

精密直线位移传感器，导电塑料，可变电阻器 Precision Linear Transducers, Conductive Plastic



139L系列，坚固高可靠的工业级直线位移传感器。电刷滑动块自带万向球形连接轴与机械运动连结，钢皮起到防护灰尘的作用，适合较小空间，长测量行程的应用。

特性 FEATURES

- 测量范围: 25 mm to 3000 mm
- 高线性精度: $\pm 1\% \sim \pm 0.025\%$
- 优良的重复精度
- 理论上无限分辨率
- 安装方便
- 允许少许安装误差
- 节省安装和测量长度所需的空间距离 Reduced bulk
- 材料分类认证 (compliance): 认证规格定义和产品标签说明, 请参见 www.vishay.com/doc?99912



RoHS
COMPLIANT

QUICK REFERENCE DATA

传感器类型	直线位移 LINEAR, 导电塑料
信号输出	电器插头 DIN 43650
应用市场	工业自动化
尺寸 (公制)	L x 36 mm x 61 mm (长度 L = TET + 169 mm 最大)

电气参数 ELECTRICAL SPECIFICATIONS

测量电气行程范围 (TET) = E	25 mm ~ 3000 mm, 每 25 mm 递增
独立线性精度 (在 TET 范围内) 可根据客户需求定制 On request	$\leq \pm 1\%; \leq \pm 0.1\%$ $\leq \pm 0.05\%$ 对于 $E \geq 100\text{ mm}$ $\leq \pm 0.025\%$ 对于 $E \geq 200\text{ mm}$
实际电气行程 (AET)	AET = E + 1.5 mm 最小.
电阻阻值 Ohmic value (R_T)	400 $\Omega/\text{cm} \sim 2\text{ k}\Omega/\text{cm}$
电阻值误差 (在 20 °C 环境)	$\pm 20\%$
重复精度 Repeatability	$\leq 0.01\%$
最大额定功率 (W: 瓦特)	0.05 W/cm at 70 °C, 0 W at 125 °C
电刷电流 Wiper current	推荐: $\mu\text{A} - 1\text{ mA}$ 最大 (连续)
负载电阻 Load resistance	最小 Minimum $10^3 \times R_T$
绝缘电阻 Insulation resistance	$\geq 1000\text{ M}\Omega, 500\text{ V}_{\text{DC}}$
介电强度 Dielectric strength	$\geq 1000\text{ V}_{\text{RMS}}, 50\text{ Hz}$

机械参数 MECHANICAL SPECIFICATIONS

机械行程 Mechanical travel (MT)	参见尺寸表 1 (See dimensions table 1)
外壳材料 Housing	氧化铝 Anodized aluminum
移动力 Operating force	通常 2.5 牛顿力, 2.5 N typical
Coupling	Self alignment
信号输出连接 Termination	液压类型电气插头 (Hydraulic type connector) 符合标准: DIN 43650
接触电刷 Wiper	精密金属 多触点电刷 Precious metal multifinger
防护等级 Sealed to	IP53
安装固定脚 Mounting	可移动的铝合金安装夹 Movable brackets

PERFORMANCE

使用寿命 Operating life	4 千万次 往复周期 (通常 typical) / 使用条件: $1\text{ Hz}/T^\circ = 20^\circ\text{C} \pm 5^\circ\text{C}/80\% \text{ TET}$
温度范围 Temperature range	$-55^\circ\text{C} \sim +125^\circ\text{C}$
三维正弦振动 Sine vibration on 3 axes	1.5 mm 峰值~峰值 (peak to peak) 或 15 g - 10 Hz - 2000 Hz
三维机械震动 shocks on 3 axes	50 g - 11 ms - half sine 半正弦
最大移动速度 Speed (max.)	8 m/s 对于 $f < 2\text{ Hz}$; 3 m/s 对于 $f < 5\text{ Hz}$ f: 频率

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, 误差: ± 1 mm) **DIMENSIONS** in millimeters, general tolerance ± 1 mm

STANDARD MODEL 标准型号

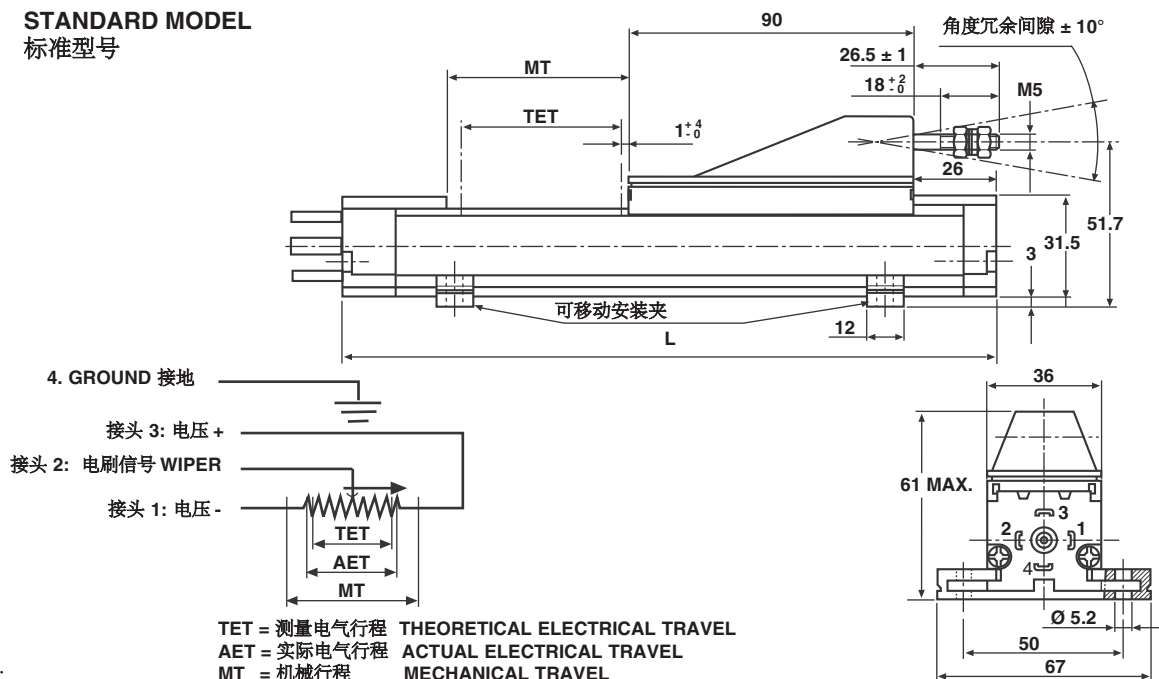


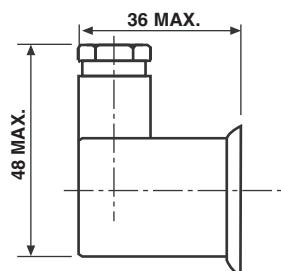
表 1:

LENGTH 测量行程 (TET)	AET	MT	L
L1 to L20 (25mm~500mm)	TET + 1.5 min.	TET + 7 min.	TET + 158 max.
L21 to L40 (525mm~1000mm)	TET + 1.5 min.	TET + 11 min.	TET + 163 max.
L41 to L120 (1025mm~3000mm)	TET + 1.5 min.	TET + 15 min.	TET + 169 max.

电气插头 ELECTRICAL CONNECTIONS

FEMALE CONNECTOR 电气插头

Vishay's Reference: 3248610
Vishay 订货参考号: 3248610



订购型号说明 ORDERING INFORMATION/DESCRIPTION

REC	139	L	43	D	103	W...	e3
系列	MODEL	电阻轨迹数	测量电气行程 TET	线性精度 LINEARITY	电阻值 OHMIC VALUE	MODIFICATIONS 型号后缀代码	LEAD FINISH
		L = 1	25 mm 倍数 如: 43 x 25= 1075mm	A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$ F: $\pm 0.025\%$	前两位有效数, 第三位是添加"0"的个数。比如: 103=10000 Ω	特别特性代码 code number Special feature	Pure tin

SAP订购型号 (系列不同, 其他同上) SAP PART NUMBERING GUIDELINES

RE	139 L	43	D	103	W....
系列	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES



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