

MP Schaevitz™ LVDT

- Measurement ranges from $\pm 12,7$ mm to ± 254 mm
- LVDT
- Linearity ± 0.25 % FS at 100 % stroke
- Output signal 2.8 ... 28 mV/V pro mm
- Supply voltage 3.0 V_{rms}



The MP Series LVDTs provide classic precision performance in harsh industrial environments. The rugged, extruded anodized aluminium housing contains a 100% epoxy encapsulated LVDT, affording superior environmental, mechanical and EMI/RFI protection. The convenient heavy-duty terminal strip replaces multiple lead wires thereby simplifying electrical connection, while the mounting flanges ease mechanical installation. An integral Teflon® bore liner provides a smooth, low-friction bearing surface for the core and reduces diametrical clearance.

Available in a variety of stroke ranges from ± 0.5 to ± 10 inches, the MP Series is the ideal choice for industrial mill type applications, power turbines, or wherever aggressive environmental conditions are present. The MP Series is also available with a small diameter/low-mass core, for applications where excessive core weight could influence the motion. The lightweight core can also reduce mechanical stresses and help preserve the structural integrity of the core actuation assembly during high speed displacement or under high vibration.

■ Features

- Rugged aluminium housing
- 100% epoxy encapsulated
- $\pm 0.25\%$ linearity (100% stroke)
- Shock and vibration tolerant
- Screw terminals and mounting flanges
- Calibration certificate supplied with each unit

■ Applications

- Paper mills
- Power turbine valve position
- Rolling mills
- Metal forming presses
- Steel mill "ton-dish" slide valve feedback
- Progressive rotary press Z-axis feedback

■ Performance Specifications

Electrical Specifications:

Parameter	500 MP	1000 MP	2000 MP	3000 MP	4000 MP	5000 MP	10000 MP
Stroke range:	± 0.5 in ± 12.7 mm	± 1 in ± 25.4 mm	± 2 in ± 50.8 mm	± 3 in ± 76.2 mm	± 4 in ± 101.6 mm	± 5 in ± 127 mm	± 10 in ± 254 mm
Sensitivity	per in	0.7 mV/V	0.39 mV/V	0.23 mV/V	0.25 mV/V	0.20 mV/V	0.14 mV/V
	per mm	28 mV/V	15.3 mV/V	9.1 mV/V	9.8 mV/V	7.9 mV/V	5.5 mV/V
Output at stroke ends:	350 mV/V	390 mV/V	460 mV/V	750 mV/V	800 mV/V	700 mV/V	700 mV/V
Phase shift:	-1°	-3°	-5°	-11°	-1°	-3°	-5°
Input impedance (PRI):	460 Ω	460 Ω	330 Ω	315 Ω	275 Ω	310 Ω	550 Ω
Output impedance (SEC):	375 Ω	320 Ω	300 Ω	830 Ω	400 Ω	400 Ω	750 Ω
Linearity in % of FS:							
at 50 % stroke	0.15	0.15	0.15	0.15	0.15	0.15	0.15
at 100 % stroke (max.)	0.25	0.25	0.25	0.25	0.25	0.25	0.25
at 125 % stroke	0.35	1.00	0.50*	0.50*	0.50*	1.00*	1.00*
at 150 % stroke	0.75	1.30*	1.00*	1.00*	1.00*	--	--
Supply voltage:	3 V _{rms} sine wave						
Input frequency range:	400 Hz to 5 kHz						
Test frequency:	2.5 kHz						
Null voltage (max.):	0.5 % FSO						

* requires special reduced core length

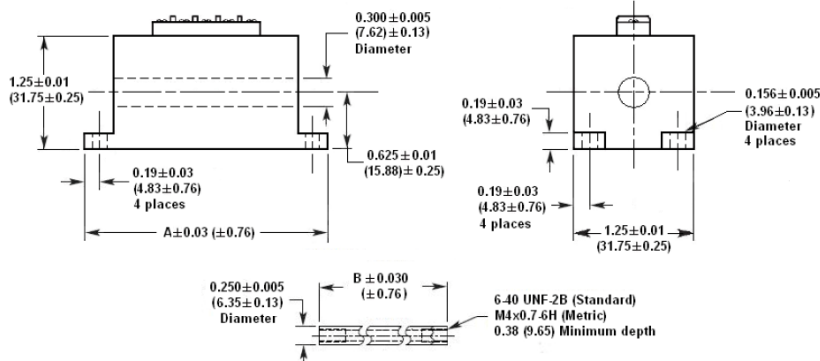
Environmental and Materials:

Operating temperature:	-55 ... +150 °C
Shock survival:	1000 g (11 ms half-sine)
Vibration tolerance:	20 g up to 2 kHz
Housing material:	Aluminium, anodized
Electrical termination:	6 terminal barrier strips

Notes:

- All values are nominal unless otherwise noted
- Electrical specifications are for the test frequency indicated in the table
- FS: Full Scale is 2X for $\pm X$ stroke
- FSO: Full Scale Output is the output at X position for $\pm X$ stroke

■ Dimensions

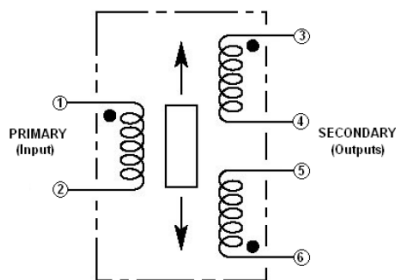


All dimensions in inches, values in brackets in mm, approx. values.

These drawings are for information only and not intended for construction purpose. Please ask for detailed drawings

Model	Dimensions, approx.				Weight, approx.			
	A (Body)		B (Core)		Body		Core	
	inch	mm	inch	mm	oz	g	oz	g
500 MP	6.50	165.1	3.45	87.6	12.36	350	0.64	18
1000 MP	7.64	194.1	4.00	101.6	16.59	470	0.74	21
2000 MP	11.01	279.7	5.30	134.6	21.00	595	0.95	27
3000 MP	13.85	351.8	5.60	142.2	26.12	740	0.99	28
4000 MP	16.68	423.7	7.00	177.8	31.77	901	1.27	36
5000 MP	18.92	480.6	7.00	177.8	36.18	1026	1.27	36
10000 MP	31.90	810.3	8.50	215.9	60.89	1726	1.52	43

■ Wiring



Connect 4" to „5" for differential output.

■ Ordering Information

Add multiple option dash numbers together to determine proper ordering suffix.

Example:

Model 500MP-028 describes a LVDT with stroke ± 12.7 mm (500MP), tested with 5kHz (002), metric threaded core (006) and a low-mass core (020).

Option number	Description
002	5 kHz Linearity test ¹
006	Metric threaded core M4 x 0.7
020	Small-diameter / low-mass core ²

1. Available on 500 MP only
2. Mass and dimensions on request

Due to continual product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.

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