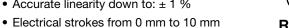


## **Linear Position Sensor in Hall Effect Technology** (0 mm to 10 mm max.)



#### **FEATURES**

• Accurate linearity down to: ± 1 %





- Long life: Greater than 10M cycles
- Non contacting technology: Hall effect
- · Model dedicated to all applications in harsh environments
- Compliant to RoHS Directive 2002/95/EC

ELECTRICAL SPECIFICATIONS	
PARAMETER	STANDARD
Electrical stroke	Up to 10 mm
Linearity	± 2 % or ± 1 %
Supply voltage	5 V <sub>DC</sub> ± 10 %
Supply current	< 16 mA typical
Output signal	Analog ratiometric 10 % to 90 % of V <sub>supply</sub> or PWM 10 % to 90 % duty cycle
Over voltage protection	+ 20 V <sub>DC</sub>
Reverse voltage protection	- 10 V <sub>DC</sub>
Load resistance recommanded	Min. 1 $k\Omega$ for analog output and PWM output
Hysteresis	Static: 0.1 % of V <sub>supply</sub> /Dynamic: 0.25 % of V <sub>supply</sub>
Resolution	12 bits

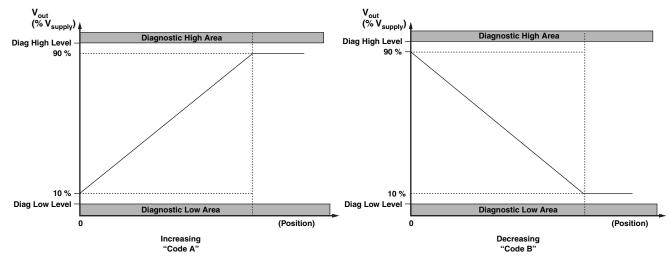
MECHANICAL SPECIFICATIONS				
PARAMETER				
Mechanical travel	12 mm max.			
Bearing type	Sleeve bearing			
Standard	For spring loaded model: IP 51/without spring: Other on request			
Weight	26 g ± 4 g			

ORDERING INFORMATION/DESCRIPTION							
20 LHE	1	Α	w	Α	1P30	xxxx	e1
MODEL	FEATURES	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST	LEAD FINISH
	1: Spring return 2: Without spring	<b>X</b> : ± 2 % <b>A</b> : ± 1 %	<b>W</b> : Wires <b>Z</b> : Custom	A: Analog increasing B: Analog decreasing C: PWM increasing D: PWM decreasing	1: 3.175 mm 9: Special P: Plain T: Threaded M3 x 6 Z: Other type		

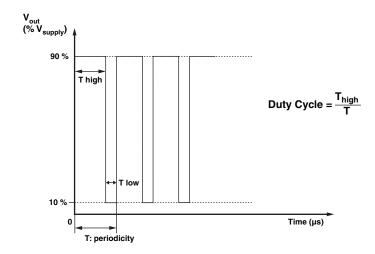
SAP PART NUMBERING GUIDELINES						
20 LHE	2	X	Z	С	1T35	xxxx
MODEL	FEATURES	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST
	Without spring return system	± 2 %	"Custom"	PWM increasing		



### **V<sub>OUT</sub> ANALOG**



#### **VOUT PWM**

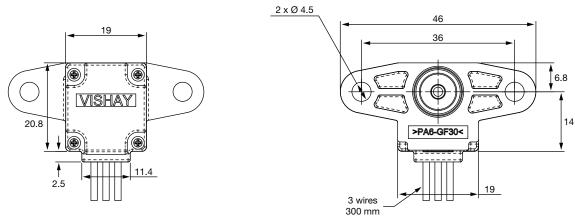


ENVIRONMENTAL SPECIFICATIONS			
Vibrations	20 g from 10 Hz to 2000 Hz		
Shocks	3 shocks/axis; 50 g half a sine 11 ms		
Operating temperature range	- 40 °C; + 85 °C		
Life	> 10M of cycles		
Speed (max.)	60 mm/s		
Immunity to radiated electromagnetic disturbances	200 V/m 150 kHz/1 GHz IEC 62132-2 part 2 (level A)		
Immunity to power frequency magnetic field	200 A/m 50 Hz/60 Hz EN 61000-4-8		
Radiated electromagnetic emissions	30 MHz/1 GHz < 30 dBμV/m EN 61000-6-4		
Electrostatic discharges	Contact discharges: ± 4 kV Air discharges: ± 8 kV EN 61000-4-2		
Immunity to radiated RF field	10 V/m 80 MHz to 1 GHz EN6100-4-3		

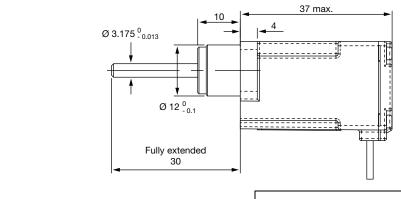
# Vishay Sfernice

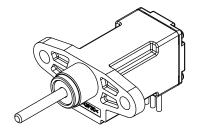
ENVIRONMENTAL SPECIFICATIONS		
Materials		
Housing	Thermoplastic housing	
Mounting type	Flange with 2 holes Ø 4.5 mm	
Shaft	Ø 3.175 mm (stainless steel)	
Output	3 lead wires (AWG 20) Length: 300 mm	
Centering diameter	Ø 12 mm	
Spring force	From 1.5 N to 7 N along stroke (typical)	

#### **DIMENSIONS** in millimeters



Tol. gen.: ± 0.5 mm





Wire	
YELLOW	GND (-)
RED	SIGNAL
GREEN	V <sub>cc</sub> (+)





Vishay

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