

## Rotary Position Sensor



### FEATURES

- High Performance, Compact Potentiometric Sensor
- Rugged Construction, Suitable for Under-bonnet Engine Management and Closed Loop Feedback Applications
- Through-Hole Actuation Capability
- Integral Connector or Flying Lead Versions
- Actuator and Mounting Configuration Options

Spectrol Model 971 series Rotary Position Sensors are suitable for demanding environments where high life and consistent linearity performance is required. Typical applications include Electrical Industrial Vehicles, Off-Road Vehicle Steering and Transmission, Automotive Engine Management Systems and Controls, Medical and Industrial.

Spectrol's proven high performance conductive plastic resistive tracks and contact design achieves high accuracy. The 971 Rotary Position Sensor can be supplied with options for electrical track length, resistance, flying leads, integral connector and actuator drive direction.

### ELECTRICAL SPECIFICATIONS

PARAMETER	
Total Resistance Optional	5K $\Omega$ @ + 25°C 1K $\Omega$ to 25K $\Omega$
Resistance Tolerance	$\pm 20\%$
Linearity (Independent)	$\pm 2\%$
Electrical Travel	106° Optional to 130° maximum
Maximum Power Rating	1 watt @ 40°C derated to zero @ 135
Output Smoothness	0.3% maximum
Temperature Coefficient	$\pm 600\text{ppm}/^\circ\text{C}$
Index Point (e/E)	3% $\pm$ 2%
Maximum Voltage	13.5VDC

### MECHANICAL SPECIFICATIONS

PARAMETER	
Rotation Optional	130° $\pm$ 5° CCW CCW or CW up to 140 max $\pm$ 5°
Spring Torque	120mNm Maximum
Stop Strength	680mNm Minimum
End Play	0.25mm Maximum
Lead Wires	Nominal $\varnothing$ 1.8mm Length optional
Wire Pull Strength	10Kg maximum (3 wires)

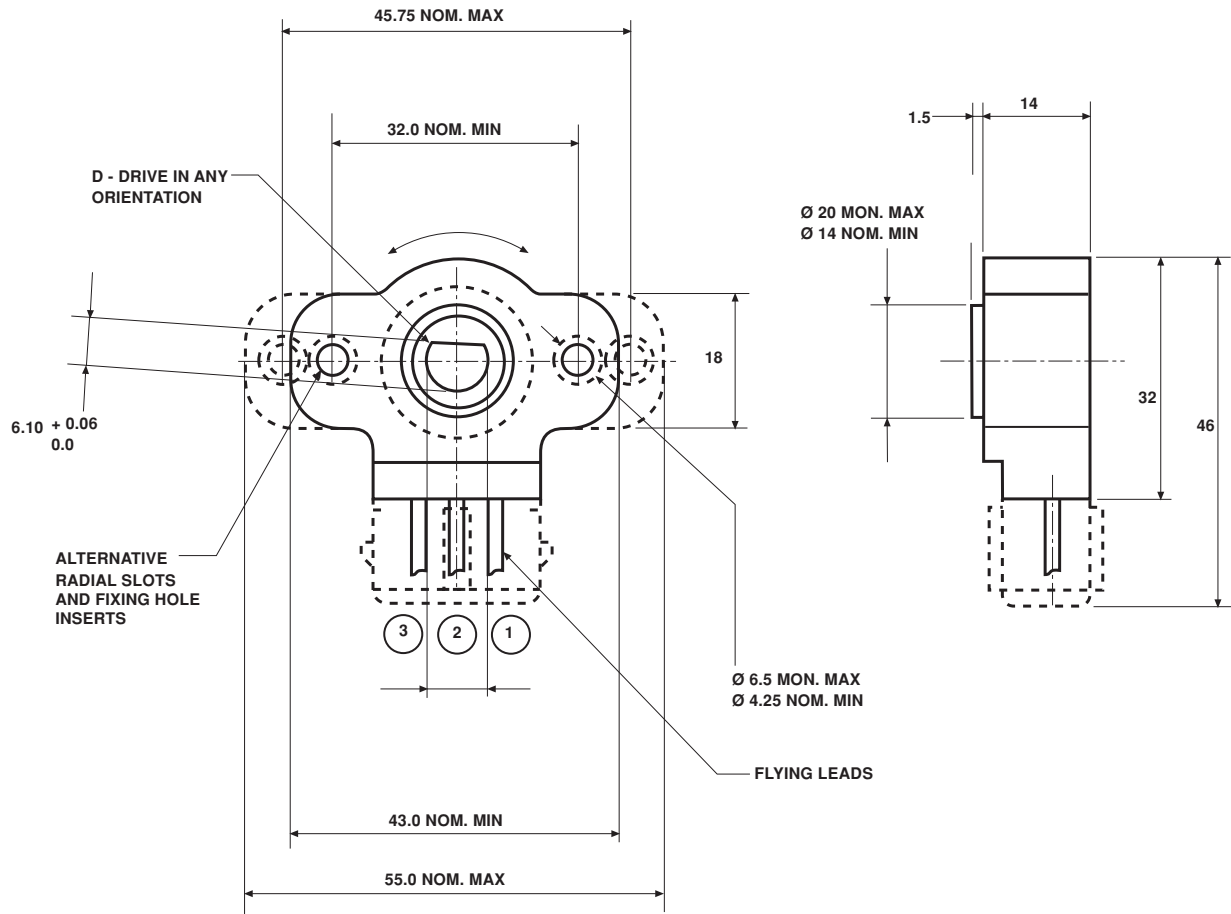
### ORDERING INFORMATION

971-0001 Amp Connector

971-0002 Flying Leads



**DIMENSIONS** in inches (millimeters)



ENVIRONMENTAL SPECIFICATIONS	
Rotational Life	5 x 10 <sup>6</sup> Full Cycles
Dither	10 x 10 <sup>6</sup> (2° Rotation)
Vibration	15g, 50 - 1000Hz
Shock	50g
Temperature Range:	
Standard Operating	- 40°C to + 85°C
Optional Operating	- 40°C to + 130°C
Materials:	
Housing	Polyester PBT
Leads:	
Standard PVC	+ 85°C
High Temperature PVC	+ 130°C

OPTIONAL INTEGRAL CONNECTOR	
AMP style Junior Timer Mates:	
Housing	1 - 8275782 - 1 (Unsealed)
Terminals	927845 - 2
Housing	282191 - 1 (Sealed)
Terminals	929939 - 3
Wire Seals	828904 - 1



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