

# Rotary Position Sensor

## PHS11R Series



### Features:

- Dust proof construction protects the interior from dust, which maintains stable characteristics
- Excellent resistance materials and high reliability wiper achieves 1,000,000 cycles
- Ultra-thin size (2.2mm height)



### Description:

The PHS11R series is a rotary position sensor that features dust proof construction, an ultra thin size, and a life cycle of 1 million cycles.

### Applications:

- Rotary angle sensor
- Electric motor-driven bicycle
- Motor drive unit
- HVAC sensor

### Electrical Characteristics

$T_A = 25^\circ \text{C}$  unless otherwise noted

Resistance Range	1K $\Omega$ to 100K $\Omega$
Standard Resistance Tolerance	$\pm 20\%$
Rated Power	0.1W
Linearity (electrical angle < 180°)	$\pm 5\%$
Linearity (180° $\leq$ electrical angle < 300°)	$\pm 3\%$
Linearity (electrical angle $\geq 300^\circ$ )	$\pm 2\%$
Rotational noise	<80 mVp-p
Effective Electrical Angle	60° to 341° (see ordering information)
Effective Electrical Angle Tolerance	$\pm 2^\circ$
TCR	$\pm 500 \text{ ppm}/^\circ\text{C}$

#### 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.

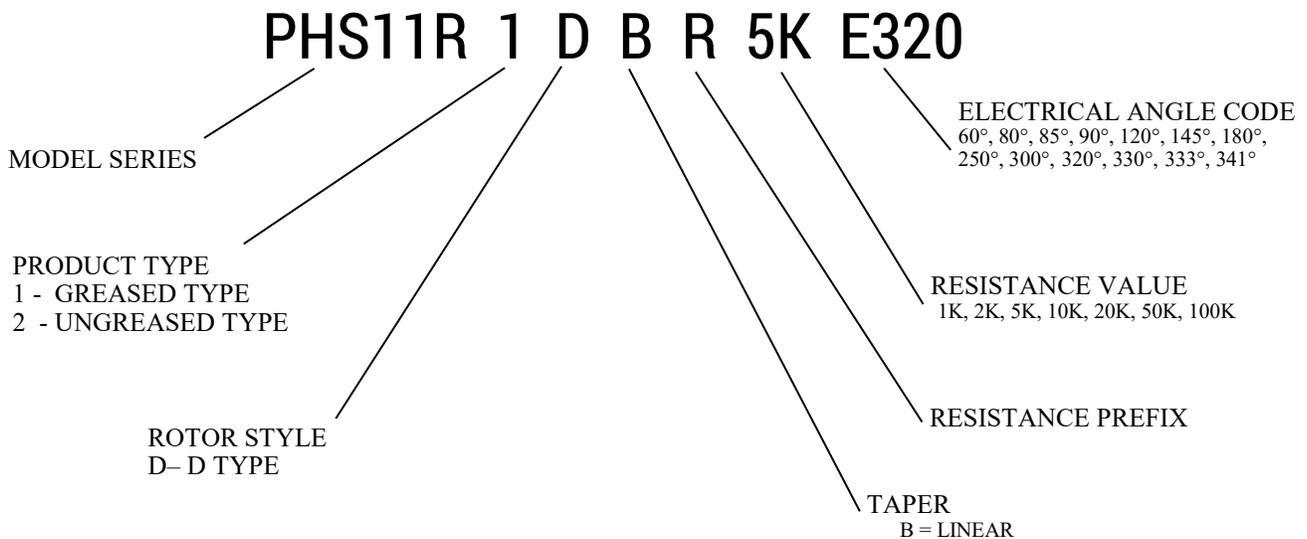
# Rotary Position Sensor

## PHS11R Series



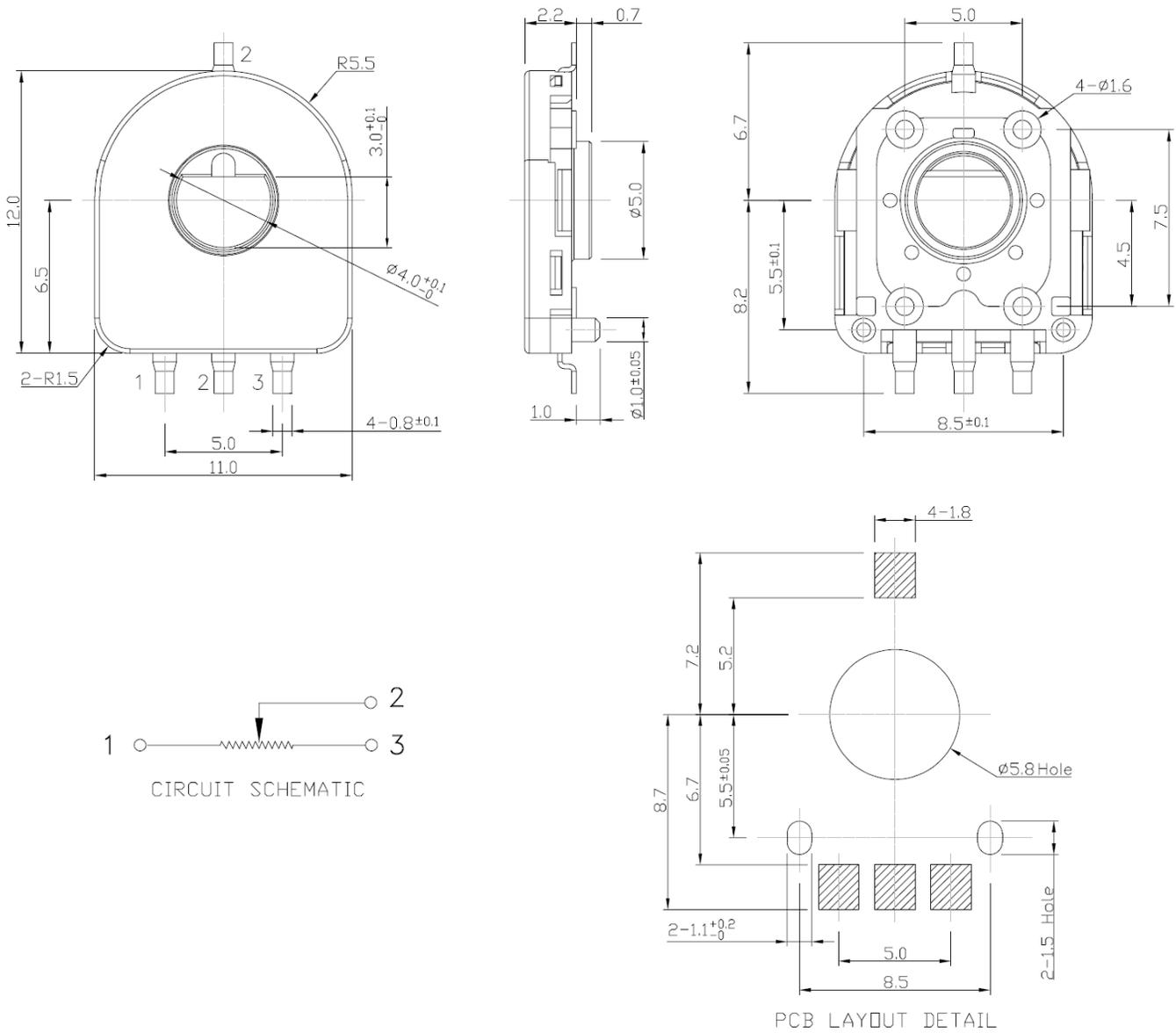
Mechanical Characteristics	
Rotational Angle	360°
Rotational torque	0-30gf-cm
Shaft push/pull strength	> 1.0kgf for 10 sec min
Storage Temperature	-40°C to +120°C
Operating Temperature	-40°C to +120°C
Life Cycles	1,000,000 cycles min $\Delta$ RT $\pm$ 10% (Ungreased Type) $\Delta$ RT $\pm$ 20% (Greased Type)
Dry Heat	120 $\pm$ 3°C, 250 $\pm$ 8H $\Delta$ RT $\pm$ 20%, Linearity: $\pm$ 2%
Cold	-40 $\pm$ 3°C, 168 $\pm$ 4H $\Delta$ RT $\pm$ 20%, Linearity: $\pm$ 2%
Humidity	60 $\pm$ 2°C, 90 to 95RH, 250 $\pm$ 8H $\Delta$ RT $\pm$ 20%, Linearity: $\pm$ 2%
Temperature Cycling	-40°C to +120°C, 5 cycles $\Delta$ RT $\pm$ 20%, Linearity: $\pm$ 2%

## ORDERING INFORMATION



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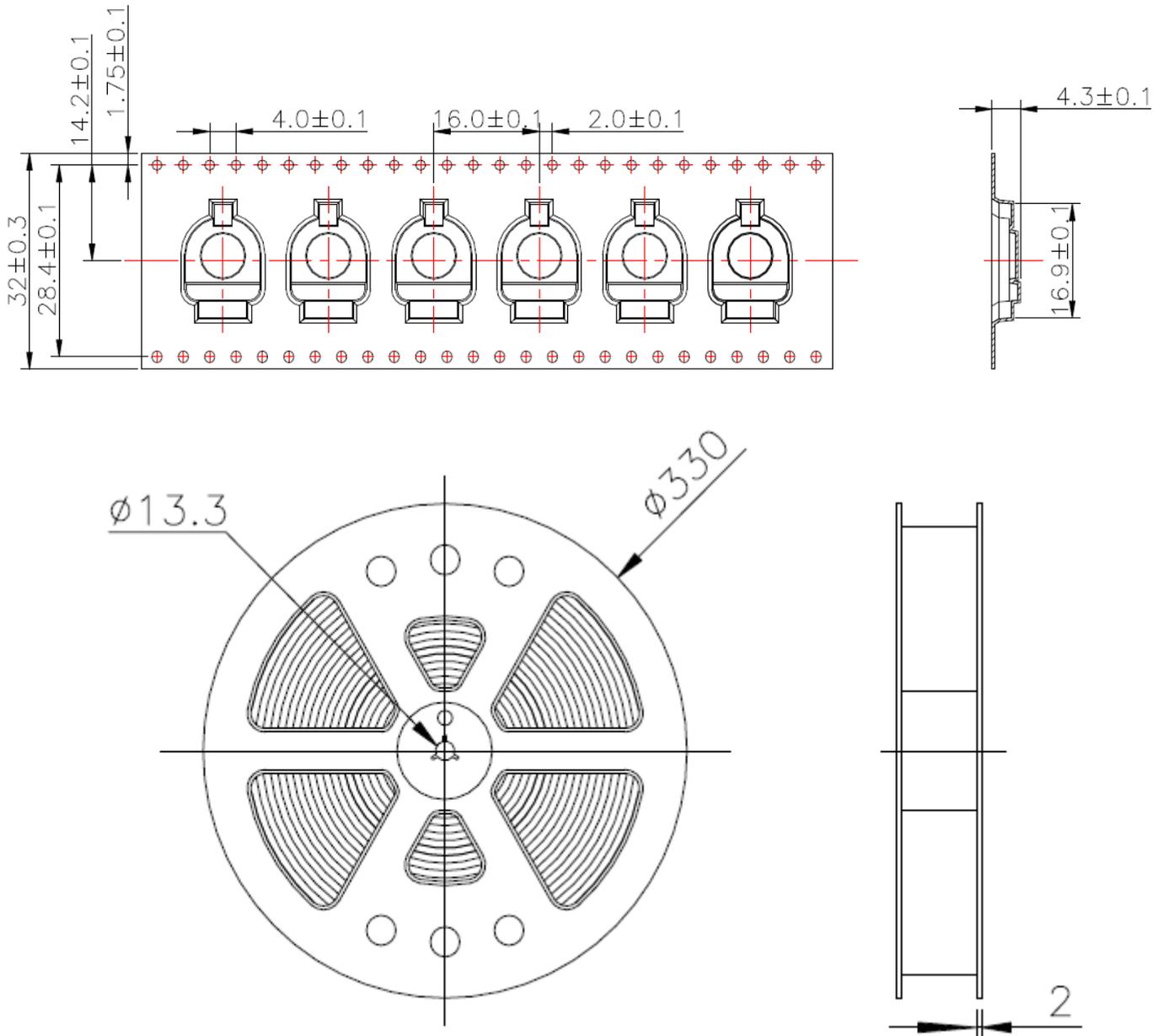
### OUTLINE DRAWING



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### Packaging Detail: Tape & Reel, 1K per reel



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