

直线位移传感器，霍尔效应原理 Linear Position Sensor in Hall Effect Technology (0 mm to 10 mm max.)



特性 FEATURES

- 线性精度：可达到 $\pm 1\%$
- 测量电气行程：0 mm ~ 10 mm
- 长使用寿命：通常大于1千万次往复周期
- 非接触式：霍尔感应原理 Hall effect
- 可以适合应用于恶劣肮脏的工况环境
- 材料分类和认证：认证规格和体系，产品标签说明。详见 www.vishay.com/doc?99912



QUICK REFERENCE DATA

传感器类型	直线位移, 霍尔效应原理 hall effect
信号输出	导线 Wires
应用市场	工业级 Industrial
尺寸	46 mm x 20.8 mm x 37 mm

电气参数 ELECTRICAL SPECIFICATIONS

PARAMETER	STANDARD
测量电气行程 Electrical stroke	0mm ~ 10 mm
线性精度 Linearity	$\pm 2\%$ 或 $\pm 1\%$
供电电压 Supply voltage	$5 V_{DC} \pm 10\%$
供电电流 Supply current	$< 16\text{ mA}$ 通常 typical
输出信号 Output signal	模拟信号比率 10 % ~ 90 % 供电电压 V_{supply} 或 PWM 10 % ~ 90 % 占空比 duty cycle
过载保护正电压 Over voltage protection	$+20 V_{DC}$
过载保护负电压 Reverse voltage protection	$-10 V_{DC}$
推荐负载电阻 Load resistance recommended	最小 1 k Ω 对于模拟信号(analog) 和 脉宽调制(PWM) 输出
磁滞 Hysteresis	静态 Static: 0.1 % 的 V_{supply} / 动态 Dynamic: 0.25 % 的 V_{supply}
分辨率 Resolution	12 bits 12位

机械参数 MECHANICAL SPECIFICATIONS

PARAMETER	
机械行程 Mechanical travel	12 mm max.
移动杆轴承类型 Bearing type	轴套轴承 Sleeve bearing
防护等级 Standard	弹簧自复位型: IP 51 / 非弹簧自复位型: 可以根据需要定制 Other on request
重量 Weight	26 g \pm 4 g

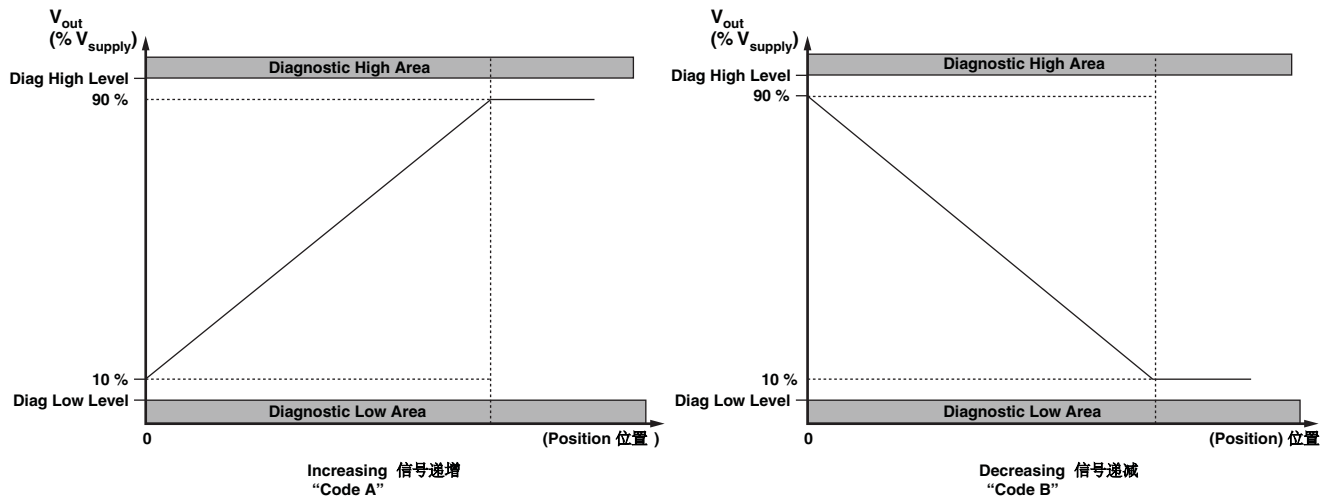
订购型号说明 ORDERING INFORMATION/DESCRIPTION

20 LHE	1	A	W	A	1P30	xxxx	e1
MODEL	FEATURES 特性	LINEARITY 线性精度	信号连接	OUTPUT SIGNAL 输出信号	SHAFT TYPE 移动杆类型	SPECIAL REQUEST 定制要求代码	LEAD FINISH
	1: Spring return 弹簧自复位	X: $\pm 2\%$	W: Wires 导线	A: 模拟增量 increasing	1: 3.175 mm		
	2: Without spring 非弹簧自复位	A: $\pm 1\%$	Z: Custom 定制	B: 模拟递减 decreasing	9: 特殊的 Special		
				C: PWM 增量 increasing	P: 平 Plain		
				D: PWM 递减 decreasing	T: 螺纹(Threaded) M3 x 6		
					Z: Other type		
Shaft length from mounting face 30 mm when full extended							

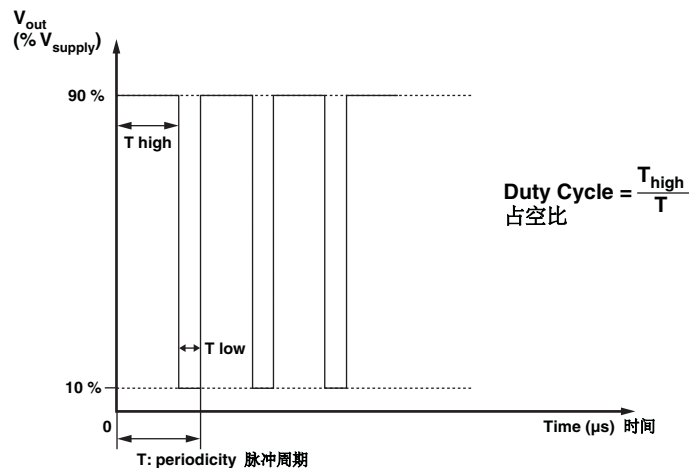
SAP 订购型号说明 SAP PART NUMBERING GUIDELINES

20 LHE	2	X	Z	C	1T35	xxxx
MODEL	FEATURES	LINEARITY	OUTPUT TYPE	OUTPUT SIGNAL	SHAFT TYPE	SPECIAL REQUEST
	Without spring return system	$\pm 2\%$	"Custom"	PWM increasing		

输出电压 V_{OUT} ANALOG



输出脉冲宽度调制 V_{OUT} PWM



环境参数 ENVIRONMENTAL SPECIFICATIONS

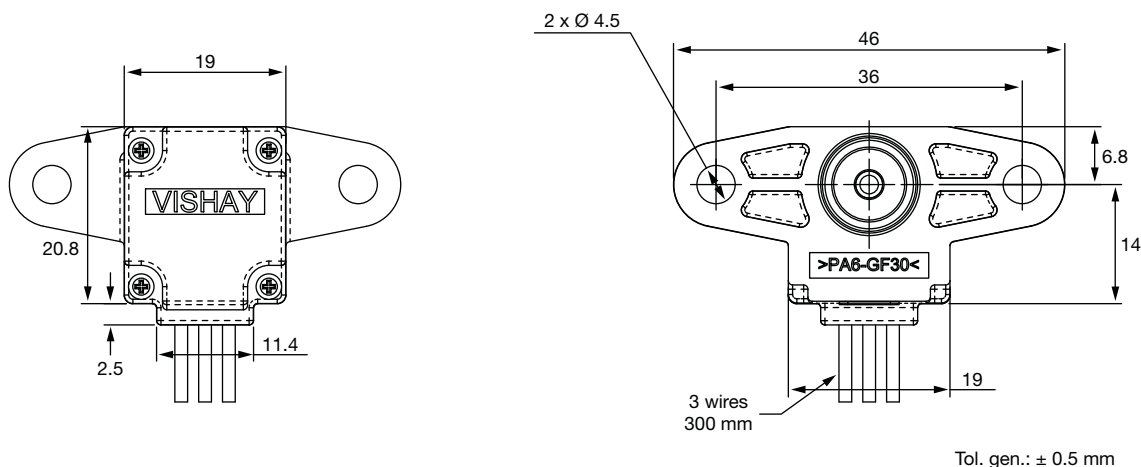
振动 Vibrations	20 g 10 Hz ~ 2000 Hz
冲击震动 Shocks	3 shocks/axis; 50 g half a sine 11 ms
工作温度 Operating temperature range	-40 °C; +85 °C
使用寿命 Life	> 10M of cycles 1千万次往复周期
移动速度 Speed (max.)	60 mm/s
抗电磁场辐射干扰 Immunity to radiated electromagnetic disturbances	200 V/m 150 kHz/1 GHz IEC 62132-2 part 2 (level A)
抗工频磁场干扰 Immunity to power frequency magnetic field	200 A/m 50 Hz/60 Hz EN 61000-4-8
电磁辐射 Radiated electromagnetic emissions	30 MHz/1 GHz < 30 dB μ V/m EN 61000-6-4
静电放电 Electrostatic discharges	Contact discharges: \pm 4 kV Air discharges: \pm 8 kV EN 61000-4-2
射频辐射场抗扰度 Immunity to radiated RF field	10 V/m 80 MHz to 1 GHz EN6100-4-3

环境参数 ENVIRONMENTAL SPECIFICATIONS	
Materials	
外部材质 Housing	热塑性塑料 Thermoplastic housing
安装方式 Mounting type	双耳环孔调节安装 Flange with 2 holes Ø 4.5 mm
移动杆 Shaft	Ø 3.175 mm (不锈钢 stainless steel)
信号输出 Output	3根AWG20线号引出, 长300mm 3 lead wires (AWG 20) Length: 300 mm
安装开孔 Centering diameter	Ø 12 mm
弹簧自复位力 Spring force	1.5 N ~ 7 N 牛顿 模拟信号测量行程 along stroke (typical)

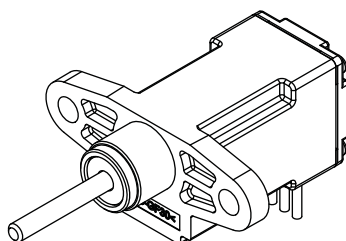
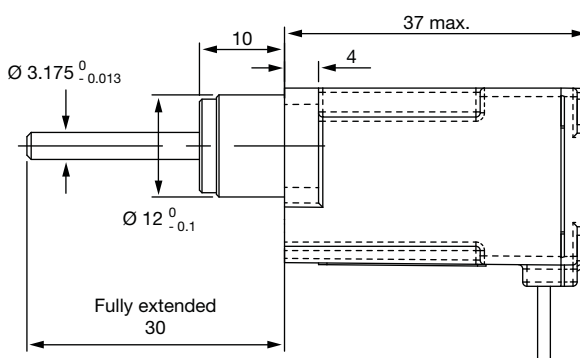
Note

- Nothing stated herein shall be construed as a guarantee of quality or durability. 本文所述内容不得解释为质量或耐久性的保证。

尺寸 公制 mm DIMENSIONS in millimeters



Tol. gen.: ± 0.5 mm



Wire	
YELLOW 黄	GND (-) 接地
RED 红	SIGNAL 信号
GREEN 绿	V _{cc} (+) 电源正



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