

Rotary Precision Position Sensor  
Single Turn, Compact, Sealed, Extended Life

# 5320 Series Panel Pot

The BEI Duncan 5320 Series offers a highly reliable rotary potentiometer sensor that can be easily integrated or re-packaged into a wide variety of existing and new applications. The new 5320 Series is ideally suited for tight packaging constraints while providing superior durability, long service life and repeatable accuracy. The sensor is fully sealed and impervious to contamination and moisture. A wide variety of standard and non-standard options are available including detent functions, electrical/mechanical angles, shaft/bushing sizes, lengths and configurations, resistance values, etc.

The 5320 Series standard termination offers gold plated through holes for direct soldering. Options are also available for custom termination methods by contacting Duncan Sales. The 5320 series sensors offer all of the advantages of a cost effective, traditional potentiometer while providing a rugged, compact, low-profile design to survive the harshest conditions.



### 5320 Series Features:

#### Extended Operating Life

1 million plus operational cycles

#### Fully Sealed Construction

Meets or exceeds IP66/IP67 standards

#### Extended Temperature Range

Operating: -40° to +125°C

Storage: -55° to +150°C

#### High Quality, Rugged Construction

Stainless Steel Shaft, Nickel Plated Brass Bushing  
See Reverse for Additional Environmental Specifications

#### Wide Range of Configurations (see ordering info)

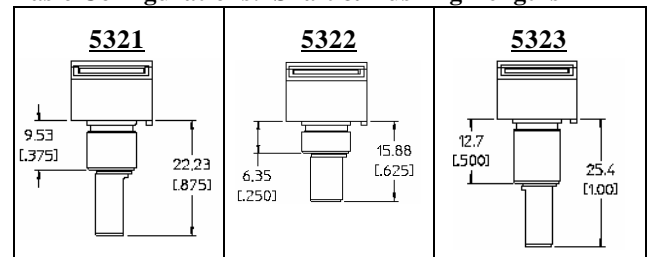
Shaft and Bushing Lengths  
Linearity (accuracy) Tolerance Limits  
With or Without Detent Function  
Total Resistance

#### Wide Range of Custom Options (contact Duncan Sales)

Variable Electrical Angles up to 315 degrees (w/ stops)  
Variable Mechanical Stops up to 325 degrees  
Continuous Rotation – No Stops (340° max electrical)  
Electrical Output (end voltage limits, etc.)  
Smaller, 1/8" Shaft and 1/4" Bushing Diameters  
Shaft Engagement (round or slotted instead of flat)

### Ordering Information:

#### Basic Configurations: Shaft & Bushing Lengths



Dimensions are shown in millimeters [inches reference]

532X RXX LX.XX

Detent:  
Blank = None, D = Included

Independent Linearity:  
Standard = +/-2.0%

Total Resistance:  
Standard = 1K, 5K or 10K

Basic Configuration Model (identified above)

STANDARD PART: 5321 R5K L2.0

No Detent Function  
Standard +/-2.0% Linearity  
5K Total Resistance

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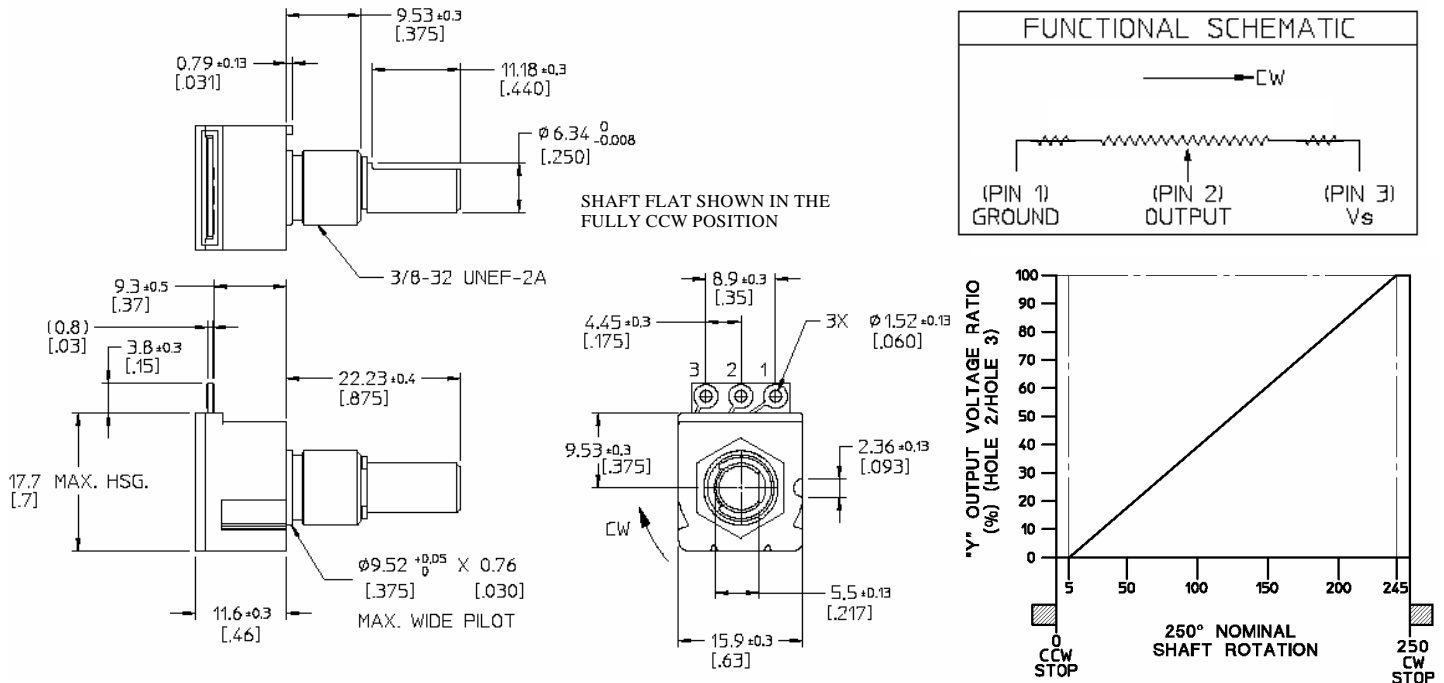
ISO9001 Certified/QS9000 Registered

www.beiduncan.com

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## Standard Sensor as Example

Dimensions are shown in millimeters [inches reference]



### Mechanical Specifications

Total Travel (stop to stop):	250 degrees (std*)
Stop Strength:	1350 Nmm (190 in-oz)
Shaft Pull Out Strength:	200N (45lbs)
Shaft Operating Torque:	5-25 Nmm (0.7-3.5 in-oz)
Shaft Starting Torque:	35 Nmm (5 in-oz) Max.
Cycle Life:	1 Million cycles
Detent Life:	10,000 cycles
Detent Torque:	35-120 Nmm (5-17 in-oz)
Detent Release Position:	20 degrees Max.

### Environmental Specifications

Moisure & Dust Resistant:	Sealed, IP66/IP67
Vibration:	15g, 10 to 2000 Hz
Shock:	30g
Temperature:	-40°C to +125°C operating -55° to +150°C storage
Salt Spray:	96 hours
Resistance to Solder Heat:	350°C (660°F) for 5 sec. (at termination points)

### Electrical Specifications

Active Electrical Travel:	240 degrees (std*)
Power Rating at 70°C:	0.25W (derating to 0 at 125°C)
Resistance Tolerance:	±20% (std*)
Linearity, Independent:	±2% (std*)
RGV:	100% Max.
(Output Smoothness):	(0.2%) Max.

### Materials

Shaft:	Stainless Steel
Bushing:	Nickel Plated Brass
Housing (Package):	Nylon 6 (Akulon)
PCB:	4101/21 (FR-4)

\* Std. Parameter shown, other custom options available, contact Duncan Sales.

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