

## LDC Series DC to DC LVDT Displacement Transducer

- High accuracy
- High cycle life
- Low supply voltage
- Input/output isolation
- High resolution
- Voltage output
- 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.

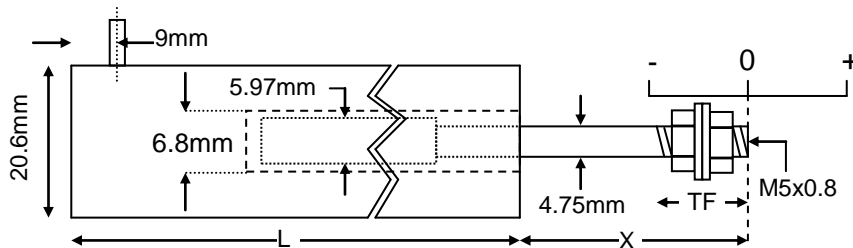
This transducer uses the Linear Variable Differential Transformer (LVDT) principle which means that it is probably the most robust and reliable position sensor type available. The strength of the LVDT sensor's principle is that there is no electrical contact across the transducer position sensing element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

Our DC to DC LVDT transducer has all of the benefits of the LVDT sensor principle with the added convenience of built-in LVDT electronics enabling a dc supply and dc output.

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

### Unguided version.

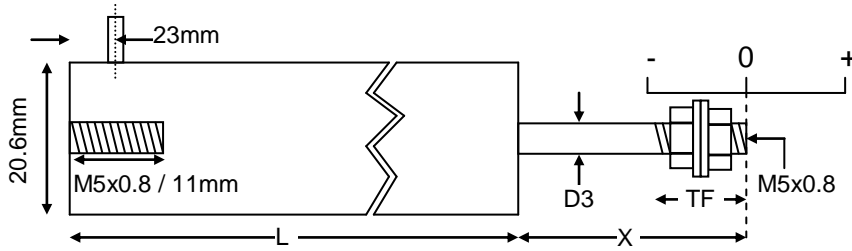
On our unguided LVDTs the armature assembly is a separate component, to make a measurement the user must guide the armature inside the body without touching the sides. Unguided position measurement transducers are appropriate where external guidance is available and give truly non-contact operation



Type	Range	Linearity error (% F.S.)	L	X	Total weight	Armature weight	TF	Inward over-travel
LDC500	±12.5mm	<±0.5/±0.25/±0.1	175mm	43mm	213g	17g	15mm	16mm
LDC1000	±25mm	<±0.5/±0.25/±0.1	203mm	69mm	270g	23g	15mm	22mm
LDC2000	±50mm	<±0.5/±0.25/±0.1	317mm	81mm	369g	37g	15mm	16mm
LDC3000	±75mm	<±0.5/±0.25/±0.1	430mm	119mm	497g	55g	15mm	29mm
LDC4000	±100mm	<±0.5/±0.25/±0.1	475mm	132mm	625g	71g	15mm	16mm
LDC6000	±150mm	<±0.5/±0.25	666mm	183mm	852g	100g	15mm	16mm
LDC8000	±200mm	<±0.5/±0.25	856mm	259mm	1.3kg	140g	29mm	27mm

## Captive guided version.

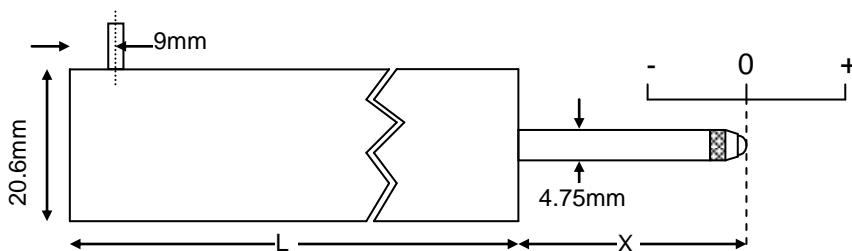
Our captive guided displacement transducer has bearings to guide the armature inside the measurement sensor. Captive LVDTs are for position measurement applications where guidance may be poor and end bearings may be required.



Type	Range	Linearity error (% F.S.)	L	X	D3	Total weight	TF	Inward over-travel	Outward over-travel
LDC500C	±12.5mm	<±0.5/±0.25/±0.1	194mm	38mm	4.75mm	340g	15mm	10mm	12mm
LDC1000C	±25mm	<±0.5/±0.25/±0.1	222mm	63mm	4.75mm	398g	15mm	13mm	10mm
LDC2000C	±50mm	<±0.5/±0.25/±0.1	336mm	76mm	4.75mm	511g	15mm	10mm	14mm
LDC3000C	±75mm	<±0.5/±0.25/±0.1	448mm	114mm	4.75mm	625g	15mm	24mm	15mm
LDC4000C	±100mm	<±0.5/±0.25/±0.1	494mm	127mm	4.75mm	767g	15mm	8mm	14mm
LDC6000C	±150mm	<±0.5/±0.25	684mm	178mm	4.75mm	1.0kg	15mm	12mm	17mm
LDC8000C	±200mm	<±0.5/±0.25	875mm	254mm	4.75mm	1.4kg	32mm	22mm	25mm
LDC10000C	±250mm	<±0.5/±0.25	1067mm	305mm	4.75mm	1.7kg	27mm	34mm	35mm
LDC15000C	±375mm	<±0.5	1473mm	406mm	4.75mm	2.2kg	19mm	13mm	13mm
LDC18500C	±470mm	<±0.5	1740mm	508mm	6.00mm	2.6kg	27mm	5mm	33mm

## 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
LDC500A	±12.5mm	<±0.5/±0.25/±0.1	182mm	38mm	227g	1.3N	0.2N/cm	1mm	13mm
LDC1000A	±25mm	<±0.5/±0.25/±0.1	210mm	63mm	284g	2.0N	0.3N/cm	3mm	10mm
LDC2000A	±50mm	<±0.5/±0.25/±0.1	324mm	75mm	398g	1.8N	0.2N/cm	8mm	14mm
LDC3000A	±75mm	<±0.5/±0.25/±0.1	436mm	114mm	511g	6.0N	0.4N/cm	15mm	15mm

Specification	
Excitation/supply (acceptable)	5V to 18V dc, 60mA typical
Output	±2.2V
Output load	2kOhms (minimum)
Output ripple	30mV (peak-to-peak)
Electrical output bandwidth	200Hz (flat)
Output impedance	2 Ohms
Temperature coefficient (zero)	±0.01% F.S. /°C (typical)
Temperature coefficient (span)	±0.03% F.S. /°C (typical)
Operating temperature range	-40°C to 70°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.

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