

## Precision Linear Transducers, Conductive Plastic (REC)



The 140 L is a robust, high precision industrial linear motion transducer with double ball joints, the 140 L is designed for simple, self-aligned mounting.

### FEATURES

- Measurement Range 25 mm to 1000 mm
- High Accuracy  $\pm 1\%$  down to  $\pm 0.025\%$
- Excellent Repeatability
- Long Life
- Essentially Infinite Resolution
- Not Sensitive to Temperature Variations

ELECTRICAL SPECIFICATIONS	
Theoretical electrical travel (TET) on request	from 25mm to 1000mm in increments of 25mm up to 2000mm (vertical working position)
Independent linearity (over TET) on request	$\leq \pm 1\%$ - $\leq \pm 0.1\%$ from 25mm to 1000mm $\leq \pm 0.05\%$ from 100mm to 1000mm $\leq \pm 0.025\%$ from 200mm to 1000mm
Actual electrical travel (AET)	see table 1
Ohmic values	400 $\Omega$ /cm to 2k $\Omega$ /cm $\pm 20\%$
Repeatability	$\leq 0.01\%$
Maximum power rating	0.05W/cm at 70°C 0W at 125°C
Wiper current	recommended: a few $\mu$ A - 1 mA max. continuous
Load resistance	minimum $10^3 \times R_t$
Number of tracks	1, standard; 2, on request
Insulation resistance at 20°C	$\geq 1000M\Omega$ 500VDC
Dielectric strength at 20°C	1000VRMS 50Hz

MECHANICAL SPECIFICATIONS	
Mechanical travel (MT)	see table 1
Housing	anodized aluminum
Operating force	50N typical
Shaft (free rotation)	stainless steel
Termination	Binder connector Series 713
Wiper	precious metal multifinger
Sealed to	IP65 (on request)
Mounting	double ball joint $\varnothing 10$

PERFORMANCE	
Operating life	40 million cycles typical
Temperature range	- 55°C + 125°C
Sine vibration on 3 axes	1.5mm peak to peak 0 - 10 Hz 15g - 10Hz - 2000Hz
Mechanical shocks on 3 axes	50g - 11ms - half sine

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

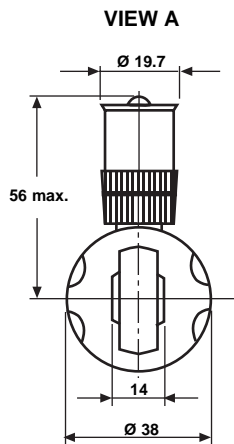
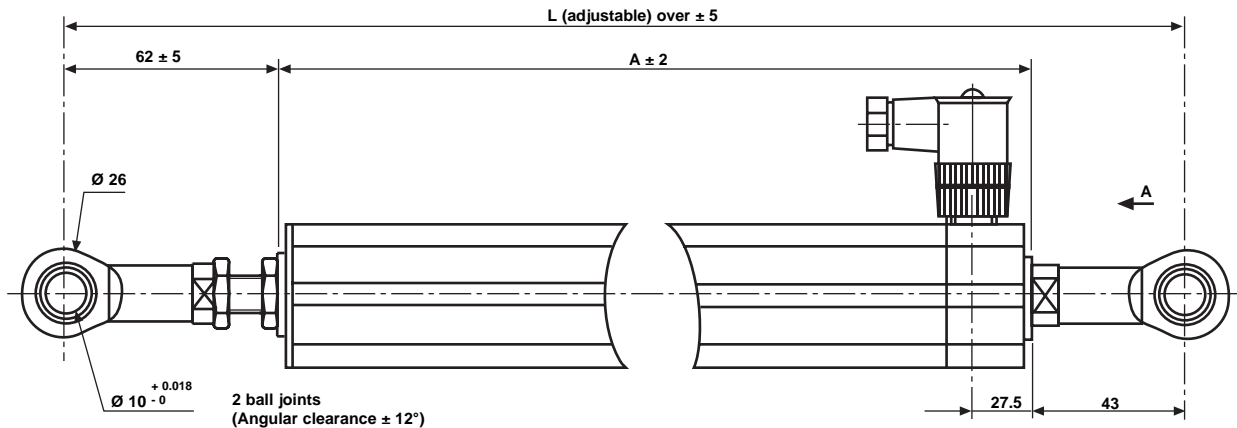
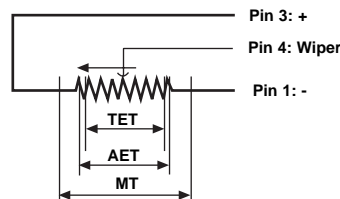


Table 1

SIZE	TET = E	AET	MT	A	L
L1 to L9	25 to 225	$E + 2 \pm 0.5$	$E + 4 \pm 1$	$E + 129$	$E + 234$
L10 to L16	250 to 400	$E + 3 \pm 1.5$	$E + 6 \pm 2$	$E + 129$	$E + 234$
L17 to L19	425 to 475	$E + 3 \pm 1.5$	$E + 6 \pm 2$	$E + 159$	$E + 264$
L20 to L29	500 to 725	$E + 4 \pm 1.5$	$E + 8 \pm 2$	$E + 159$	$E + 264$
L30	750	$E + 5 \pm 1.5$	$E + 10 \pm 2$	$E + 159$	$E + 264$
L31 to L39	775 to 975	$E + 5 \pm 1.5$	$E + 10 \pm 2$	$E + 194$	$E + 299$
L40	1000	$E + 6 \pm 1.5$	$E + 12 \pm 2$	$E + 194$	$E + 299$

**ELECTRICAL CONNECTIONS**



TET = Theoretical electrical travel  
 AET = Actual electrical travel  
 MT = Mechanical travel

**ORDERING INFORMATION**

REC SERIES	140 MODEL	L NUMBER OF TRACKS	23 THEORETICAL ELECTRICAL TRAVEL	D LINEARITY	103 OHMIC VALUE	W... MODIFICATIONS
		L = 1 LL = 2	Times 25 mm	A : $\pm 1\%$ D : $\pm 0.1\%$ E : $\pm 0.05\%$ F : $\pm 0.025\%$	First 2 digits are significant numbers 3rd digit indicates number of zeros	Special feature code number