

## Ten Turns Servo or Bushing Mount Hall Effect Sensor in Size 09 (22.2 mm)



### FEATURES

- Accurate linearity down to:  $\pm 0.5\%$
- All electrical angles available up to:  $3600^\circ$
- Very long life: 50M cycles for servo, 10M cycles for bushing
- Non contacting technology: Hall effect; true power on sensor
- Model dedicated to applications requiring long life
- Compliant to RoHS Directive 2002/95/EC



**RoHS**  
COMPLIANT

### ELECTRICAL SPECIFICATIONS

PARAMETER	STANDARD	SPECIAL
Electrical Angle	10 turns $3600^\circ$	Any other angle upon request
Linearity	$\pm 1\%$	$\pm 0.5\%$
Supply Voltage	$5 V_{DC} \pm 10\%$	Other upon request
Supply Current	$< 16\text{ mA}$ for single	$< 32\text{ mA}$ for redundant
Output Signal	Analog ratiometric $1\%$ to $99\%$ of $V_{supply}$ (other on request) or PWM $1\text{ kHz}$ , $10\%$ to $90\%$ duty cycle or SPI binary on $5\text{ V}$ or binary on $3.3\text{ V}$	
Over Voltage Protection	$+ 20 V_{DC}$	
Reverse Voltage Protection	$- 10 V_{DC}$	
Load Resistance Recommended	Min. $1\text{ k}\Omega$ for analog output and PWM output	
Hysteresis Static	$10^\circ$ on drive shaft	

### MECHANICAL SPECIFICATIONS

PARAMETER	
Mechanical travel	$3600^\circ$ continuous
Bearing type	A sleeve bearing for bushing model/2 ball bearings for servo model
Standard	IP 50; other on request
Resolution	12 bits for analog and PWM, 14 bits for SPI

### ORDERING INFORMATION/DESCRIPTION

34 THE	B	1	A	T	A	2S22	XXXX	BO 1	e1
MODEL	MOUNTING TYPE	NUMBER OF SIGNALS	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST	PACKAGING	LEAD FINISH
	B: Bushing S: Servo	1: Single 2: Redundant (crossed laws)	A: $\pm 1\%$ B: $\pm 0.5\%$	T: Turrets Z: Custom W: Wires	A: Analog CW B: Analog CCW C: PWM CW D: PWM CCW E: SPI CW <sup>(1)</sup> F: SPI CCW <sup>(1)</sup> Z: Other output	2: 3.175 mm 9: Special P: Plain S: Slotted Z: Other type		Box of 1 piece	

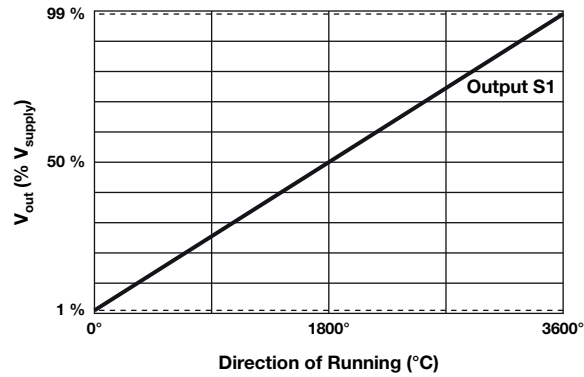
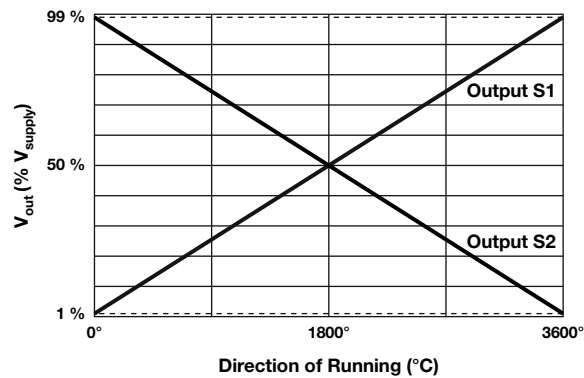
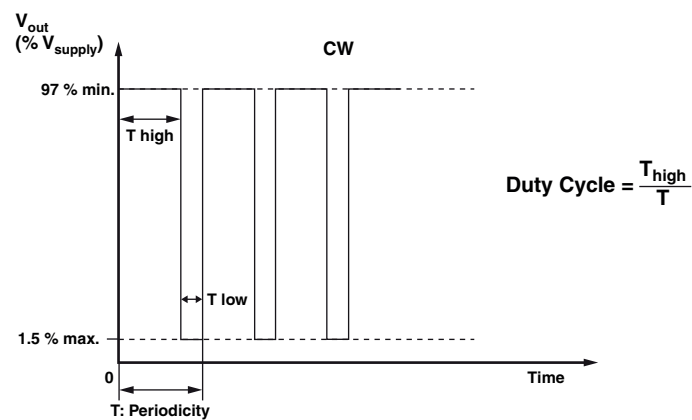
Shaft length from mounting face standard: 22 mm

#### Note

<sup>(1)</sup> SPI output → output type: Wires

### SAP PART NUMBERING GUIDELINES

34 THE	S	2	B	T	C	2P12	XXXX
MODEL	SERVO TYPE	2 OUTPUT SIGNALS	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST
			B: $\pm 0.5\%$				

**V<sub>OUT</sub> ANALOG****Single Output****Redundant Output****V<sub>OUT</sub> PWM****V<sub>OUT</sub> SPI**

Notice on demand

**MECHANICAL SPECIFICATIONS**

Parameter	Standard	Special
Mounting Type	Servo mounting type or bushing mount (delivered with nut and washer)	
Housing	Anodized aluminum	
Shaft guiding	2 ball bearings for servo and sleeve bearing for bushing	
Shaft	Stainless steel Ø 3.175	Other on request
Outputs	Turrets	Other on request
Mechanical Travel	3600° and no stop	

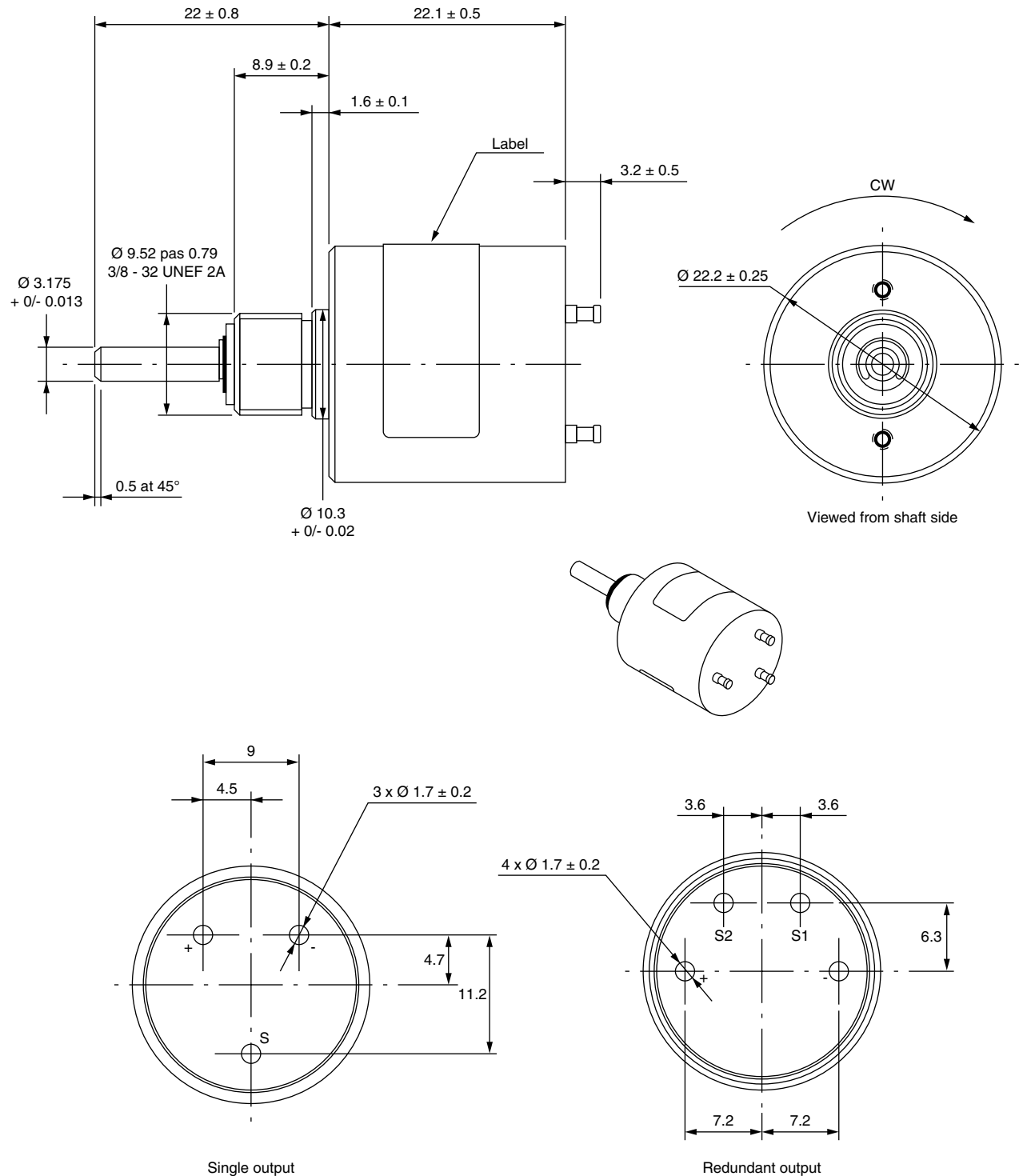
**ENVIRONMENTAL SPECIFICATIONS**

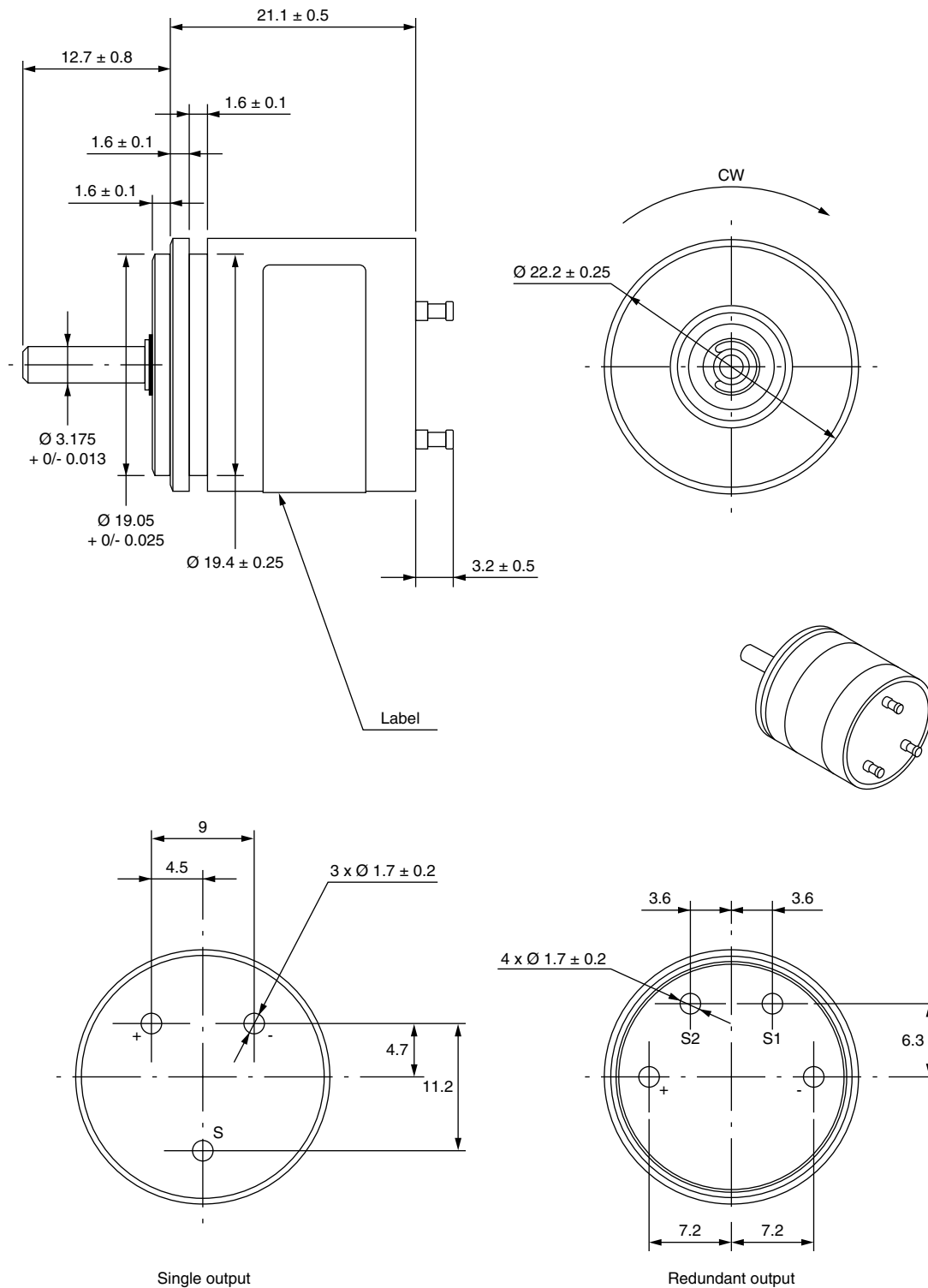
Operating Temperature Range	- 40 °C; + 85 °C
Life	> 10M of cycles for bushing > 50M of cycles for servo
Rotational Speed (Max.)	1200 rpm
Immunity to Radiated Electromagnetic Disturbances	200 V/m 150 kHz/1 GHz, IEC 62132-2 Part 2 (Level A)
Immunity to Power Frequency Magnetic Field	200 A/m 50 Hz/60 Hz, EN 61000-4-8 (Level A)
Radiated Electromagnetic Emissions	30 MHz/1 GHz < 30 dBµV/m, EN 61000-6-4 (Level A)
Electrostatic Discharges	Contact discharges: ± 4 kV Air discharges: ± 8 kV, EN 61000-4-2
Sine Vibration on 3 Axes	1.5 mm or 20 g from 10 Hz to 2000 Hz
Mechanical Shocks on 3 Axes	50 g, 11 ms, half sine

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## Vishay Spectrol

**DIMENSIONS** in millimeters



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