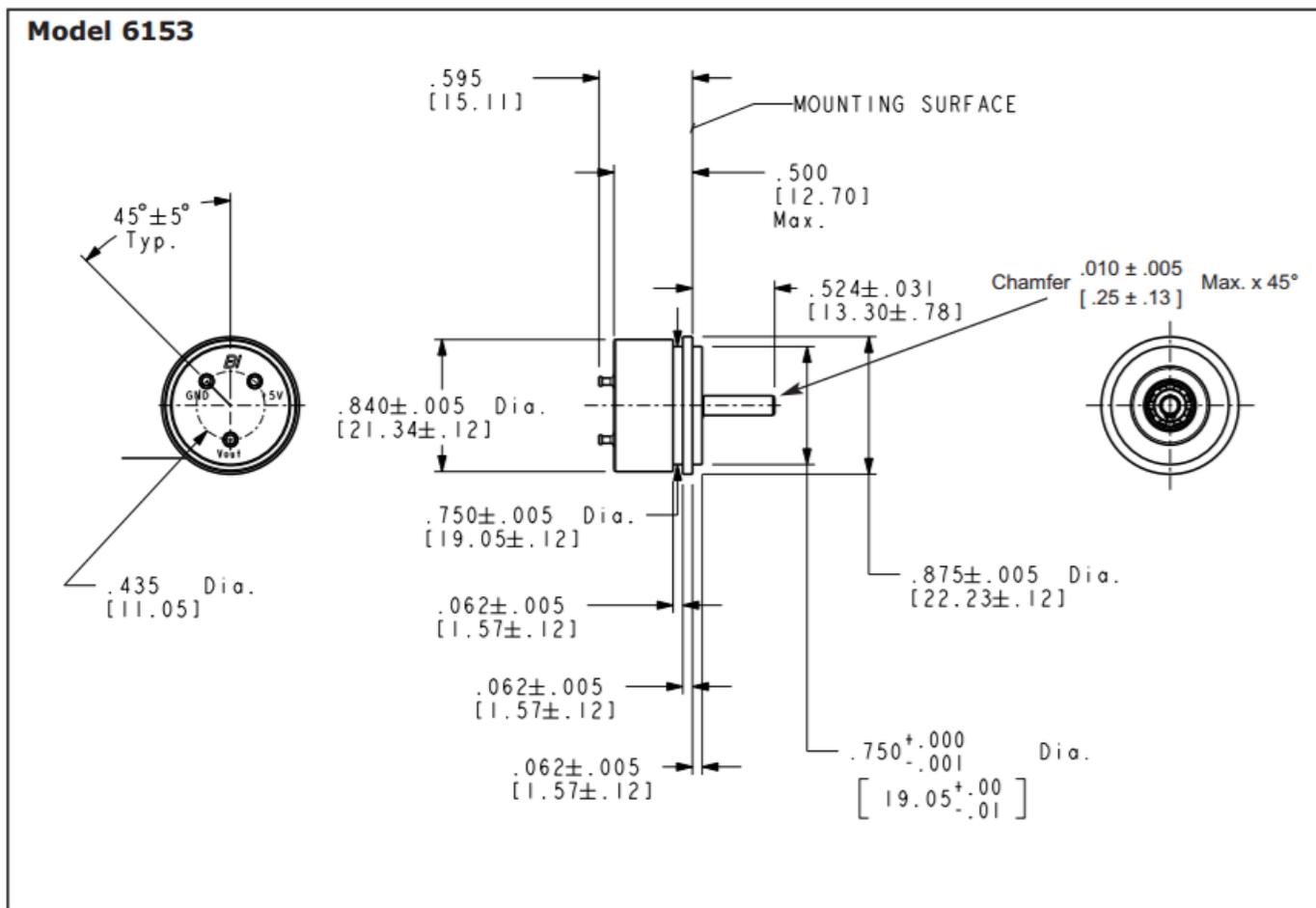
When multiple Optional Feature codes are used the P/N shall be in the same sequence as listed in this table (top to bottom).

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Outline Drawings



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