

# Model TSA12S

## None-Contact Angle Position Sensor

- Hall effective
- Absolute Position
- Linearity  $<\pm 0.2\%$
- Long life
- Single turn
- Servo Mount
- None-Standard Features and Specifications Available



### MECHANICAL

Total Mechanical Travel	360( $\pm 5$ )°
Starting Torque	0.5Ncm
Max Rotating Speed	120rpm
Max Permitted Axial Shaft Load	10N
Max Permitted Radial Shaft Load	10N
Weight	13g

### ELECTRICAL

Measuring Range	360° (Find more options in ORDER INFO)
Independent Linearity	$< \pm 0.2\%$
Resolution	12 bit
Refresh Rate	290 ( $\pm 15$ ) $\mu$ s
Max. Hysteresis	0.1°
Max. Repeatability	0.1°
Supply Voltage	5 ( $\pm 10\%$ ) VDD (Find more options in ORDER INFO)
Supply Current	$< 12$ mA
Output Load Analog	10k $\Omega$
Load Output Capacity	10 to 330nF

### ENVIRONMENTAL

Protection Class	IP54/IP65
Life	$> 10 \times 10^5$
Operation Temperature Range	-40°C ~ +150°C (Find more options in ORDER INFO)
Shock	50g, 11m
Storage Temperature	-40°C ~ +85°C

### CE-CONFORMITY

RF noise field strength EN 55011, class B  
ESD EN 61000-4-2  
Radiated immunity EN 61000-4-3  
Burst EN 61000-4-4  
Conducted disturbances induced by RF fields EN 61000-4-6

### ACCESSORY

Length of wires / ribbon cable	Standard	AWG26 15cm
Length of wires / ribbon cable	Optional	AWG26 20cm
Length of wires / ribbon cable	Optional	Other Length

### ORDERING INFORMATION

**Effective Electronic Travel**  
360° Standard **360**  
Other Angle Request Optional **XXX**

#### Shaft Type

**D** Standard D Type  
**I** Standard I Type  
**R** Standard Round Type  
**X** Optional Other Type Request

#### Shaft Length

**1** Standard 16mm  
**X** Optional Other Length Request

#### Operation Temperature

**E** Standard -40°C ~ +85°C  
**K** Standard -40°C ~ +125°C  
**L** Optional -40°C ~ +150°C

TSA12S

**1**

**1**

**3**

**6**

**0**

**D**

**1**

**E**

#### Output Signal

**1** Standard 10% - 90%  
**2** Standard 0% - 100%  
**3** Optional 4 - 20 mA  
**X** Optional X% - Y%

#### Output Characteristic

**1** Standard Positive gradient CW  
**2** Standard Positive gradient CCW  
**X** Optional Other Request

### OUTLINE DRAWING

