

PG Series LVDT Linear Sensors

Specifically Designed and Engineered for Applications
in Power Generating Steam Turbine Control Systems



For use with:
Interceptor Valves
Governor Valves
Throttle Valves
Bypass Valves
Stop Valves

Alliance Sensors PG Series LVDT linear position sensors are designed and engineered specifically for steam turbine valve position control system applications in electric power plants. Many of the features incorporated in the design were actually requested by power generation controls engineers. PG sensor models include the PGHD Heavy Duty LVDT and the PGSD Super Duty LVDT. Both PG versions are available on special order as mild radiation resistant for operation in BWR nuclear power plants.

The PG Series LVDT linear sensors are heavy duty, from the wire connection terminal block inside an IP-68 sealed heavy wall housing to the 3/8 inch outside diameter core rod in which the LVDT core is encased so that it can never vibrate loose or break off. A pair of double contact shaft seals for the core rod keep dirt and water out of the sensor's bore. An in-line ball joint coupling on the core connecting rod to take up minor installation misalignment is optionally available, along with other installation hardware such as hold-down clamps, threaded core extension rods, swivel rod eye ends, and mounting flanges. Electrical connections utilize a screw-clamp terminal block for 24 to 14 AWG wires that feed through a 3/4 inch conduit hub outfitted with a 1/2 inch conduit adapter. User-installable connectors are available.

Features

- Core is enclosed in 3/8 inch (9.5 mm) diameter rod... cannot vibrate loose or break off
- Dual redundant double contact shaft seals keep contaminants out of LVDT's bore
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B)/(A+B) systems
- Operates to 350°F (175 C) with over-temperature indicator built in
- Screw clamp terminal block accepts 24 to 14 AWG wires
- 2 year warranty... twice the industry standard

Electrical Specifications:

Excitation Frequency: 3 kHz nominal

Excitation Voltage: 3 V ACrms nominal

Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries with 3 Vrms excitation; sum of secondaries output is constant over range for ratiometric (S1-S2)/(S1+S2) operation

Linearity Error: $\pm 0.3\%$ of FSO nominal, $\pm 0.5\%$ of FSO max

Operating Temperature: -40 to 175 C (-40 to 350 °F)

Temperature Coefficient: $\leq 0.025\%$ FSO/degree C

Shock: 1000 g, 11 msec

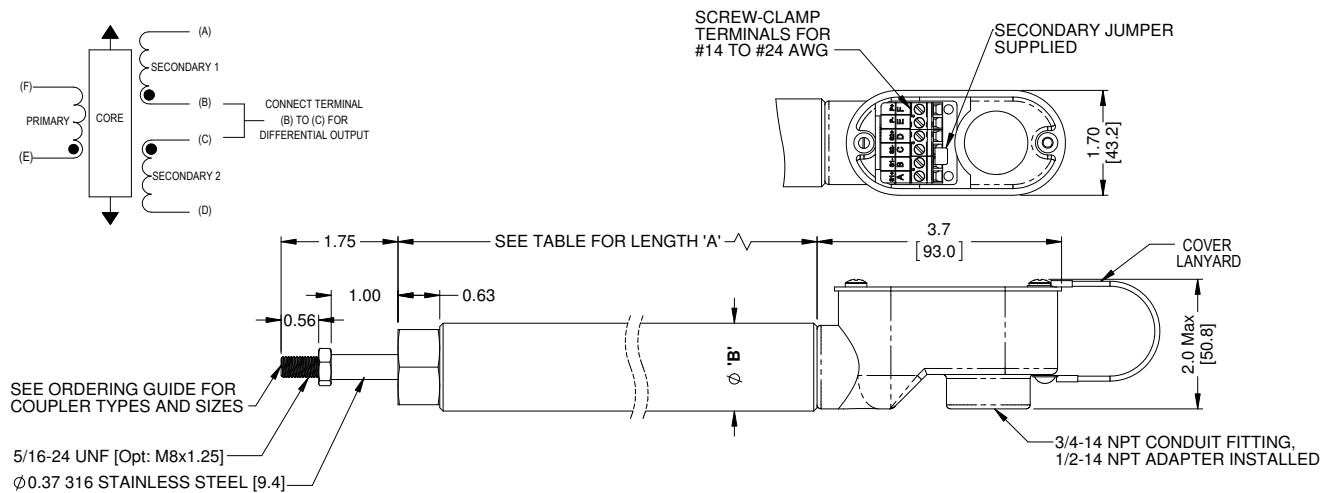
Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

PG Series



Model	Body Diameter 'B'
PGHD	1.05 INCHES [26.7 MM]
PGSD	1.32 INCHES [33.5 MM]

Model Number	Linear Range	Body Length 'A'	
PGXX-0203	3.00 INCHES	6.50 INCHES	165.1 MM
PGXX-0406	6.00 INCHES	10.25 INCHES	260.4 MM
PGXX-0609	9.00 INCHES	13.25 INCHES	336.6 MM
PGXX-0912	12.00 INCHES	17.25 INCHES	438.2 MM
PGXX-1215	15.00 INCHES	21.25 INCHES	539.8 MM



Ordering information:

Model	Version	Operating Range	Coupler Type	Rod Coupler Size *
PG	XX-	XXXX-	XX	(XX)
	HD Heavy Duty	0203 2 to 3 inches	BJ Ball Joint	3S 10-32 UNF, 1/2 inch deep
	SD Super Duty	0406 4 to 6 inches	RN Rigid Nut	4S 1/4-28 UNF, 1/2 inch deep
		0609 6 to 9 inches		5S 5/16-24 UNF, 1/2 inch deep
		0912 9 to 12 inches		6S 3/8-24 UNF, 1/2 inch deep
		1215 12 to 15 inches		6L 3/8-24, 3/4 inch deep (default)
				8M M8 x 1.25, 14 mm deep
				10M M10 x 1.5, 14 mm deep

* No size callout gets 6L default

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