Precision Linear Transducers, Conductive Plastic, up to 300 mm

FEATURES

- Measurement range 25 mm to 300 mm
- High accuracy ± 1 % down to ± 0.025 %
- Essentially infinite resolution
- Long life
- Sealed on request

RoHS COMPLIANT

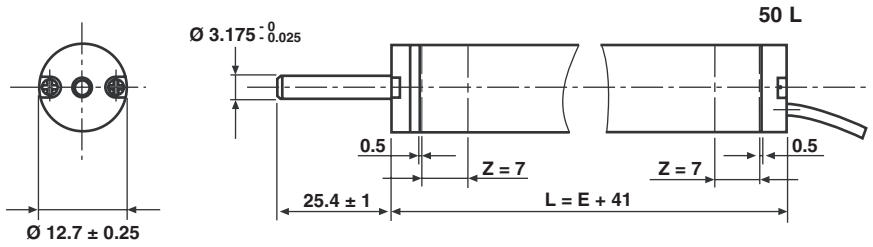
The 50 L is a compact, accurate and adaptable motion transducer for both industrial and military markets.

ELECTRICAL SPECIFICATIONS	
Theoretical Electrical Travel (TET = E) in Increments of 25 mm	25 mm 300 mm
Independent Linearity (over TET) On Request	≤ ± 1 % - ≤ ± 0.1 % ≤ ± 0.05 % for E ≥ 100 mm ≤ ± 0.025 % for E ≥ 200 mm
Actual Electrical Travel (AET)	AET = E + 1 mm ± 0.5 mm
Ohmic Values (R_T)	400 Ω/cm to 2 kΩ/cm
Resistance Tolerance at 20 °C	± 20 %
Repeatability	≤ 0.01 %
Maximum Power Rating	0.05 W/cm at 70 °C, 0 W at 125 °C
Wiper Current	Recommended: a few µA - 1 mA max. (continuous)
Load Resistance	Minimum 10^3 x R_T
Number of Tracks	1; on request 2
Insulation Resistance	≥ 1000 MΩ, 500 V_{DC}
Dielectric Strength	≥ 500 V_{RMS}, 50 Hz

MECHANICAL SPECIFICATIONS		
Mechanical Rravel	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	

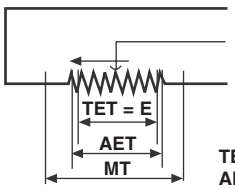
PERFORMANCE	
Operating Life	25 million cycles typical/1 Hz/T° = 20 °C ± 5 °C/80 % TET
Temperature Range	- 55 °C to + 125 °C
Sine Vibration on 3 Axes	1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz
Mechanical Shocks on 3 Axes	50 g -11 ms - half sine

STANDARD MODEL DIMENSIONS in millimeters, general tolerance ± 1 mm



Z = TIGHTENING ZONE

ELECTRICAL CONNECTIONS

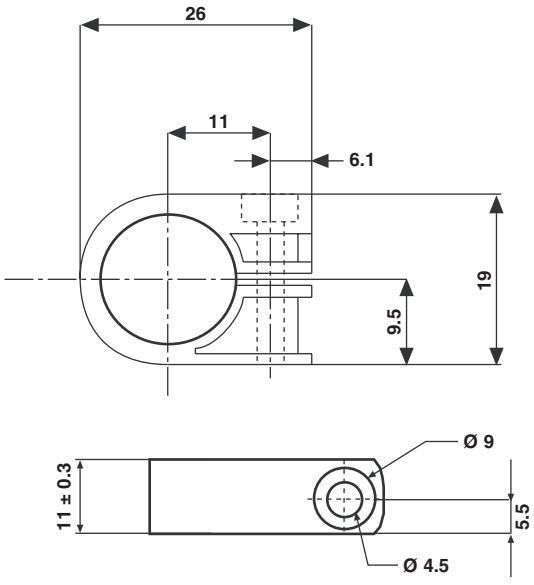


TERMINALS	WIRE	CABLE
3 ALIM. (+):	GREEN	BLUE
2 WIPER:	RED	RED
1 ALIM. (-):	YELLOW	WHITE

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

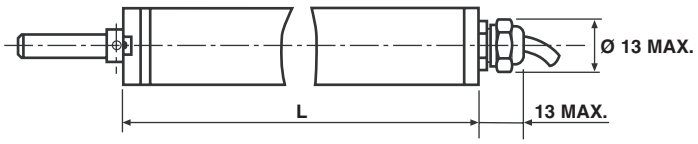
ACCESSORIES ON REQUEST - DIMENSIONS in millimeters, general tolerance ± 3 mm

Clamp for 50L
Vishay Reference: CQ00050



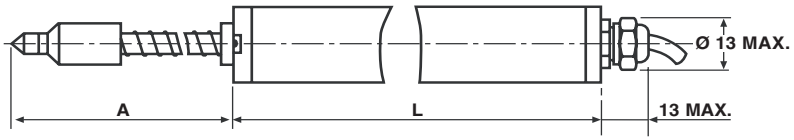
OPTIONS - DIMENSIONS in millimeters

OPTION 1: SEALED (IP65): W03242



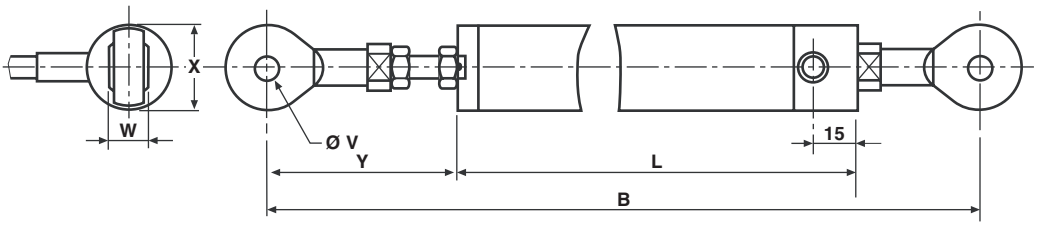
MODEL	CODE	L
50 L ...	W03242	TET + 70.5

OPTION 2: SPRING LOADED SHAFT; OUTPUT BY SHIELDED CABLE: W01743



MODEL	CODE	A	L
50 L1	W01743	70	TET + 97.8
50 L2	W01743	116	
50 L3	W01743	162	
50 L4	W01743	208	

OPTION 3: DOUBLE BALL JOINT: W01565



MODEL CODE		B	L	Ø V	W	X	Y	TET
50 L W01565	L1 to L3	TET + 108.5	TET + 57.5	3	6	12	30 ± 2	25 to 75
	L4 to L6	TET + 133.5	TET + 82.5	3	6	12	30 ± 2	100 to 150

ORDERING INFORMATION/DESCRIPTION

REC	50	L	3	D	103	W...	e1
SERIES	MODEL	NUMBER OF TRACKS	THEORETICAL ELECTRICAL	LINEARITY	OHMIC VALUE	MODIFICATIONS	LEAD FINISH
		L = 1 track LL = 2 tracks	Times 25 mm	A: ± 1 % D: ± 0.1 % E: ± 0.05 % F: ± 0.025 %	First 2 digits are significant numbers 3rd digit indicates number of zeros	Special feature code number	Sn Ag Cu

SAP PART NUMBERING GUIDELINES

RE	50 L	3	D	103	W....
SERIES	MODEL	TET	LINEARITY	OHMIC VALUE	SPECIAL FEATURES

Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.