

Precision Linear Transducers, Conductive Plastic, up to 450 mm



The 110 L is a compact, robust, easily mounted precision industrial motion transducer.

FEATURES

- Large measurement range
- High accuracy $\pm 1\%$ down to $\pm 0.05\%$
- Essentially infinite resolution
- Easy mounting
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

QUICK REFERENCE DATA

Sensor type	LINEAR, conductive plastic
Output type	Connector
Market appliance	Industrial
Dimensions	L x 18 mm x 41 mm (with L = TET + 47 mm)

ELECTRICAL SPECIFICATIONS

Theoretical electrical travel (TET) = E	25 mm to 450 mm in increments of 25 mm
Independent linearity (over TET) on request	$\leq \pm 1\% \leq \pm 0.1\%$ $\leq \pm 0.05\%$ for $E \geq 100$ mm
Actual electrical travel (AET)	See electrical connections table 1
Repeatability	$\leq 0.01\%$
Ohmic values (R_T)	From $400 \Omega/\text{cm}$ to $2 \text{ k}\Omega/\text{cm}$
Resistance tolerance at 20°C	$\pm 20\%$
Maximum power rating	0.05 W/cm at 70°C , 0 W at 125°C
Wiper current	Recommended: a few μA - 1 mA max. (continuous)
Load resistance	Minimum $10^3 \times R_T$
Insulation resistance	$\geq 1000 \text{ M}\Omega$, $500 \text{ V}_{\text{DC}}$
Dielectric strength	$\geq 750 \text{ V}_{\text{RMS}}$, 50 Hz

MECHANICAL SPECIFICATIONS

Mechanical travel	TET + 6 mm min.
Housing	Anodized aluminum
Operating force	5 N typical
Shaft (free rotation)	Stainless steel
Termination on request	Connector: 723 series by cable
Wiper	Precious metal multifinger
Mounting	Movable brackets

PERFORMANCE

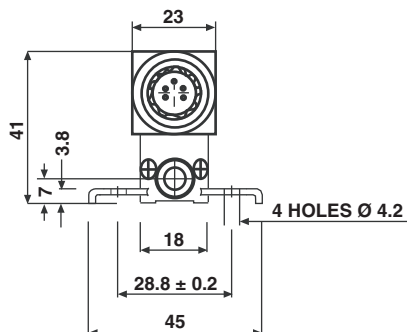
Operating life	40 million cycles typical/ $1 \text{ Hz}/T^\circ = 20^\circ\text{C} \pm 5^\circ\text{C}/80\% \text{ TET}$
Temperature range	-55°C to $+125^\circ\text{C}$
Mechanical shocks on 3 axes	50 g - 11 ms - half sine
Sine vibration on 3 axes	1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz
Speed (max.)	8 m/s for $f < 2 \text{ Hz}$; 3 m/s for $f < 5 \text{ Hz}$

Note

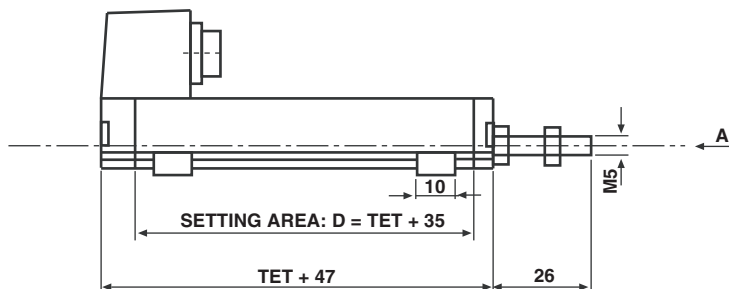
- Nothing stated herein shall be construed as a guarantee of quality or durability.

DIMENSIONS in millimeters, general tolerance ± 1 mm

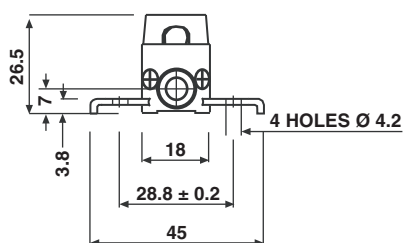
STANDARD MODEL



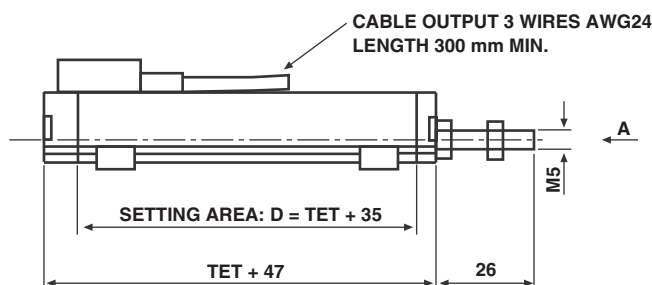
VIEW A



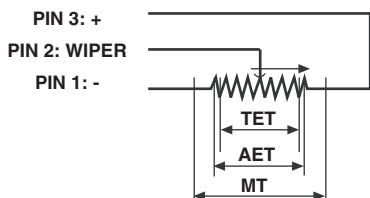
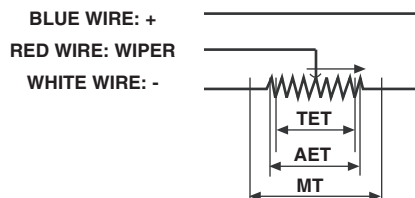
WITH CABLE OUTPUT: W04029



VIEW A



ELECTRICAL CONNECTIONS



TET = THEORETICAL ELECTRICAL TRAVEL
AET = Actual ELECTRICAL TRAVEL
MT = MECHANICAL TRAVEL

TABLE 1

THEORETICAL ELECTRICAL TRAVEL TET	ACTUAL ELECTRICAL TRAVEL AET	TOLERANCE
From 25 mm to 275 mm	TET + 1 mm	± 0.5 mm
From 300 mm to 450 mm	TET + 1 mm	± 0.8 mm



OPTION: SPRING LOADED SHAFT DIMENSIONS in millimeters, general tolerance ± 1 mm

110L WITH SPRING LOADED SHAFT: W04030

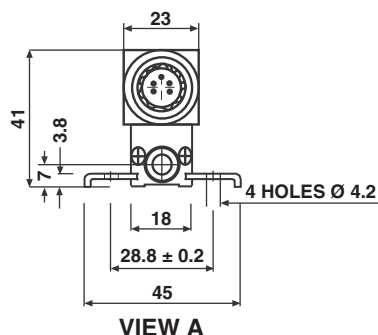
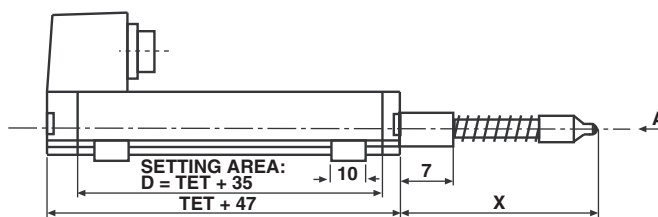
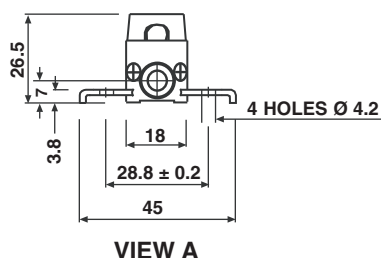
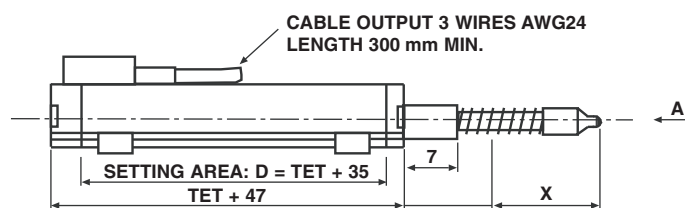


TABLE 2

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

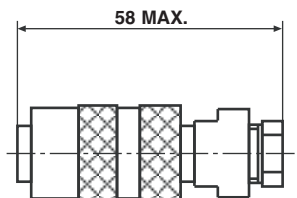
110L WITH CABLE OUTPUT AND SPRING LOADED SHAFT: W04031



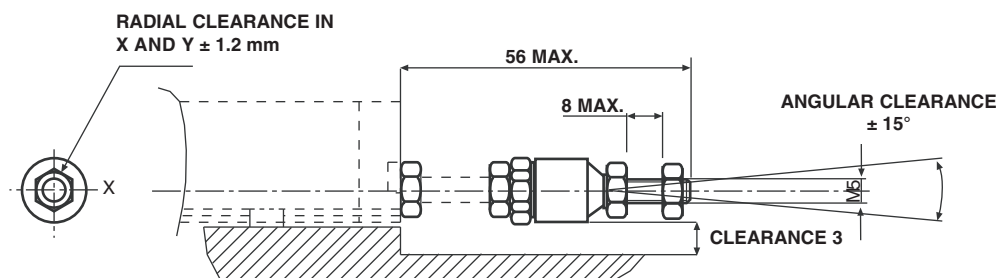
ACCESSORIES ON REQUEST DIMENSIONS in millimeters, general tolerance ± 1 mm

1) FEMALE CONNECTOR

Vishay's Reference: 328870


2) SPECIAL BALL JOINT

Vishay's reference: 323654


ORDERING INFORMATION/DESCRIPTION

REC	110	L	3	D	103	W...	e.
SERIES	MODEL	NUMBER OF TRACKS	THEORETICAL ELECTRICAL TRAVEL	LINEARITY	OHMIC VALUE	MODIFICATIONS	LEAD FINISH
		L = 1 track	Times 25 mm	A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$	First 2 digits are significant numbers 3 rd digit indicates number of zeros	Special feature code number	

SAP PART NUMBERING GUIDELINES

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



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