

## ACT LVDT Displacement Transducer

- High accuracy
- High cycle life
- Infinite resolution
- Stainless steel

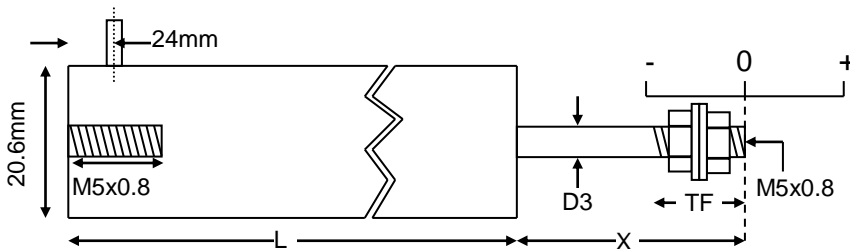


These transducers are for displacement / position measurement. They make an accurate position measurement of the movement of the armature (the sliding part) relative to the body of the displacement transducer.

This transducer uses the Linear Variable Differential Transformer (LVDT) principle which means that it is probably the most robust and reliable position sensor type available. The strength of the LVDT sensor's principle is that there is no electrical contact across the transducer position sensing element which for the user of the sensor means clean data, infinite resolution and a very long life.

This series of displacement transducer is available as either an unguided, captive or spring return version.

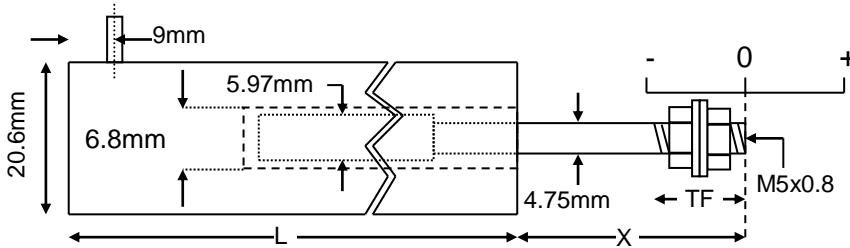
### Captive guided version.



Our captive guided displacement transducer has bearings to guide the armature inside the measurement sensor. Captive LVDTs are for position measurement applications where guidance may be poor and end bearings may be required.

Type	Range	Linearity error (% F.S.)	L	X	D3	Total weight	TF	Inward over-travel	Outward over-travel	Sensitivity (nom)
ACT500C	±12.5mm	<±0.5/±0.25/±0.1	152mm	38mm	4.75mm	284g	15mm	10mm	12mm	0.7V/V
ACT1000C	±25mm	<±0.5/±0.25/±0.1	180mm	63mm	4.75mm	340g	15mm	13mm	10mm	0.9V/V
ACT2000C	±50mm	<±0.5/±0.25/±0.1	295mm	76mm	4.75mm	511g	15mm	10mm	14mm	1.5V/V
ACT3000C	±75mm	<±0.5/±0.25/±0.1	406mm	114mm	4.75mm	653g	15mm	24mm	15mm	1.5V/V
ACT4000C	±100mm	<±0.5/±0.25/±0.1	452mm	127mm	4.75mm	710g	15mm	8mm	14mm	3.2V/V
ACT6000C	±150mm	<±0.5/±0.25	643mm	178mm	4.75mm	1.0kg	15mm	12mm	17mm	2.4V/V
ACT8000C	±200mm	<±0.5/±0.25	833mm	254mm	4.75mm	1.4kg	32mm	22mm	25mm	1.5V/V
ACT10000C	±250mm	<±0.5/±0.25	1030mm	305mm	4.75mm	1.6kg	27mm	34mm	35mm	2.0V/V
ACT15000C	±375mm	<±0.5	1435mm	406mm	4.75mm	2.1kg	19mm	13mm	13mm	3.2V/V
ACT18500C	±470mm	<±0.5	1702mm	508mm	6.00mm	2.5kg	27mm	5mm	33mm	3.6V/V

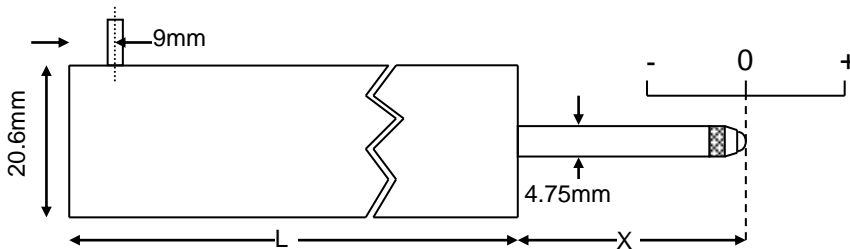
## Unguided version.



On our unguided LVDTs the armature assembly is a separate component, to make a measurement the user must guide the armature inside the body without touching the sides. Unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact operation

Type	Range	Linearity error (% F.S.)	L	X	Total weight	Armature weight	TF	Inward over-travel	Sensitivity (nom)
ACT500	±12.5mm	<±0.5/±0.25/±0.1	127mm	43mm	170g	17g	15mm	16mm	0.7V/V
ACT1000	±25mm	<±0.5/±0.25/±0.1	155mm	68mm	227g	23g	15mm	22mm	0.9V/V
ACT2000	±50mm	<±0.5/±0.25/±0.1	270mm	81mm	320g	37g	15mm	16mm	1.5V/V
ACT3000	±75mm	<±0.5/±0.25/±0.1	380mm	120mm	454g	55g	15mm	29mm	1.5V/V
ACT4000	±100mm	<±0.5/±0.25/±0.1	427mm	132mm	568g	71g	15mm	16mm	3.2V/V
ACT6000	±150mm	<±0.5/±0.25	617mm	183mm	824g	100g	15mm	16mm	2.4V/V
ACT8000	±200mm	<±0.5/±0.25	808mm	259mm	1.2kg	140g	29mm	27mm	1.5V/V

## Spring return version.



Our spring displacement transducer has bearings to guide the armature inside the measurement sensor and a spring which pushes the armature to the fully out position. Spring return LVDTs are appropriate where it is not possible to connect the transducer armature to the moving component being measured.

Type	Range	Linearity error (% F.S.)	L	X	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
ACT500A	±12.5mm	<±0.5/±0.25/±0.1	133mm	38mm	184g	1.3N	0.2N/cm	1mm	13mm	0.7V/V
ACT1000A	±25mm	<±0.5/±0.25/±0.1	161mm	63mm	227g	2.0N	0.3N/cm	3mm	10mm	0.9V/V
ACT2000A	±50mm	<±0.5/±0.25/±0.1	276mm	75mm	398g	1.8N	0.2N/cm	8mm	14mm	1.5V/V
ACT3000A	±75mm	<±0.5/±0.25/±0.1	387mm	114mm	483g	6.0N	0.4N/cm	15mm	15mm	1.5V/V

Specification	
Excitation/supply (acceptable)	0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)
Excitation/supply (calibrated)	5V rms, 5kHz (sinusoidal)
Output load	100k Ohms
Temperature coefficient (zero)	±0.01% F.S. /°C (typical)
Temperature coefficient (span)	±0.01% F.S. /°C (typical)
Operating temperature range	-50°C to 125°C
Electrical termination	2m (integral cable) Longer available to order.

All dimensions and specifications are nominal.

Due to our policy of on-going development, specifications may change without notice. Any modification may affect some or all of the specifications for our equipment.

UK Head Office  
RDP Electronics Ltd  
Grove Street, Heath Town  
Wolverhampton, West Midlands, WV10 0PY  
United Kingdom  
Tel: +44 1902 457512  
Fax: +44 1902 452000  
Email: [sales@rdpe.com](mailto:sales@rdpe.com)  
URL: [www.rdpe.com](http://www.rdpe.com)  
Registered in England No. 1688591