

## Throttle-Position, Hall-Effect Sensor, Hollow and D-Shaft Versions



### KEY BENEFITS

- Continuous, drift-free performance over the life of the device
- All electrical angles available up to 360° - no dead band
- Available in spring-loaded version
- Hollow shaft or D-shaft versions available
- Designed for use in harsh environments
- Extremely easy and fast mounting

### APPLICATIONS

- Foot-pedal position sensors
- Throttle position sensors
- Steering position sensors
- Drive-by-wire
- Lift-and-shuttle position sensors
- Tilt control and tilt-positioning feedback
- Suspension-system position sensors

### RESOURCES

- Datasheet: 981 HE - <http://www.vishay.com/doc?57103>
- For technical questions contact [sfer@vishay.com](mailto:sfer@vishay.com)



## Throttle-Position, Hall-Effect Sensor, Hollow and D-Shaft Versions



### FEATURES

- Accurate linearity down to:  $\pm 0.5\%$
- Easy mounting principle
- Non contacting technology: Hall effect
- Model dedicated to all applications in harsh environments
- Spring loaded types available



**RoHS**  
COMPLIANT

ELECTRICAL SPECIFICATIONS		
PARAMETER	STANDARD	SPECIAL
Electrical Angle	90°, 120°, 180°, 270°, 360°	Any other angle upon request
Linearity	$\pm 1\%$	$\pm 0.5\%$
Supply Voltage	5 V <sub>DC</sub> $\pm 10\%$	Other upon request
Supply Current	10 mA typical/16 mA max.	16 mA for PWM output
Output Signal	Analog ratiometric 10 % to 90 % of V <sub>supply</sub> OR PWM 1 kHz, 10 % to 90 % duty cycle	Other upon request
Over Voltage Protection		+ 20 V <sub>DC</sub>
Reverse Voltage Protection		- 10 V <sub>DC</sub>
Load Resistance Recommended	Min. 1 k $\Omega$ for analog output and PWM output	
Hysteresis Static (D-Shaft Version)	< 0.3°	

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical travel	360° continuous, stops upon request: 124° $\pm 3^\circ$
Bearing type	Sleeve bearing
Standard	IP 50; other on request
Weight	19 g $\pm 2$ g Hollow shaft model/22 g $\pm 2$ g D-Shaft model

ORDERING INFORMATION/DESCRIPTION									
981HE	0	A	1	W	A	1F16	XXXX	BO 10	e1
MODEL	FEATURES	LINEARITY	ELECTRICAL ANGLE	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST	PACKAGING	LEAD FINISH
0:	Continuous rotation	A: $\pm 1\%$	1: 90°	W: Wires	A: Analog CW	1: 6.35 mm		Box of 10 pieces	
1:	Mechanical stops	B: $\pm 0.5\%$	2: 180°	Z: Custom	B: Analog CCW	9: Special			
2:	Spring return CW		3: 270°		C: PWM CW	P: Plain			
3:	Spring return CCW		4: 360°		D: PWM CCW	F: Flatted			
			5: 120°		Z: Other output	S: Slotted			
			9: Other angles			Z: Other type			
						Shaft length from mounting face (Standard: 16 mm)			
						8H00 Hollow shaft			
						8H01 Hollow D-Shaft			

Revision 17-Dec-09

SAP PART NUMBERING GUIDELINES							
981HE	1	B	9	Z	C	8H01	XXXX
MODEL	MECHANICAL FEATURES	LINEARITY	ELECTRICAL ANGLE	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST