



# Precision Linear Transducers, Conductive Plastic, up to 300 mm



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

### FEATURES

- Measurement range 25 mm to 300 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)



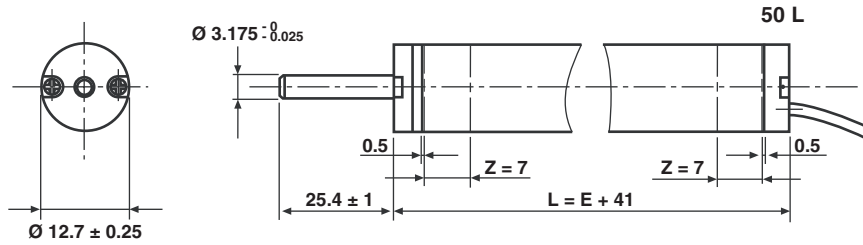
QUICK REFERENCE DATA	
Sensor type	LINEAR, conductive plastic
Output type	Wires
Market appliance	Professional
Dimensions	L x 12.7 mm dia. (with L = TET + 41 mm)

ELECTRICAL SPECIFICATIONS	
Theoretical electrical travel (TET = E) in increments of 25 mm	25 mm 300 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 = E + 1 mm $\pm 0.5$ mm
Ohmic values (R <sub>T</sub> )	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	$\geq 500 V_{RMS}$ , 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

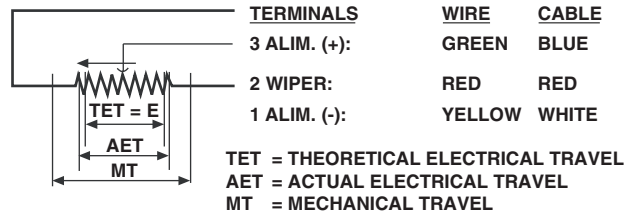
PERFORMANCE	
Operating life	25 million cycles typical/1 Hz/T° = 20 °C $\pm 5$ °C/80 % TET
Temperature range	- 55 °C to + 125 °C
Sine vibration on 3 axes	1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz
Mechanical shocks on 3 axes	50 g -11 ms - half sine

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



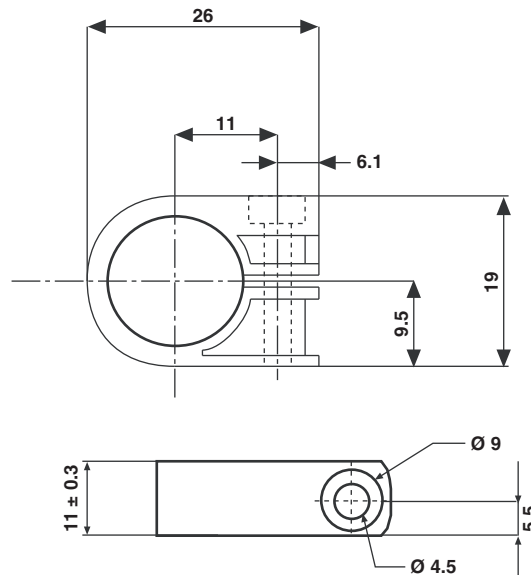
Z = TIGHTENING ZONE

**ELECTRICAL CONNECTIONS**

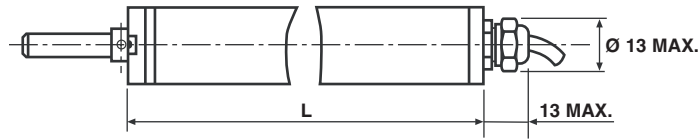


**ACCESSORIES ON REQUEST - DIMENSIONS** in millimeters, general tolerance  $\pm 3$  mm

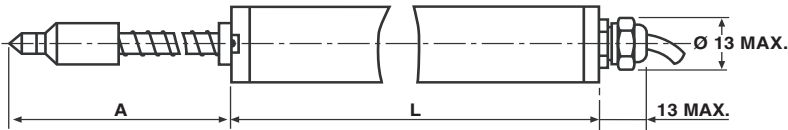
Clamp for 50L  
Vishay Reference: CQ00050



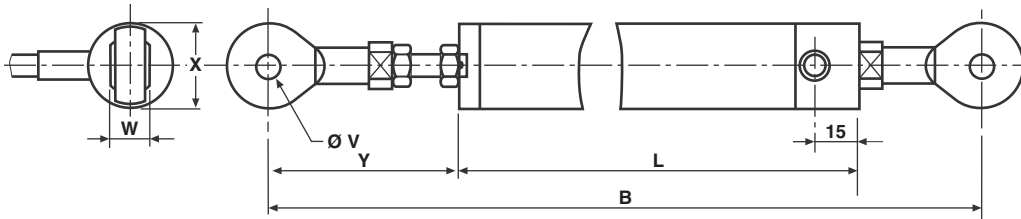
**OPTIONS - DIMENSIONS** in millimeters

**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 TRAVEL	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 3 <sup>rd</sup> 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, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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

## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.