



AC “PSEGA” PRECISION LVDT SERIES

Featuring high repeatability and linearity, the “**PSEGA**” Series LVDT’s have been designed for precision measurement in gaging and quality control applications. A spring-extended armature and a special high-precision linear bearing assembly yield virtually friction-free probe action over a wide temperature range. With suitable signal conditioning equipment, these LVDT’s can provide repeatability of 0.15 micron (6 microinches).

These LVDT’s are a logical selection when ambient temperature control is impossible or inconvenient, since small size and AISI- 446 stainlesssteel construction normally reduce thermal expansion errors to insignificance.* All models have rubber sealing bellows to prevent entry of dust or liquid into the transducer housing.

The bearing assembly has its own outer case, which adds to the high mechanical strength of these transducers. All models have fully encapsulated, magnetically shielded windings for use with ESI or other carrier amplifier equipment.** They can be mounted in any position, and are unaffected by being clamped into the steel housings of most gaging fixtures. With a built-in “anti-rotate” mechanism, each tungsten-carbide-tipped probe can withstand the high side loads often encountered in multipoint gaging operations, without loss of accuracy.

Securely clamped LVDT cables are sheathed in the highest quality polyurethane, for maximum strength and resistance to chemical/ oil contamination.

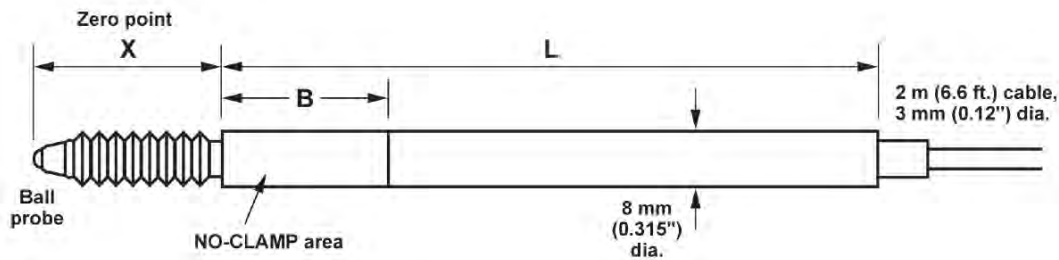
* Temperature errors attributable to the transducer-instrument combination amount to less than one microinch per °F.

This is smaller than the errors that inevitably arise—even in the most well designed fixture systems—from ordinary thermal expansion and contraction. In general, dimensional measurement with meaningful precision to 0.0001” or better demands a carefully controlled temperature environment.

** Differential-inductance windings are also available, for use with equipment with half-bridge input circuitry.

LVDT

AC, SHORT-STROKE, SPRING EXTENDED
[PSEGA SERIES]



Model	Range \pm	L	X (nom)	No clamp area	Total weight	Spring force at X	Spring rate	Inward over-travel	Outward over-travel	Sensitivity (nom)
DS1000PSEGA	0.5mm (0.02")	1.02"	0.29"	0.2"	0.2oz	3oz	16oz/inch	0.01"	0.01"	110mV/V
DS2000PSEGA	1mm (0.04")	2.10"	0.6"	0.55"	0.4oz	3oz	24oz/inch	0.06"	0.01"	150mV/V
DS5000PSEGA	2.5mm (0.1")	2.26"	0.8"	0.71"	0.4oz	4oz	24oz/inch	0.03"	0.01"	375mV/V
DS10000PSEGA	5mm (0.2")	3.41"	0.9"	1.18"	0.5oz	5oz	14oz/inch	0.05"	0.01"	700mV/V

SPECIFICATIONS

Excitation/supply (acceptable): 0.5V to 7V rms, 2kHz to 10kHz (sinusoidal)

Excitation/supply (calibrated): 5V rms, 5kHz (sinusoidal)

Output load: 100k Ω

Linearity error (Standard): $\pm 0.25\%$ F.S.

Linearity error (Optional on some models): $\pm 0.1\%$ F.S.

Repeatability: 0.000006"

Temperature coefficient (span): $\pm 0.006\%$ F.S. / $^{\circ}\text{F}$ (typical)

Operating temperature range: -40°F to 212°F (-40°C to 100°C)

Electrical termination: 6.6ft (integral cable) Longer available to order.

Wiring Details

