

D5 & D6 LVDT Displacement Transducer

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



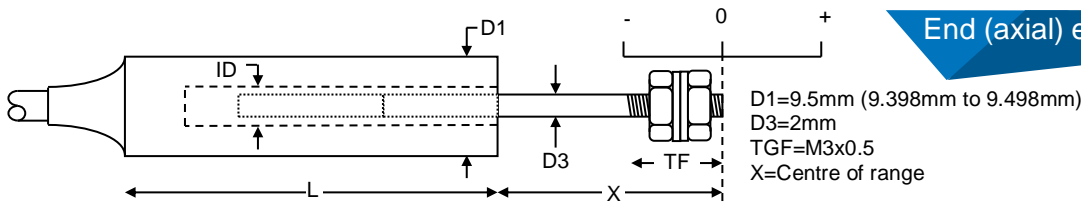
These transducers are for displacement / position measurement. They make an accurate position measurement of the movement of the armature (the sliding part) relative to the body of the displacement transducer.

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.

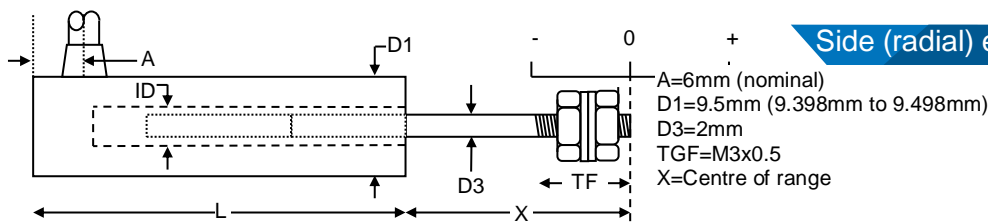
The LVDTs are available as either unguided or spring return versions.

Unguided version.

On our D5-D6 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. Our D5-D6 unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact operation



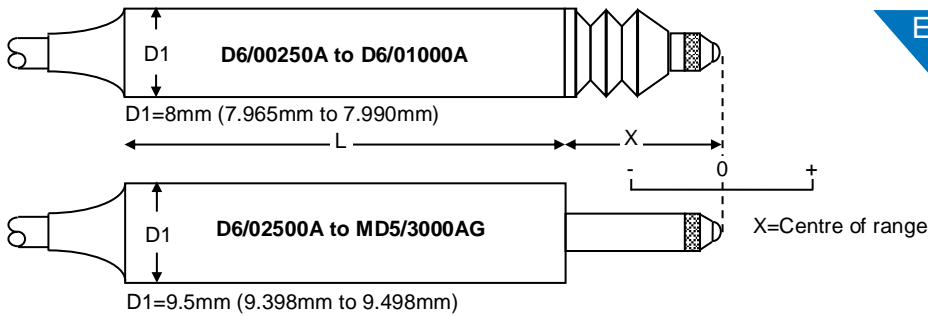
Type	Range	Linearity error (% F.S.)	L	X (nom)	ID	Total weight	Armature weight	TF	Inward over-travel	Sensitivity (nom)
D6/02500U	±2.5mm	±0.5/±0.25/±0.1	43mm	19mm	2.90mm	17g	1.8g	15mm	1.5mm	375mV/V
D6/05000U	±5mm	±0.5/±0.25/±0.1	56mm	25mm	2.90mm	21g	1.8g	18mm	2.0mm	700mV/V
D5/300HK	±7.5mm	±0.5/±0.25/±0.1	58mm	30mm	2.54mm	20g	1.8g	19mm	3.9mm	502mV/V
D5/400HK	±10mm	±0.5/±0.25	63mm	33mm	2.54mm	26g	1.9g	19mm	4.4mm	576mV/V
MD5/500HK	±12.5mm	±0.5/±0.25	79mm	35mm	2.54mm	34g	2.3g	19mm	4.3mm	775mV/V
MD5/1000HK	±25mm	±0.5/±0.25	114mm	48mm	2.54mm	34g	3.1g	18mm	4.1mm	475mV/V
MD5/2000HK	±50mm	±0.5/±0.25	210mm	74mm	2.54mm	62g	5.3g	18mm	5.0mm	535mV/V
MD5/3000HK	±75mm	±0.5/±0.25	298mm	99mm	2.54mm	87g	7.4g	18mm	5.0mm	525mV/V



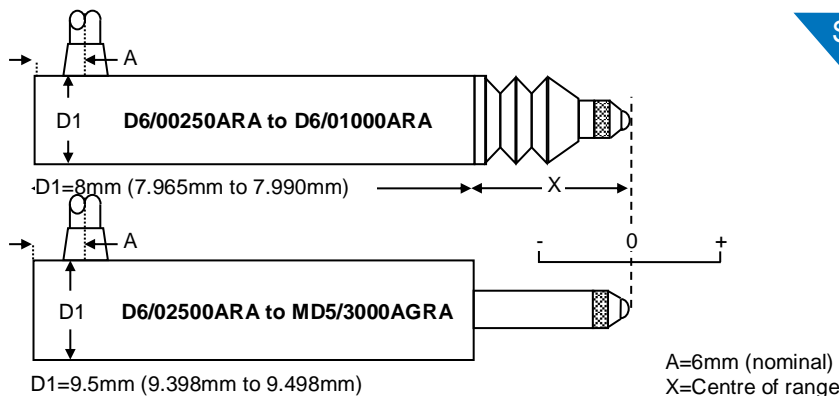
Type	Range	Linearity error (% F.S.)	L	X (nom)	ID	Total weight	Armature weight	TF	Inward over-travel	Sensitivity (nom)
D6/02500URA	±2.5mm	±0.5/±0.25/±0.1	45mm	19mm	2.92mm	17g	1.8g	15mm	1.5mm	375mV/V
D6/05000URA	±5mm	±0.5/±0.25/±0.1	60mm	25mm	2.92mm	21g	1.8g	18mm	2.0mm	700mV/V
D5/300HKRA	±7.5mm	±0.5/±0.25/±0.1	60mm	30mm	2.54mm	20g	1.8g	18mm	3.9mm	502mV/V
D5/400HKRA	±10mm	±0.5/±0.25	65mm	33mm	2.54mm	26g	1.9g	18mm	4.4mm	576mV/V
MD5/500HKRA	±12.5mm	±0.5/±0.25	81mm	35mm	2.54mm	34g	2.3g	18mm	4.3mm	775mV/V
MD5/1000HKRA	±25mm	±0.5/±0.25	117mm	48mm	2.54mm	34g	3.1g	18mm	4.1mm	475mV/V
MD5/2000HKRA	±50mm	±0.5/±0.25	212mm	74mm	2.54mm	62g	5.3g	18mm	5.0mm	535mV/V
MD5/3000HKRA	±75mm	±0.5/±0.25	301mm	99mm	2.54mm	87g	7.4g	18mm	5.0mm	525mV/V

Spring return version.

Our D5-D6 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. Our D5-D6 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 (nom)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
D6/00250A	$\pm 0.25\text{mm}$	$\pm 0.5/\pm 0.25$	49mm	12mm	11g	0.6N	1.2N/cm	0.6mm	0.6mm	38mV/V
D6/00500A	$\pm 0.5\text{mm}$	$\pm 0.5/\pm 0.25$	49mm	12mm	11g	0.6N	1.2N/cm	0.3mm	0.3mm	75mV/V
D6/01000A	$\pm 1\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	52mm	13mm	12g	0.4N	1.2N/cm	1.8mm	0.8mm	150mV/V
D6/02500A	$\pm 2.5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	61mm	12mm	25g	0.9N	0.9N/cm	1.3mm	1.3mm	375mV/V
D6/05000A	$\pm 5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	78mm	12mm	30g	0.9N	0.8N/cm	1.1mm	1.4mm	700mV/V
D5/300AG	$\pm 7.5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	88mm	15mm	34g	1.1N	0.6N/cm	1.1mm	1.6mm	502mV/V
D5/400AG	$\pm 10\text{mm}$	$\pm 0.5/\pm 0.25$	99mm	19mm	40g	1.4N	0.4N/cm	2.5mm	1.3mm	576mV/V
MD5/500AG	$\pm 12.5\text{mm}$	$\pm 0.5/\pm 0.25$	121mm	22mm	48g	1.4N	0.4N/cm	2.5mm	1.3mm	775mV/V
MD5/1000AG	$\pm 25\text{mm}$	$\pm 0.5/\pm 0.25$	192mm	36mm	76g	2.7N	0.4N/cm	1.2mm	2.9mm	475mV/V
MD5/2000AG	$\pm 50\text{mm}$	$\pm 0.5/\pm 0.25$	349mm	65mm	138g	4.5N	0.4N/cm	4.2mm	3.2mm	535mV/V
MD5/3000AG	$\pm 75\text{mm}$	$\pm 0.5/\pm 0.25$	525mm	100mm	208g	6.3N	0.4N/cm	5.0mm	5.0mm	525mV/V



Type	Range	Linearity error (% F.S.)	L	X (nom)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
D6/00250ARA	$\pm 0.25\text{mm}$	$\pm 0.5/\pm 0.25$	50mm	12mm	11g	0.6N	1.2N/cm	0.6mm	0.6mm	38mV/V
D6/00500ARA	$\pm 0.5\text{mm}$	$\pm 0.5/\pm 0.25$	50mm	12mm	11g	0.6N	1.2N/cm	0.3mm	0.3mm	75mV/V
D6/01000ARA	$\pm 1\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	53mm	13mm	12g	0.4N	1.2N/cm	1.8mm	0.8mm	150mV/V
D6/02500ARA	$\pm 2.5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	64mm	12mm	25g	0.9N	0.9N/cm	1.3mm	1.3mm	375mV/V
D6/05000ARA	$\pm 5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	83mm	12mm	30g	0.9N	0.8N/cm	1.1mm	1.4mm	700mV/V
D5/300AGRA	$\pm 7.5\text{mm}$	$\pm 0.5/\pm 0.25/\pm 0.1$	90mm	15mm	34g	1.1N	0.6N/cm	1.1mm	1.6mm	502mV/V
D5/400AGRA	$\pm 10\text{mm}$	$\pm 0.5/\pm 0.25$	102mm	19mm	40g	1.4N	0.4N/cm	2.5mm	1.3mm	576mV/V
MD5/500AGRA	$\pm 12.5\text{mm}$	$\pm 0.5/\pm 0.25$	124mm	22mm	48g	1.4N	0.4N/cm	2.5mm	1.3mm	775mV/V
MD5/1000AGRA	$\pm 25\text{mm}$	$\pm 0.5/\pm 0.25$	195mm	36mm	76g	2.7N	0.4N/cm	1.2mm	2.9mm	535mV/V
MD5/2000AGRA	$\pm 50\text{mm}$	$\pm 0.5/\pm 0.25$	351mm	65mm	138g	4.5N	0.4N/cm	4.2mm	3.2mm	535mV/V
MD5/3000AGRA	$\pm 75\text{mm}$	$\pm 0.5/\pm 0.25$	527mm	100mm	208g	6.3N	0.4N/cm	5.0mm	5.0mm	525mV/V

Torque
 Position
 Pressure
 Load Cells
 Displacement
 Instrumentation

Specification	
Excitation/supply (acceptable)	0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)
Excitation/supply (calibrated)	5V rms, 5kHz (sinusoidal)
Linearity error (Standard)	±0.5% F.S.
Linearity error (Optional on some models)	±0.25% F.S.
Linearity error (Optional on some models)	±0.1% F.S.
Temperature coefficient (span)	±0.01% F.S. /°C (typical)
Operating temperature range	-20°C to 125°C
Electrical termination	2m (integral cable) Longer available to order.



Due to our policy of on-going development, D5-D6 specifications may change without notice. Any modification to our D5-D6 may affect some or all of the specifications for our equipment. All D5-D6 dimensions and specifications are nominal.

D5-D6 - WARNING - PERSONAL INJURY

Do not use our D5-D6 as safety, emergency stop or feedback devices in any application where the failure of this product could result in damage to equipment, personal injury or death.

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Torque
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