

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



QUICK REFERENCE DATA			
Sensor type	Multi Turn ROTATIONAL, hall effect		
Output type	Wires or rear turrets		
Market appliance	Industrial		
Dimensions	7/8" (22.2 mm)		

FEATURES



- All electrical angles available up to: 3600°
- Accurate linearity down to: ± 0.5 %

RoHS

- Very long life: 50M cycles for servo, 10M cycles com for bushing
- Non contacting technology: Hall effect; true power on sensor
- · Model dedicated to applications requiring long life
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

ELECTRICAL SPECIFICATIONS				
PARAMETER	STANDARD	SPECIAL		
Electrical angle	10 turns 3600°	Any other angle upon request		
Linearity	± 1 %	± 0.5 %		
Supply voltage	5 V _{DC} ± 10 %	Other upon request		
Supply current	< 16 mA for single	< 32 mA for redundant		
Output signal	Analog ratiometric 1 % to 99 % of V _{supply} (other on request) or PWM 1 kHz, 10 % to 90 % duty cycle or SPI binary on 5 V or binary on 3.3 V			
Over voltage protection	+ 20 V _{DC}			
Reverse voltage protection	- 10 V _{DC}			
Load resistance recommended	Min. 1 kΩ for analog output and PWM output			
Hysteresis static	10° on drive shaft			

MECHANICAL SPECIFICATIONS		
PARAMETER		
Mechanical travel	3600° 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	

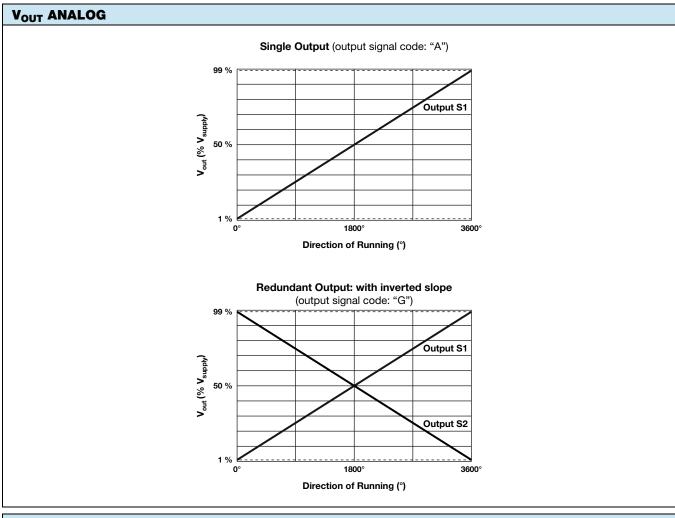
ORDE	ORDERING INFORMATION/DESCRIPTION								
34 THE	В	1	Α	Т	Α	2\$22	XXXX	BO 1	e1
MODEL	MOUNTING TYPE	NUMBER OF SIGNALS	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST	PACKAGING	LEAD FINISH
	B: Bushing S: Servo	1: Single 2: Redundant	A : ± 1 % B : ± 0.5 %	T: Turrets Z: Custom W: Wires	A: Analog CW B: Analog CCW C: PWM CW D: PWM CCW E: SPI CW (1) G: Analog inverted slope H: PWM inverted slope K: SPI inverted slope (1) Z: Other output	2: 3.175 mm 9: Special P: Plain S: Slotted Z: Other type		Box of 1 piece	
					Shaft lei	ngth from moun	ting face star	ndard: 22 mm	

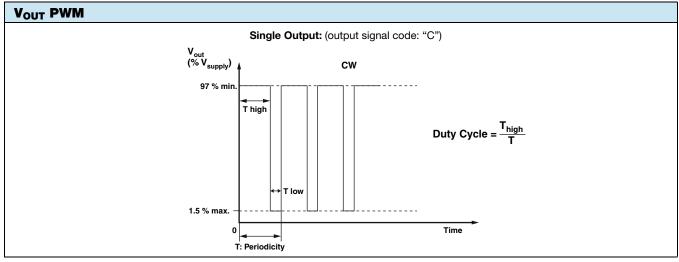
Note

(1) SPI output → output type: Wires

SAP PART	NUMBERIN	G GUIDELINE	S				
34 THE	S	2	В	Т	С	2P12	XXXX
MODEL	SERVO TYPE	2 OUTPUT SIGNALS	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST
			B: ± 0.5 %				







VOUT SPI

Notice on demand

Output signal code: "E" if CW (single or redundant identical)
Output signal code: "F" if CCW (single or redundant identical)
Output signal code: "K" if CW (if redundant but inverted slope)



Vishay Spectrol

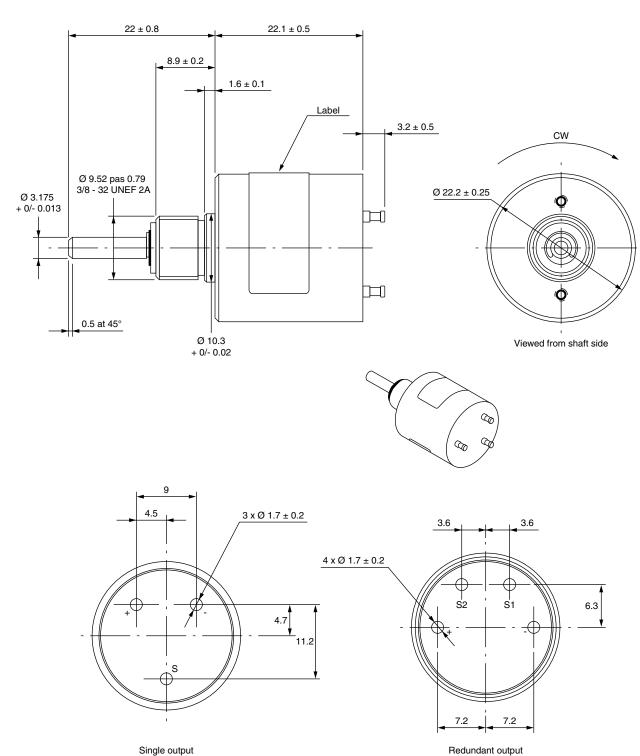
MECHANICAL SPECIFICATIONS			
PARAMETER	STANDARD SPECIAL		
Mounting type	Servo mounting type or bushing mount (delivered with nut and washer)		
Housing	Anodized aluminum		
Shaft guiding	2 ball bearings for servo and sleeve bearing for bushing		
Shaft	Stainless steel Ø 3.175	Other on request	
Outputs	Turrets	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 <i>g</i> from 10 Hz to 2000 Hz			
Mechanical shocks on 3 axes	50 g, 11 ms, half sine			



DIMENSIONS in millimeters

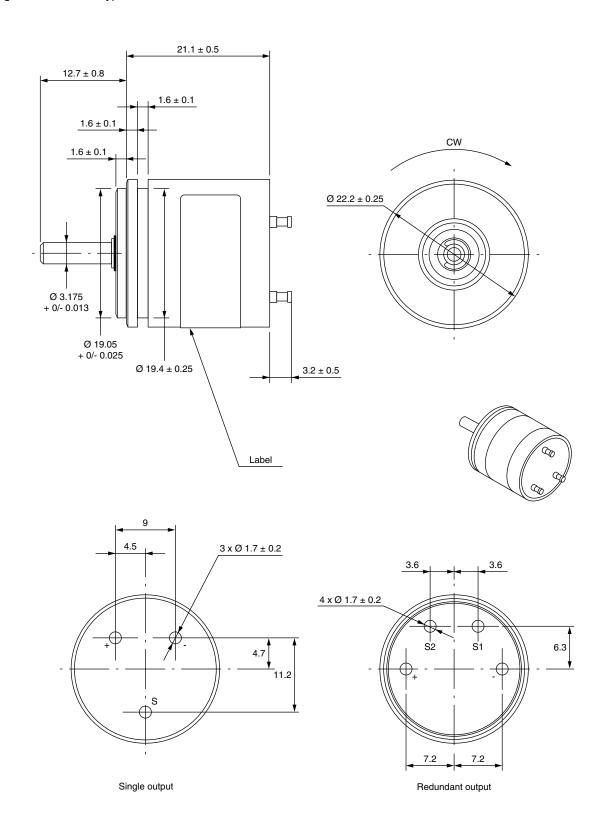
Drawing for bushing mount type: 34THEB...





DIMENSIONS in millimeters

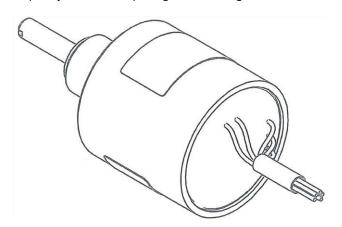
Drawing for servo mount type: 34THES...



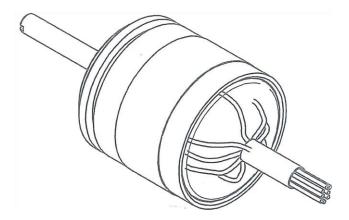


BUSHING AND SERVO TYPES

Output by wires for output signal "SPI" single and redundant



SINGLE SPI OUTPUT (servo and bushing)				
WIRE COLOR	OUTPUT			
Yellow	GND (-)			
Red	MOSI			
Green	V _{CC} (+)			
White	SS			
Blue	SCLK			



REDUNDANT SPI OUTPUT (servo and bushing)				
WIRE COLOR	OUTPUT			
Black	V-			
Red	V+			
Yellow	O/I 1			
Blue	CLK 1			
White	/SS 1			
Green	O/I 2			
Violet	CLK 2			
Grey	/SS 2			



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Revision: 02-Oct-12 Document Number: 91000

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