

Precision Linear Transducers, Conductive Plastic, up to 1000 mm


RoHS
COMPLIANT

FEATURES

- Measurement range 25 mm to 1000 mm
- High accuracy $\pm 1\%$ down to $\pm 0.025\%$
- Excellent repeatability
- Essentially infinite resolution
- Non sensitive to temperature variations
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

DESIGN SUPPORT TOOLS
[click logo to get started](#)
3D
Models
Available

The 115 L is a simply mounted, robust, high precision industrial linear motion transducer.

QUICK REFERENCE DATA

Sensor type	LINEAR, conductive plastic
Output type	Connector
Market appliance	Industrial
Dimensions	L x 31.7 mm x 34.8 mm (with L = TET + 75 mm)

ELECTRICAL SPECIFICATIONS

Theoretical electrical travel (TET) = E	From 25 mm to 1000 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 $\leq \pm 0.025\%$ for $E \geq 200$ mm
Actual electrical travel (AET)	AET = TET + 1.5 mm min.
Ohmic values (R_T)	400 Ω /cm to 2 k Ω /cm
Resistance tolerance at 20 °C	$\pm 20\%$
Repeatability	$\leq \pm 0.01\%$
Maximum power rating	0.05 W/cm at 70 °C, 0 W at 125 °C
Wiper current	Recommended: a few μ A - 1 mA max. (continuous)
Load resistance	minimum $10^3 \times R_T$
Insulation resistance	≥ 1000 M Ω , 500 V _{DC}
Dielectric strength	≥ 1000 V _{RMS} , 50 Hz
Protection resistor	Integrated inside the transducer to protect against errors when setting up (short circuit)

MECHANICAL SPECIFICATIONS

Mechanical travel	E + 8 \pm 2 mm
Housing	Anodized aluminum
Operating force	7.5 N typical
Shaft (free rotation)	Stainless steel
Termination	Hydraulic type connector DIN 43650
Wiper	Precious metal multifinger
Mounting	Movable brackets

PERFORMANCE

Operating life	40 million cycles typical / 1 Hz / T° = 20 °C \pm 5 °C / 80 % TET
Temperature range	-55 °C to +125 °C
Sine vibration on 3 axes	1.5 mm peak to peak 0 Hz to 10 Hz 15 g - 10 Hz - 2000 Hz
Mechanical shocks on 3 axes	50 g - 11 ms - half sine
Speed (max.)	8 m/s for f < 2 Hz; 3 m/s for f < 5 Hz

Note

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

DIMENSIONS in millimeters, general tolerance ± 1 mm

VIEW A-A

ELECTRICAL CONNECTIONS

4. GROUND
PIN 3: +
PIN 2: WIPER
PIN 1: -

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

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

1) FEMALE CONNECTOR
Vishay's Reference: 3248610

2) SPECIAL BALL JOINT ON SHAFT
Vishay's reference: 323655

RADIAL CLEARANCE IN X AND Y: ± 1.2 mm

ANGULAR CLEARANCE $\pm 15^\circ$

CLEARANCE 3

ORDERING INFORMATION/DESCRIPTION							
REC	115	L	23	D	103	W...	e.
SERIES	MODEL	NUMBER OF TRACKS	THEORETICAL ELECTRICAL TRAVEL	LINEARITY	OHMIC VALUE	MODIFICATIONS	LEAD FINISH
		L = 1	Times 25 mm	A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$ F: $\pm 0.025\%$	First 2 digits are significant numbers 3 rd digit indicates number of zeros	Special feature code number	

SAP PART NUMBERING GUIDELINES						
RE	115 L	23	D	103	W...	
SERIES	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES	



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