

## GT Precision LVDT Gauging Transducer

- High cycle life
- Stainless steel
- Infinite resolution
- Very high accuracy
- Precision linear bearings
- 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.

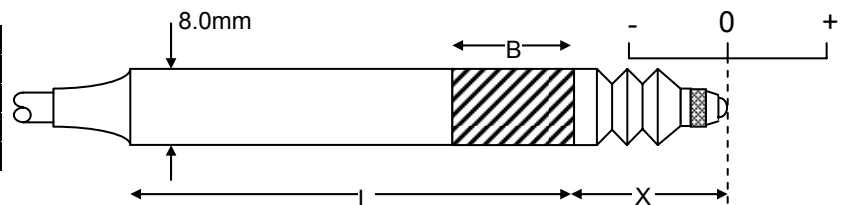
The GT series gauging transducer employs precision linear bearings to optimise the LVDT's measurement precision and repeatability.

### 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.

End (axial) exit cable.

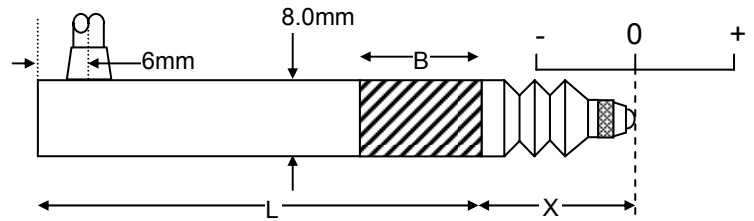
Type	L	X	B- (No clamp zone)
GT500Z	26mm	7.25mm	6mm
GT1000	53mm	14.2mm	14mm
GT2500	58mm	20.3mm	18mm
GT5000	87mm	22.0mm	30mm



Type	Range	Linearity error (% F.S.)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
GT500Z	±0.5mm	<±0.25	7g	1.0N	1.7N/cm	0.3mm	0.3mm	110mV/V
GT1000	±1mm	<±0.25/±0.1	11g	0.8N	2.6N/cm	1.4mm	0.3mm	150mV/V
GT2500	±2.5mm	<±0.25/±0.1	13g	1.1N	2.6N/cm	0.8mm	0.3mm	375mV/V
GT5000	±5mm	<±0.25/±0.1	16g	1.5N	1.5N/cm	1.3mm	0.3mm	700mV/V

## Side (radial) exit cable.

Type	L	X	B- (No clamp zone)
GT500XRA	33mm	7.3mm	6mm
GT1000RA	57mm	14.2mm	14mm
GT2500RA	61mm	20.3mm	18mm
GT5000RA	91mm	22.0mm	30mm



Type	Range	Linearity error (% F.S.)	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
GT500XRA	±0.5mm	<±0.25	7g	1.0N	1.7N/cm	0.3mm	0.3mm	110mV/V
GT1000RA	±1mm	<±0.25/±0.1	12g	0.8N	2.6N/cm	1.4mm	0.3mm	150mV/V
GT2500RA	±2.5mm	<±0.25/±0.1	16g	1.1N	2.6N/cm	0.8mm	0.3mm	375mV/V
GT5000RA	±5mm	<±0.25/±0.1	21g	1.5N	1.5N/cm	1.3mm	0.3mm	700mV/V

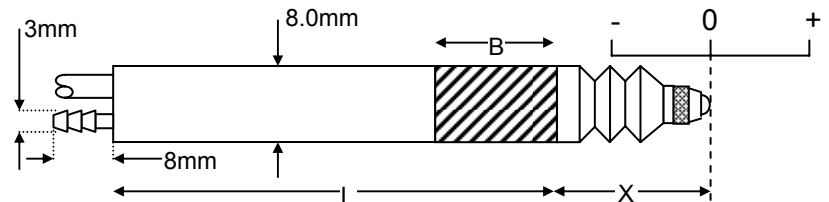
## Air push version.

The air-push version of the GT displacement transducer is extended by the application of air to the displacement transducer and is retracted by an internal spring. This is useful where the LVDTs position measurement tip must be retracted to allow components to move on a conveyor for example.

### End (axial) exit cable.

Type	L	X	B- (No clamp zone)
GT1000P	72mm	26.0mm	14mm
GT2500P	77mm	20.0mm	18mm
GT5000P	112mm	22.0mm	30mm

Air filter	<0.0005mm
Relative humidity	<60%



Type	Range	Linearity error (% F.S.)	Total weight	Air pressure		Inward over-travel	Outward over-travel	Sensitivity (nom)
				Minimum	Maximum			
GT1000P	±1mm	<±0.25/±0.1	11g	40kPa	65kPa	1.4mm	0.3mm	150mV/V
GT2500P	±2.5mm	<±0.25/±0.1	13g	45kPa	65kPa	0.8mm	0.3mm	375mV/V
GT5000P	±5mm	<±0.25/±0.1	16g	45kPa	55kPa	1.3mm	0.3mm	700mV/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
Repeatability	0.00015mm
Temperature coefficient (zero)	±0.01% F.S. /°C (typical)
Temperature coefficient (span)	±0.01% F.S. /°C (typical)
Operating temperature range	-40°C to 100°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.

USA & Canada  
 RDP Electrosense  
 2216 Pottstown Pike  
 Pottstown, PA 19465  
 USA  
 Tel: 610-469-0850  
 Tel: 800-334-5838  
 Fax: 610-469-0852  
 Email: info@rdpe.com

Rest of the world  
 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  
 URL: www.rdpe.com