

## Precision Linear Transducers, Conductive Plastic, up to 1000 mm



### 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### 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 $\Omega$ /cm to 2 k $\Omega$ /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 $\mu$ A - 1 mA max. (continuous)
Load resistance	minimum $10^3 \times R_T$
Insulation resistance	$\geq 1000$ M $\Omega$ , 500 V <sub>DC</sub>
Dielectric strength	$\geq 1000$ V <sub>RMS</sub> , 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

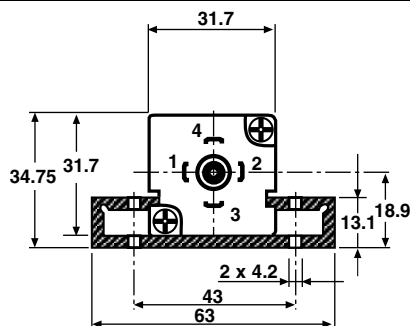
### PERFORMANCE

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

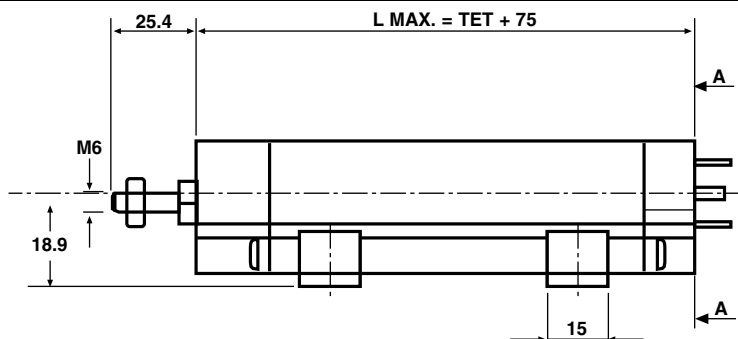
#### Note

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

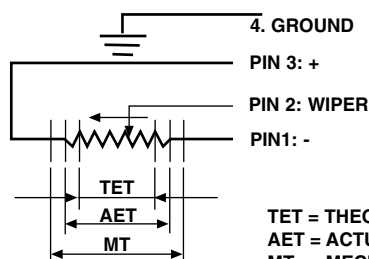
**DIMENSIONS** in millimeters, general tolerance  $\pm 1$  mm



**VIEW A-A**



## ELECTRICAL CONNECTIONS

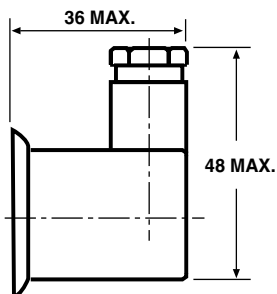


TET = THEORETICAL ELECTRICAL TRAVEL  
AET = ACTUAL ELECTRICAL TRAVEL  
MT = MECHANICAL TRAVEL

**ACCESSORIES ON REQUEST DIMENSIONS** in millimeters, general tolerance  $\pm 1$  mm

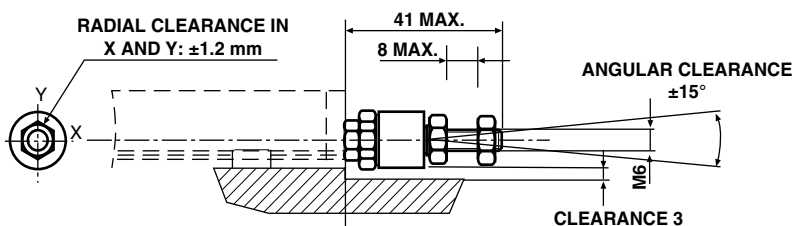
### 1) FEMALE CONNECTOR

**Vishay's Reference: 3248610**



## 2) SPECIAL BALL JOINT ON SHAFT

**Vishay's reference: 323655**



### 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 <sup>rd</sup> digit indicates number of zeros	Special feature code number	

## SAP PART NUMBERING GUIDELINES

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