

LAT 100 / LDT 200 SERIES LVDT DISPLACEMENT TRANSDUCERS

The basic design of an LVDT comprises a primary coil winding and two identical secondary windings on a common bobbin, and a moveable magnetic core. The primary winding of the LVDT is excited with a low voltage AC supply. The two secondary windings are connected so that their combined output represents the difference in the voltage induced into them. With the armature in the central position, the output is zero. Movement of the armature from this position produces an output which changes in phase and magnitude according to the armature displacement. The LAT is a compact, AC energized high performance transducer. It will deliver its best performance when energized with between 0.5 Vac and 7 Vac at 5KHz using a high quality carrier amplifier. The LDT transducer operates from simple unregulated power supplies of +20 to +40 Vdc or dual +/-10 to +/-20 Vdc and generates two 5 Vdc anti-phase output signals.

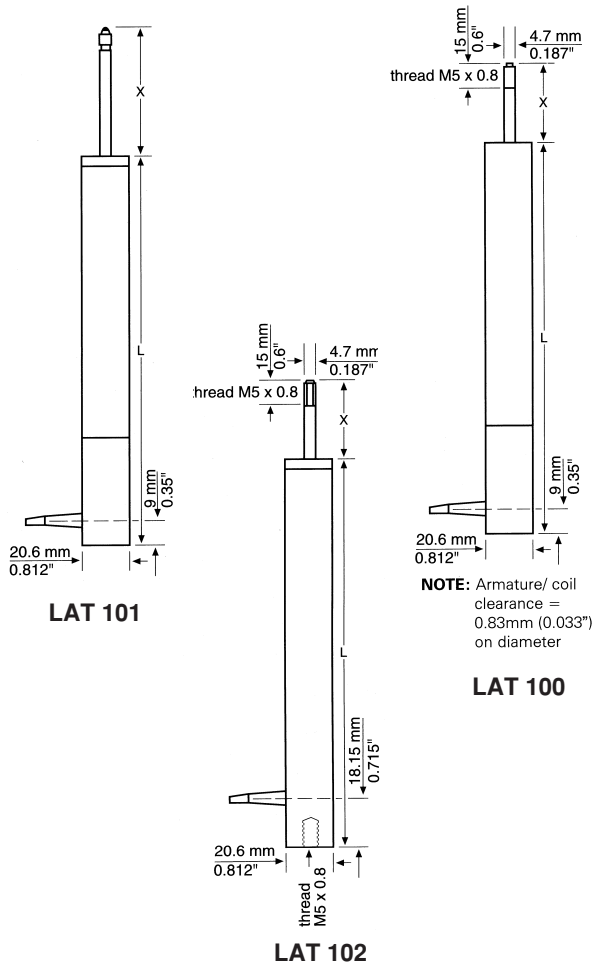
- CHOICE OF ARMATURE
- +/-0.5" TO +/-18" STROKE
- AC OR DC OPERATION
- UP TO .1% LINEARITY

LVDT SERIES

COOPER INSTRUMENTS & SYSTEMS

SPECIFICATIONS

STROKE:	± 0.5 to ± 18.5 Inch
LINEARITY:	0.5% F.S standard, 0.25% or 0.1% available on some models
MATERIAL:	Stainless Steel
TEMPERATURE RANGE: (OPERATING)	-58° F to 257° F
OUTPUT:	0.8 to 3.7 V/V - LAT Two Anti-phase ± 5 Vdc nominal for working stroke - LDT
OUTPUT LOAD:	100K Ohms (Optimum) - LAT 2K Ohms (± 10 to ± 20 V) or 20K Ohms (+20 to +40 V)
EXCITATION:	0.5 Vac to 7 Vac rms reg. - LAT ± 10 to ± 20 Vdc unregulated or +20 to +40 Vdc unreg. @ 25 mA
CABLE:	6.5 Ft
OPTIONS:	Premium Linearity Matched Sensitivity Sealing against Moisture Axial Bendix Connector Temp Option to 392+F 0-10 or 10-0 Vdc Output 2 Wire, 4-20 or 20-4 mA Output



AVAILABLE RANGES LAT 100 Unguided Armature

Stroke	L"	X"	Body Wght	Arm Wght	Output
± 0.5	5.0	1.7	170 gms	35 gms	0.8 v/v
± 1.0	6.1	2.7	227 gms	50 gms	0.9 v/v
± 2.0	10.6	3.2	369 gms	57 gms	1.6 v/v
± 3.0	15.0	4.7	454 gms	63 gms	1.5 v/v
± 4.0	16.8	5.2	568 gms	71 gms	3.2 v/v
± 6.0	24.3	7.2	824 gms	114 gms	2.4 v/v
± 8.0	31.8	10.2	1193 gms	145 gms	1.5 v/v

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AVAILABLE RANGES			LAT 101 Spring Return Armature		
Stroke	L"	X"	Body Wgt	Spring Rate	Output
±0.5"	5.25	1.5	184 gms	22 gms/cm	0.8 v/v
±1.0	6.35	2.5	227 gms	26 gms/cm	0.9 v/v
±2.0	10.85	3.0	398 gms	37 gms/cm	1.6 v/v
±3.0	15.25	4.5	483 gms	39 gms/cm	1.5 v/v

AVAILABLE RANGES			LAT 102 Captive Guided Armature	
Stroke	L"	X"	Body Wgt	Output
±0.5	6.0	1.5	284 gms	0.8 v/v
±1.0	7.1	2.5	340 gms	0.9 v/v
±2.0	11.6	3.0	511 gms	1.6 v/v
±3.0	16.0	4.5	653 gms	1.5 v/v
±4.0	17.8	5.0	710 gms	3.2 v/v
±6.0	25.3	7.0	1022 gms	2.4 v/v
±8.0	32.8	10.0	1420 gms	1.5 v/v
±10.0	40.5	12.0	1590 gms	2.0 v/v
±15.0	56.5	16.0	2130 gms	3.0 v/v
±18.5	67.0	20.0	2528 gms	3.7 v/v

AVAILABLE RANGES			LDT 200 Unguided Armature	
Stroke	L"	X"	Wght Body	Wght Arm
±0.5"	6.9	1.71	213 gms	28 gms
±1.0"	8.0	2.7	270 gms	57 gms
±2.0"	12.5	3.2	369 gms	71 gms
±3.0"	16.9	4.7	497 gms	85 gms
±4.0"	18.7	5.2	625 gms	99 gms
±6.0"	26.2	7.2	852 gms	114 gms
±8.0"	33.7	10.2	1250 gms	142 gms

AVAILABLE RANGES LDT 201 Spring Return Armature				
Stroke	L"	X"	Body Wgt	Spring Rate
±0.5"	7.15	1.5	227	22 gms/cm
±1.0"	8.25	2.5	284	26 gms/cm
±2.0"	12.75	3.0	398	37 gms/cm
±3.0"	17.15	4.5	511	39 gms/cm

AVAILABLE RANGES LDT 202 Captive Guide Armature			
Stroke	L"	X"	Body Wgt
±0.5"	7.65	1.5	340 gms
±1.0"	8.75	2.5	398 gms
±2.0"	13.25	3.0	511 gms
±3.0"	17.65	4.5	625 gms
±4.0"	19.45	5.0	767 gms
±6.0"	26.95	7.0	1022 gms
±8.0"	34.45	10.00	1448 gms
±10"	42.00	12.00	1676 gms
±15"	58.00	16.00	2215 gms
±18.5"	68.50	20.00	2613 gms

