



DISPLACEMENT

## 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.

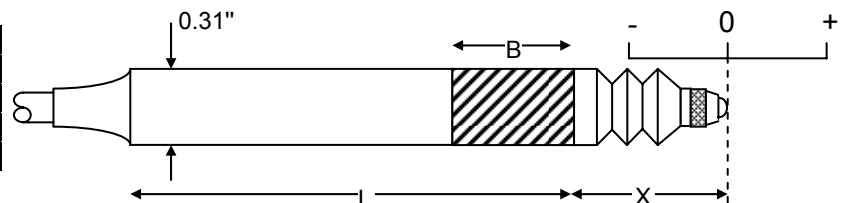
The GT series gauging transducer employs precision linear bearings to optimise the LVDT's measurement precision and repeatability.

### 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.

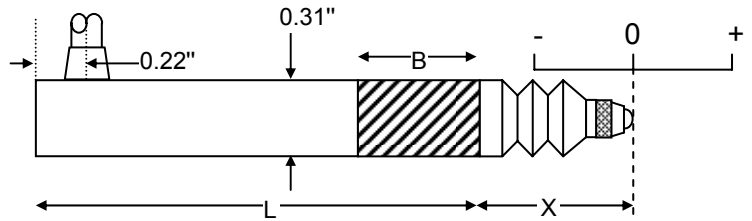
Type	L	X	B- (No clamp zone)
GT500Z	1.0"	0.29"	0.2"
GT1000	2.10"	0.56"	0.55"
GT2500	2.26"	0.80"	0.71"
GT5000	3.41"	0.87"	1.18"



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 (±0.02")	<±0.25	0.2oz	3.4oz	15.7oz/inch	0.01"	0.01"	110mV/V
GT1000	±1mm (±0.04")	<±0.25/±0.1	0.4oz	3.0oz	24.2oz/inch	0.05"	0.01"	150mV/V
GT2500	±2.5mm (±0.1")	<±0.25/±0.1	0.4oz	4.1oz	24.2oz/inch	0.03"	0.01"	375mV/V
GT5000	±5mm (±0.2")	<±0.25/±0.1	0.5oz	5.4oz	13.9oz/inch	0.05"	0.01"	700mV/V

## Side (radial) exit cable.

Type	L	X	B- (No clamp zone)
GT500XRA	1.3"	0.29"	0.2"
GT1000RA	2.25"	0.56"	0.5"
GT2500RA	2.41"	0.80"	0.7"
GT5000RA	3.58"	0.87"	1.2"



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 (±0.02")	<±0.25	0.2oz	3.4oz	15.7oz/inch	0.01"	0.01"	110mV/V
GT1000RA	±1mm (±0.04")	<±0.25/±0.1	0.4oz	3.0oz	24.2oz/inch	0.05"	0.01"	150mV/V
GT2500RA	±2.5mm (±0.1")	<±0.25/±0.1	0.6oz	4.1oz	24.2oz/inch	0.03"	0.01"	375mV/V
GT5000RA	±5mm (±0.2")	<±0.25/±0.1	0.7oz	5.4oz	13.9oz/inch	0.05"	0.01"	700mV/V

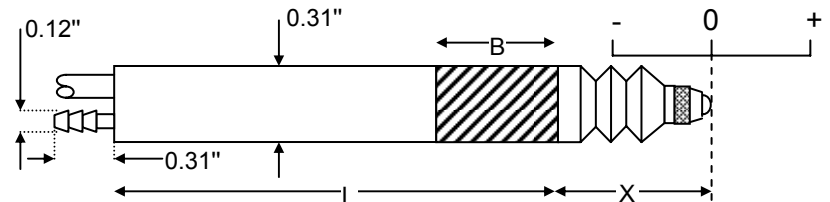
## Air push version.

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 LVDT's 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	2.8"	1.02"	0.6"
GT2500P	3.0"	0.79"	0.7"
GT5000P	4.4"	0.87"	1.2"

Air filter	<0.00002"
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 (±0.04")	<±0.25/±0.1	0.4oz	6psi	9psi	0.06"	0.01"	150mV/V
GT2500P	±2.5mm (±0.1")	<±0.25/±0.1	0.5oz	7psi	9psi	0.03"	0.01"	375mV/V
GT5000P	±5mm (±0.2")	<±0.25/±0.1	0.6oz	7psi	8psi	0.05"	0.01"	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	0.000006"
Temperature coefficient (zero)	±0.006% F.S. /°F (typical)
Temperature coefficient (span)	±0.006% F.S. /°F (typical)
Operating temperature range	-40°F to 212°F
Electrical termination	6.6ft (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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