

# Series 500

## Single Ear Rotary Position Sensor

- Compact package with integral Yazaki or Sumitomo connector
  - Choice of mounting ear location
  - Clockwise or counterclockwise rotation
- High resistance to fluid intrusion
  - Internal rotor seal
  - Sumitomo connector to meet IP67
  - Optional external interface seal
  - Optional Yazaki connector pocket grease
- Optional rotors accept 6mm shaft
  - Tang drive, spring return rotor
  - Direct drive rotor



### Description

Small engine throttle plate position sensing and other similar applications where there is minimal available space for an external feedback sensor.

### Ordering Information

Series	Rotor Type	Mounting Style	Rotation	Tolerance	Optional O-ring	Grease	C																																
500	D	A	CW	D	O	G	S																																
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Notes: Contact CTS for other common features not listed.

## Electrical Specifications

Parameter	Conditions & Remarks	Min.	Max.	Unit
Total Resistance		5.0 -40%	5.0 +40%	k $\Omega$
Linearity	±2.0% (point slope linearity)			
Mechanical Rotation Angle			122°	
Electrical Rotation Angle			105°	
Hysteresis (500 Series)			1%	applied voltage
Hysteresis (500D Series)			0.6%	applied voltage
Slope	0.8%/degree			
Normal Index Voltage	6% of applied at mid-adjustment			
Adjustable Index Range		0	20	%
Torque Requirement	5.11			N-cm
Electrical Limit			16	VDC
Typical Voltage		5	10	VDC
Power Rating			0.8	watts

## Mechanical and Environmental

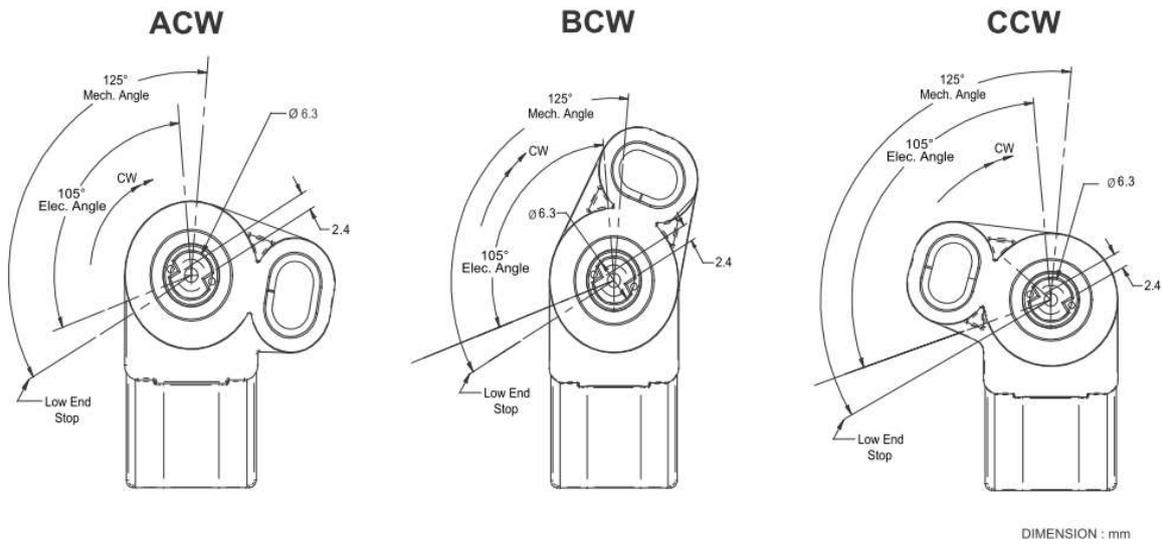
Mechanical Cycling	2 x 10 <sup>6</sup> full strokes @ 1 Hz; 0.5 x 10 <sup>6</sup> half strokes @ 0.5 Hz			
Standard Vibration	24 hrs., 3 planes; random 33 to 2000 Hz; 1.36-25g; 0° to 80° C			
Thermal Shock	100 cycles, -40° to 120° C; transition time less than 1minute soak at each temperature			
Operating Temperature Range	-30° to 110° C			
Storage Temperature Range	-40° to 120° C			
Water Resistance	JIS D0203			
Solvent Exposure	Brush on gasoline, engine oil brake fluid, transmission fluid and antifreeze			
Dust Exposure	JIS D0207-F2			
RoHS	Lead-Free. Fully compliant to RoHS Directive			
Packaging:	Tray packaging			

Note: These standard specifications have been met by existing production-tooled units evaluated with precise test equipment and procedures. Test results, including failure criteria, is available upon request. This data sheet does not constitute a warranty that the product will meet the above specifications while used in specific applications or attached to specific test equipment.

Mechanical Specifications

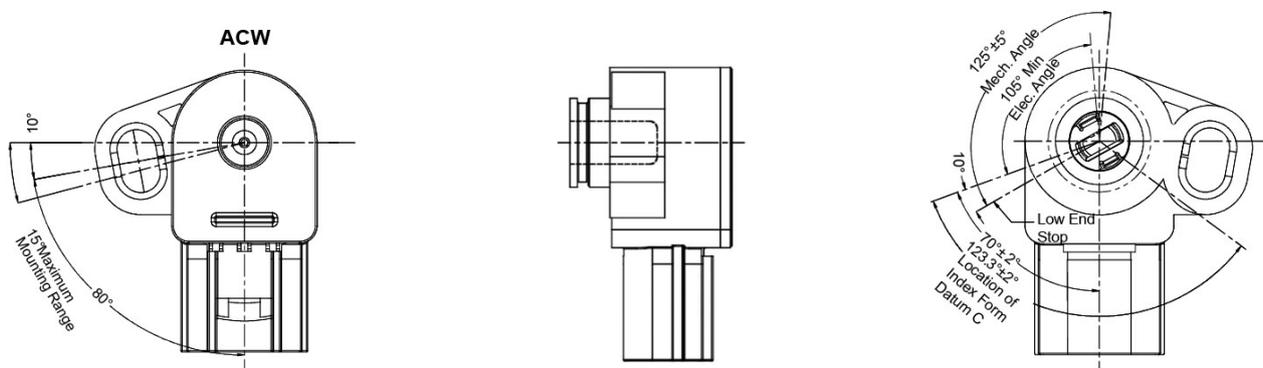
**Example Figure 1 – 500..., Tang Drive, A/B/C Type, Yazaki Connector shown.**

**Sumitomo connector also available in A type mounting with tang drive.**

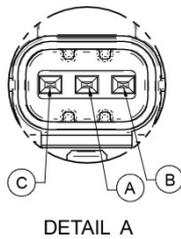
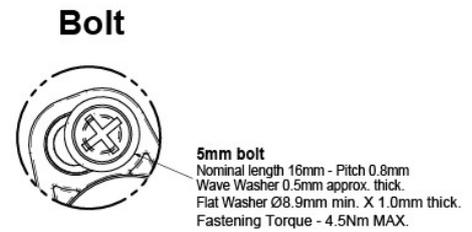
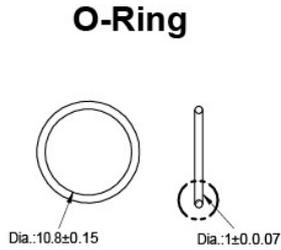
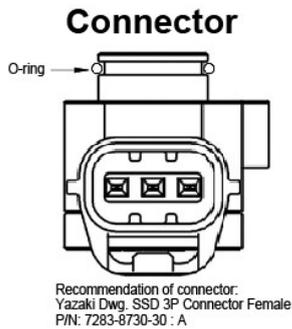


**Example Figure 2 – 500DACW...S, Direct Drive, A Type, Sumitomo Connector shown.**

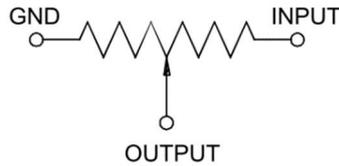
**Yazaki connector also available in direct drive in the A, B, and C mounting styles.**



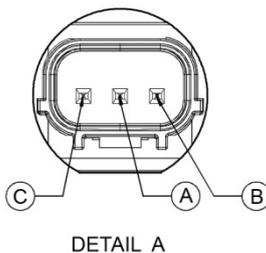
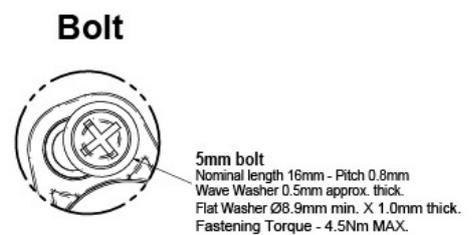
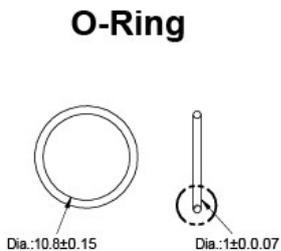
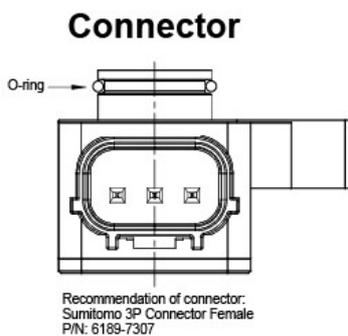
**OPTIONAL O-RING AND THE RECOMMENDED CUSTOMER SUPPLIED MOUNTING BOLT ARE SHOWN**



ID	DESIGNATION
A	GND
B	OUTPUT
C	INPUT



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