

Precision Linear Transducers, Conductive Plastic, Up to 150 mm



The 38 L is a very compact model especially designed for precise measurement of short travels.

FEATURES

- Measurement range 12.5 mm to 150 mm
- High accuracy $\pm 1\%$ down to $\pm 0.1\%$
- Long life
- Essentially infinite resolution
- Very small dimension: external diameter = 9.52 mm
- 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	Wires
Market appliance	Professional
Dimensions	9.52 mm dia.

ELECTRICAL SPECIFICATIONS

Theoretical electrical travel (TET)	From 12.5 mm to 150 mm see Table 1
Actual electrical travel (AET)	$AET = TET + 1\text{ mm}$
Independent linearity (over TET)	$\leq \pm 1\%$ - $\leq \pm 0.5\%$ $\leq \pm 0.25\%$ for $E \geq 25\text{ mm}$ $\leq \pm 0.1\%$ for $E \geq 50\text{ mm}$
Repeatability	$\leq 0.01\%$
Ohmic values (R_T)	From $400\ \Omega/\text{cm}$ to $4\ \text{k}\Omega/\text{cm}$
Resistance tolerance at $20\ ^\circ\text{C}$	$\pm 20\%$
Maximum power rating	0.05 W/cm at $70\ ^\circ\text{C}$, 0 W at $125\ ^\circ\text{C}$
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	$\geq 500\ \text{V}_{\text{RMS}}$, 50 Hz

MECHANICAL SPECIFICATIONS

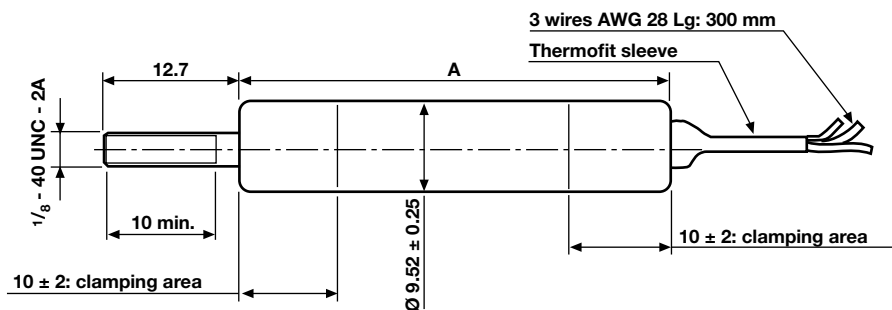
Mechanical travel (MT)	$MT = TET + 3\text{ mm} \pm 1\text{ mm}$
Housing	Anodized aluminum
Operating force	0.35 N typical
Termination	3 wires PTFE AWG 26 length: 300 mm
Wiper	Precious metal multifinger

PERFORMANCE

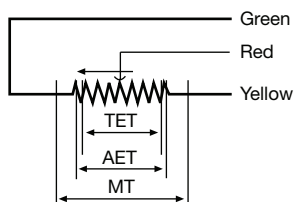
Operating life	25 million cycles typical/ $1\text{ Hz}/T^\circ = 20\ ^\circ\text{C} \pm 5\ ^\circ\text{C}/80\% \text{ TET}$
Temperature range	$-55\ ^\circ\text{C}$ to $+125\ ^\circ\text{C}$
Sine vibration on 3 axes	1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz
Mechanical shocks on 3 axes	50 g - 11 ms - half sine

Note

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

DIMENSIONS in millimeters, general tolerance ± 1 mm

TABLE 1

SIZE	TET	MT	A
38 L0.5	12.5	15.5	43.5
38 L01	25	28	56
38 L02	50	53	81
38 L03	75	78	106
38 L04	100	103	131
38 L05	125	128	156
38 L06	150	153	181

ELECTRICAL CONNECTIONS


TET = theoretical electrical travel
AET = actual electrical travel
MT = mechanical travel

ORDERING INFORMATION / DESCRIPTION

REC	38	L	0.5	C	102	W...	e1
SERIES	MODEL	NUMBER OF TRACKS	ELECTRICAL TRAVEL	LINEARITY	OHMIC VALUE	MODIFICATIONS	LEAD FINISH
		L = 1 track	0.5 = 12.5 mm 1 = 25 mm 2 = 50 mm 3 = 75 mm 4 = 100 mm 5 = 125 mm 6 = 150 mm	A: ± 1 % B: ± 0.5 % C: ± 0.25 % D: ± 0.1 %	First 2 digits are significant numbers 3 rd digit indicates number of zeros	Special feature code number	Sn Ag Cu

SAP PART NUMBERING GUIDELINES

RE	38 L	0.5	C	102	W....
SERIES	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES



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