

Weld Displacement Transducer

Model WLP

MEASURES WELD SET-DOWN

MONITORS TOOL WEAR

DETECTS MISSING WELD NUTS

REPEATABILITY <0.0001"

LINEARITY <0.25% FS

DURABLE STAINLESS STEEL



The WLP Weld Displacement Transducer is a rugged, precise linear displacement transducer. This Linear Variable Differential Transformer (LVDT) is constructed of stainless steel for use in the harsh resistance welding environment. This device is easily mounted to a variety of weld heads on spot, projection, and seam welding machines. The WLP comes in a variety of ranges and measures weld tooling position throughout the welding process. Select the correct range to adapt it to various applications from micro-joining, to automotive spot welding, to heavy-duty projection welding.

For spot welding applications, the WLP Weld Displacement Transducer measures initial position and final "set-down" to give a good indication of the quality of the formed nugget. For projection welding applications, it can detect missing or upside-down nuts then detect final "set-down" to give a strong correlation to final weld quality. The WLP accurately measures the same parameters in micro-joining applications, cross-wire welding, and wire-to-plate welding.

Interfaced with a variety of digital electronic instrumentation, the WLP produces a simple relay contact closure to halt a misweld. Similarly, relay limits can be set for a range of acceptable "set-down" data that meets your quality standards. Statistical data can be downloaded through an RS-485 interface to track tool wear and other weld data.

Specifications

Model WLP

PERFORMANCE

Displacement Ranges	0-0.4, 0-0.6, 0-1.0, 0-2.0, 0-4.0, 0-6.0, 0-8.0 inch
Repeatability	< 0.0001 inch
Linearity	± 0.25% FS
Resolution.....	Infinite

ENVIRONMENTAL

Temperature, Operating	0°F to 250°F
Temperature Effects	
- Zero	0.006% FS/°F
- Span	0.006 Rdg./°F

ELECTRICAL

Excitation	3V RMS @ 5KHz
Output Load	100K ohms
Electrical Termination.....	Multi-conductor, shielded cable leads

MECHANICAL

Case Construction	Stainless steel
Probe Material	Stainless steel
Armature Type	Captive guided or spring return

How to Order

Order Code: AW621

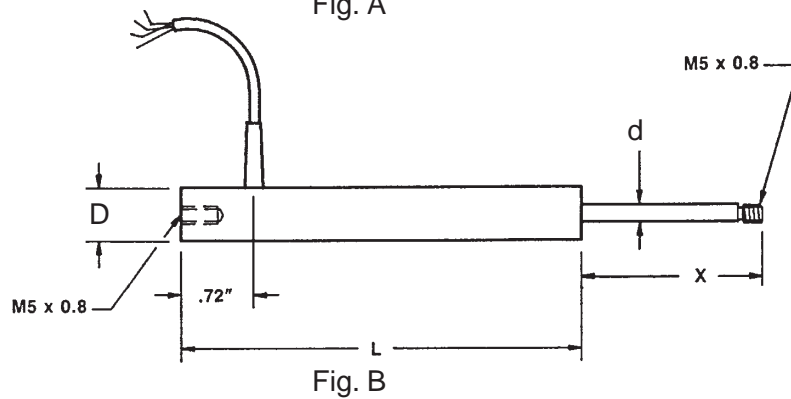
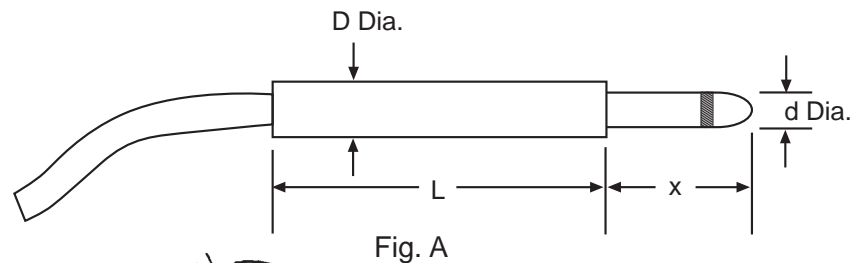
Capacity

0-0.4 inch	HN
0-0.6 inch	HF
0-1.0 inch	HP
0-2.0 inch	HQ
0-4.0 inch	HR
0-6.0 inch	HS
0-8.0 inch	HT

Dimensions

Order Code	Range (in)	L (in)	D (in)	d (in)	x (in)	Wgt (oz)	Spring Force, max (oz)	Fig
AW621HN	0-0.400	2.70	0.37	0.18	0.45	0.92	4.58	A
AW621HF	0-0.600	3.33	0.37	0.18	0.72	1.06	8.64	A
AW621HP	0-1.000	4.64	0.37	0.18	0.97	1.48	7.58	A
AW621HQ	0-2.000	6.35	0.81	0.19	2.5	8.00	4.00	A
AW621HR	0-4.000	11.6	0.82	0.19	3.0	18.0	n/a	B
AW621HS	0-6.000	16.0	0.82	0.19	4.5	23.0	n/a	B
AW621HT	0-8.000	17.8	0.82	0.19	5.0	25.0	n/a	B

Note: x = nominal midrange position



Instrumentation

The WLP Weld Displacement Transducer is interfaced with a variety of instruments and signal conditioners. Sensotec offers a WM9000 WeldMeter family including single- and multi-channel devices providing complete signal conditioning for up to 14 channels. A variety of features include limits, auto zeroing, and external tare. Various relay configurations and analog and digital output signals are available.