



# Precision Linear Transducers, Conductive Plastic, up to 450 mm



The 34 L is a compact, accurate and adaptable motion transducer for both industrial and military markets.

### FEATURES

- Measurement range 25 mm to 450 mm
- High accuracy  $\pm 1\%$  down to  $\pm 0.025\%$
- Essentially infinite resolution
- Long life
- Sealed on request
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### QUICK REFERENCE DATA

Sensor type	LINEAR, conductive plastic
Output type	Wires
Market appliance	Professional
Dimensions	L x 19 mm dia. (with L = TET + 63 mm)

### ELECTRICAL SPECIFICATIONS

Theoretical electrical travel (TET = E) in increments of 25 mm	25 mm 450 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)	See table 1
Ohmic values ( $R_T$ )	From 400 $\Omega$ /cm to 2 k $\Omega$ /cm
Resistance tolerance at 20 °C	$\pm 20\%$
Repeatability	$\leq 0.01\%$
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 $10^3 \times R_T$
Number of tracks	1; on request 2
Insulation resistance	$\geq 1000$ M $\Omega$ , 500 V <sub>DC</sub>
Dielectric strength	$\geq 750$ V <sub>RMS</sub> , 50 Hz

### MECHANICAL SPECIFICATIONS

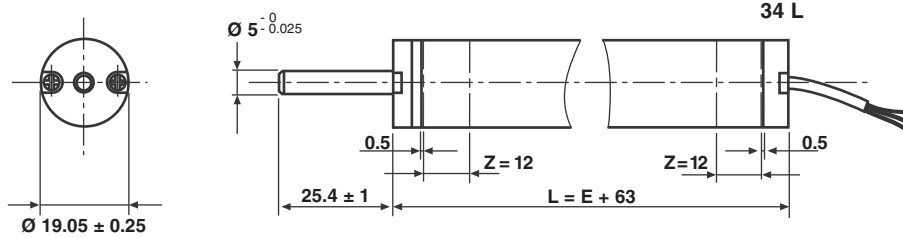
Mechanical travel	TET + 2 mm min.	
Housing	Anodized aluminum	
Operating force On Request	0.35 N typical (standard model)	2.50 N typical (sealed model)
Shaft (free rotation)	Stainless steel	
Termination On request	3 wires PTFE AWG-30 L = 300 mm cable or connector	
Wiper	Precious metal multifinger	
Sealing	IP65 on request	

### PERFORMANCE

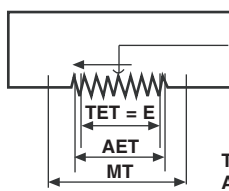
Operating life	25 million cycles typical/1 Hz/T° = 20 °C $\pm$ 5 °C/80 % TET
Temperature range	-55 °C to +125 °C
Sine vibration on 3 axes	1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz
Mechanical shocks on 3 axes	50 g - 11 ms - half sine

#### Note

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

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


Z = TIGHTENING ZONE

**ELECTRICAL CONNECTIONS**


TERMINALS	WIRE	CABLE
3 ALIM. (+):	GREEN	BLUE
2 WIPER:	RED	RED
1 ALIM. (-):	YELLOW	WHITE

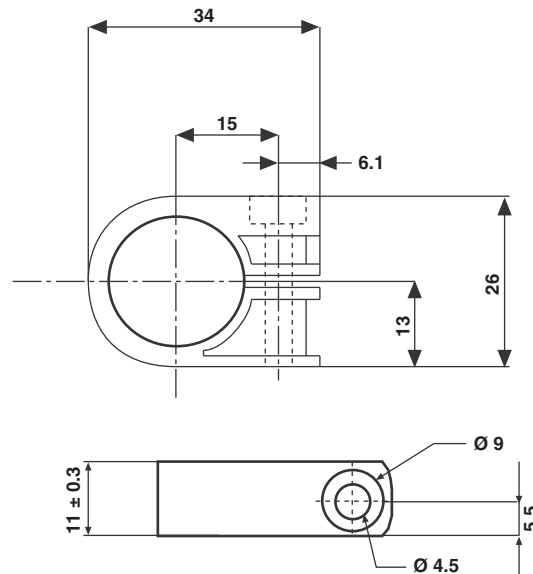
TET = THEORETICAL ELECTRICAL TRAVEL  
 AET = ACTUAL ELECTRICAL TRAVEL  
 MT = MECHANICAL TRAVEL

TET = E	AET	TOL.
25 mm to 275 mm	E + 1 mm	$\pm 0.5$ mm
300 mm to 450 mm	E + 1 mm	$\pm 0.8$ mm

**ACCESSORIES ON REQUEST - DIMENSIONS** in millimeters, general tolerance  $\pm 3$  mm

Clamp for 34L

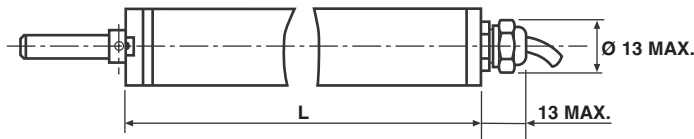
Vishay Reference: CQ00051





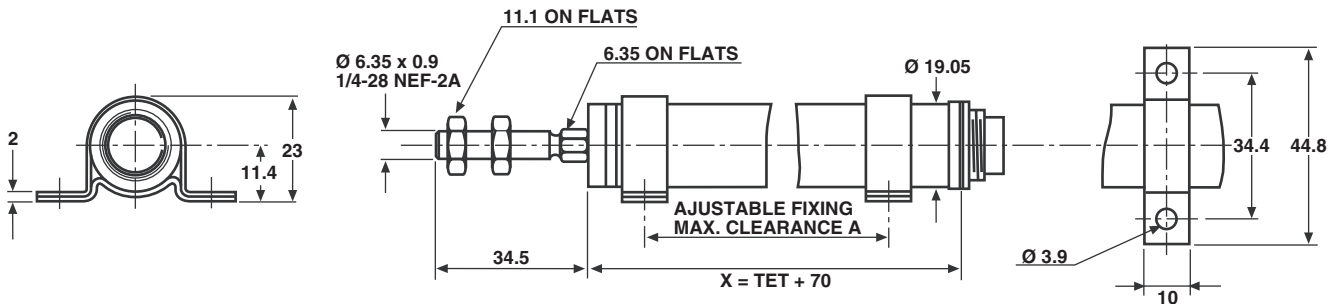
**OPTIONS - DIMENSIONS** in millimeters, general tolerance  $\pm 1$  mm

**OPTION 1: SEALED (IP65): W03280**

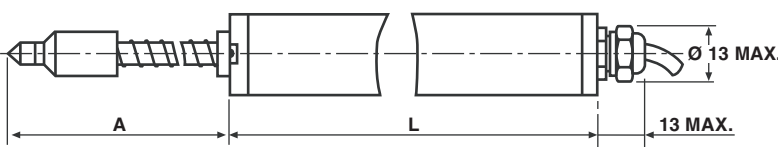


MODEL	CODE	L
34 L	W03280	TET + 83.5

**OPTION 2: DELIVERED WITH CLAMPS AND BINDER CONNECTOR 680: W05013**

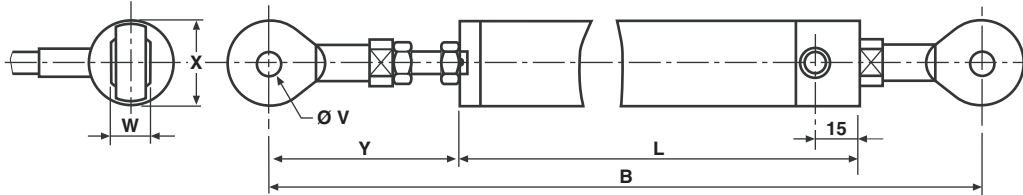


**OPTION 3: SPRING LOADED SHAFT; OUTPUT BY SHIELDED CABLE: W01744**



MODEL	CODE	A	L
34 L1	W01744	61.4	TET + 119.5
34 L2	W01744	93.6	
34 L3	W01744	125.8	
34 L4	W01744	158	

**OPTION 4: DOUBLE BALL JOINT: W03263**



MODEL CODE	B	L	Ø V	W	X	Y	TET
34 L W03263 L1 to L5	TET + 151.6	TET + 82.8	5	8	18	42 ± 2	25 to 125
L6 to L10	TET + 173.6	TET + 104.8	5	8	18	42 ± 2	150 to 250
L11 to L12	TET + 230	TET + 161.2	5	8	18	42 ± 2	275 to 300

**ORDERING INFORMATION/DESCRIPTION**

REC	34	L	3	D	103	W...	e.
SERIES	MODEL	NUMBER OF TRACKS	THEORETICAL ELECTRICAL TRAVEL	LINEARITY	OHMIC VALUE	MODIFICATIONS	LEAD FINISH
		L = 1 track LL = 2 tracks	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	34 L	3	D	103	W....
SERIES	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES



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