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

The 110 L is a compact, robust, easily mounted precision industrial motion transducer.
110L系列，坚固精巧，容易安装，精密工业级位移传感器

特性 FEATURES

- 测量范围： 可达到 450 mm
- 高线性精度： ± 1 % ~ ± 0.05 %
- 理论上无限分辨率
- 容易安装 Easy mounting
- 材料分类认证： 认证规格和体系定义(definitions of compliance)和产品标签说明 www.vishay.com/doc?99912

RoHS COMPLIANT

QUICK REFERENCE DATA	
传感器类型	直线位移 导电塑料技术
信号输出	航空电气插头 723系列
应用市场	工业自动化 Industrial
尺寸 （公制 mm）	L x 18 mm x 41 mm (长度 L = TET + 47 mm)

电气参数 ELECTRICAL SPECIFICATIONS	
测量电气行程 (TET) = E	25 mm ~ 450 mm，每 25 mm 递增
独立线性精度 (在 TET范围内) 可客户需求定制 on request	≤ ± 1 % ≤ ± 0.1 % ≤ ± 0.05 % 对于 E ≥ 100 mm
实际测量行程 (AET)	见电气连接表 1 See electrical connections table 1
重复精度 Repeatability	≤ 0.01 %
电阻阻值 Ohmic values (R_T)	400 Ω/cm ~ 2 kΩ/cm
电阻值误差 (在 20 °C 环境)	± 20 %
最大额定功率 （W : 瓦）	0.05 W/cm at 70 °C, 0 W at 125 °C
电刷电流 Wiper current	推荐: µA - 1 mA 最大. (连续 continuous)
负载电阻 Load resistance	Minimum 最小 10^3 x R_T
绝缘电阻 Insulation resistance	≥ 1000 MΩ, 500 V_{DC}
介质强度 Dielectric strength	≥ 750 V_{RMS}, 50 Hz

机械参数 MECHANICAL SPECIFICATIONS	
机械行程 Mechanical travel	TET + 6 mm 最小
外壳材料 Housing	氧化铝 Anodized aluminum
移动力 Operating force	通常 5 牛顿力， 5 N typical
移动拉杆 Shaft (360°自由旋转)	不锈钢 Stainless steel
信号输出连接 Termination 根据需要 on request	航空4芯电气插头 系列723 (Connector: 723 series) 线缆引出 by cable
接触电刷 Wiper	精密金属多触点电刷 Precious metal multifinger
安装固定夹 Mounting	可移动的铝合金安装夹 Movable brackets

环境参数 PERFORMANCE	
使用寿命 Operating life	4 千万次往复周期 （通常 typical） / 在 1 Hz/T° = 20 °C ± 5 °C/80 % TET
温度范围 Temperature range	-55 °C ~ +125 °C
三维机械震动 （Mechanical shocks）	50 *g* - 11 ms - half sine 半正弦
三维正弦振动 （Sine vibration）	1.5 mm 峰值 ~ 峰值 或 15 *g* - 10 Hz - 2000 Hz
最大移动速度 Speed (max.)	8 m/s 对于 f < 2 Hz; 3 m/s 对于 f < 5 Hz f: 频率

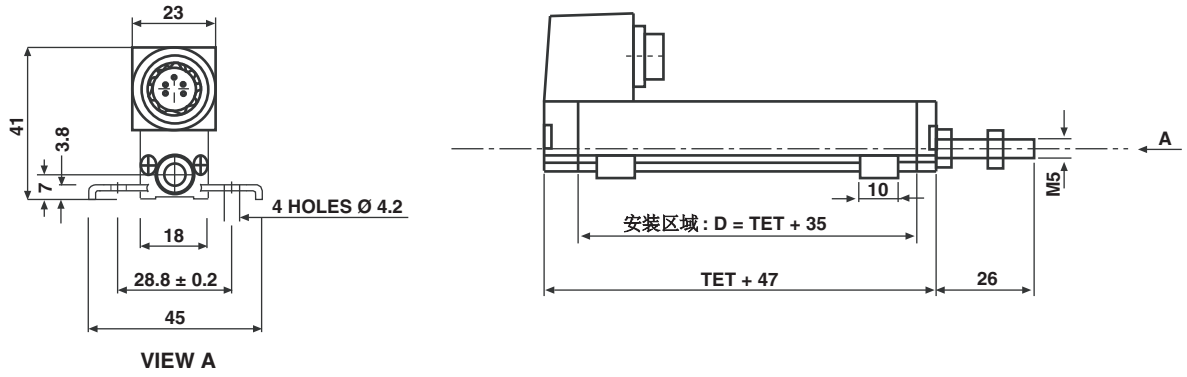
Note

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

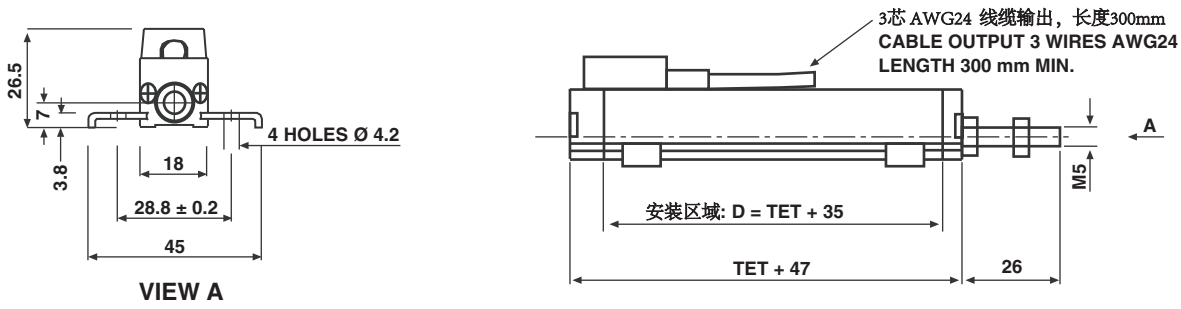
上海丰林科技有限公司 www.fltech.com.cn Tel：+86 21 51920513 E-mail: sales@fltech.com.cn
本文档参数更改，恕不另行通知。关于本文档所描述产品的特定免责声明(SPECIFIC DISCLAIMERS) 阐述详见 www.vishay.com/doc?91000

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

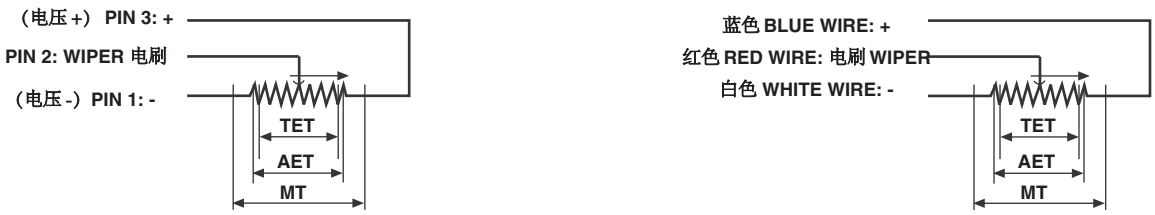
STANDARD MODEL 标准型号



线缆输出后缀代码: W04029



电气连接 **ELECTRICAL CONNECTIONS**



TET = 测量行程 THEORETICAL ELECTRICAL TRAVEL
AET = 实际行程 Actual ELECTRICAL TRAVEL
MT = 机械行程 MECHANICAL TRAVEL

表 1 （**TABLE 1**）

THEORETICAL ELECTRICAL TRAVEL TET （测量电气行程）	ACTUAL ELECTRICAL TRAVEL AET （实际电气行程）	TOLERANCE 误差
25 mm ~ 275 mm	TET + 1 mm	± 0.5 mm
300 mm ~ 450 mm	TET + 1 mm	± 0.8 mm

For technical questions, contact技术问题和商务咨询: sales@fltech.com.cn

本文档参数更改，恕不另行通知。关于本文档所描述产品的特定免责声明(SPECIFIC DISCLAIMERS) 阐述详见 www.vishay.com/doc?91000

选项 **OPTION:** 弹簧自复位 **SPRING LOADED SHAFT** 尺寸(公制 mm, 通常误差 ± 1 mm)

110L WITH SPRING LOADED SHAFT 弹簧自复位，航空插头 后缀代码 : W04030

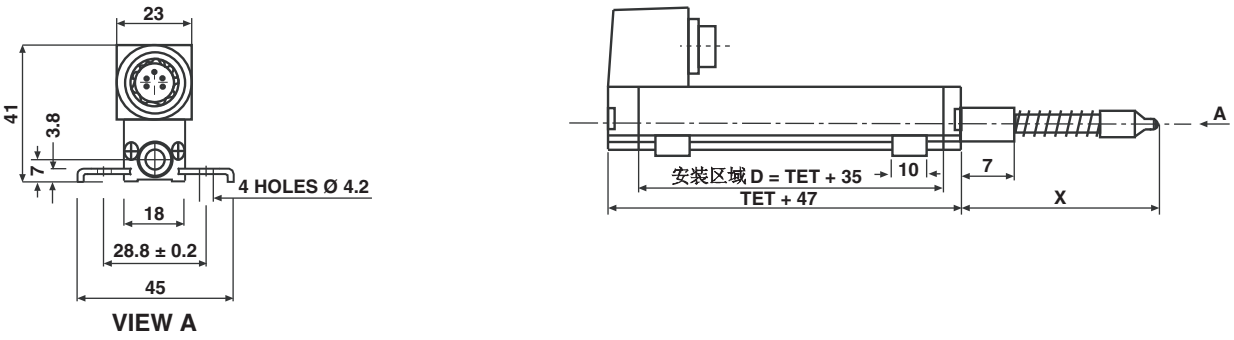
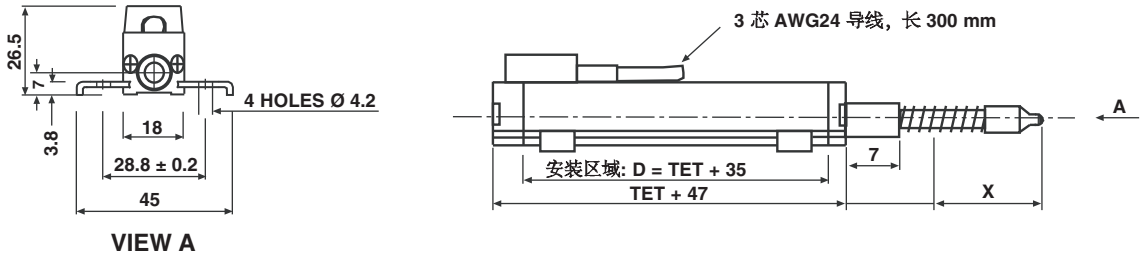


表2 （**TABLE 2**）

MODEL	X
110 L1	75
110 L2	112
110 L3	150
110 L4	188

110L WITH CABLE OUTPUT AND SPRING LOADED SHAFT 弹簧自复位，导线缆输出 后缀代码 : W04031

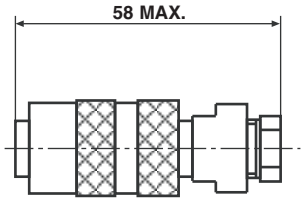


For technical questions, contact 技术问题和商务咨询: salest@fltech.com.cn

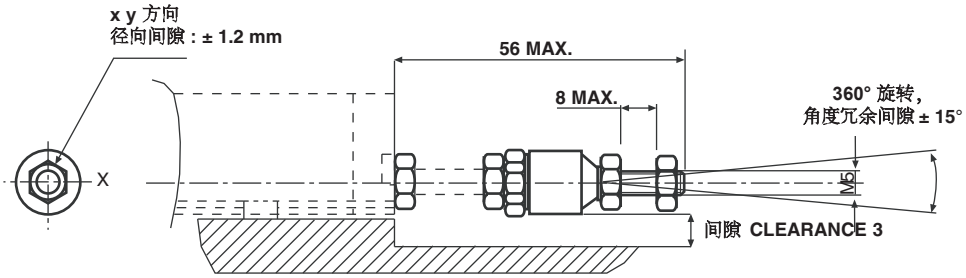
本文档参数更改，恕不另行通知。关于本文档所描述产品的特定免责声明(SPECIFIC DISCLAIMERS) 阐述参见 www.vishay.com/doc?91000

附件 尺寸（公制 误差:± 1 mm） **ACCESSORIES ON REQUEST** general tolerance ± 1 mm

1) 航空插头 FEMALE CONNECTOR
Vishay 订货参考号: 328870



2) SPECIAL BALL JOINT 球形万向节
Vishay 订货参考号: 323654



订购型号说明 **ORDERING INFORMATION/DESCRIPTION**

REC	**110**	**L**	**3**	**D**	**103**	**W...**	**e.**
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	型号后缀代码	LEAD FINISH
		L = 1	25 mm 倍数 如：3 x 25=75mm	A: ± 1 % D: ± 0.1 % E: ± 0.05 %	前二位有效数，第三位是添加"0"的个数。 比如：103=10 000 Ω	特别特性代码 Special feature code number	

SAP 订货型号 （系列不同，其他同上）**SAP PART NUMBERING GUIDELINES**

RE	**110 L**	**3**	**D**	**103**	**W...**
系列	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES

上海丰林科技有限公司 电话：+86 21 62474478 技术问题或商务咨询: sales@fltech.com.cn
本文档参数更改，恕不另行通知。关于本文档所描述产品的特定免责声明(SPECIFIC DISCLAIMERS) 阐述详见 www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

© 2019 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED