

PRECISION LINEAR VOLTAGE DIFFERENTIAL TRANSFORMER

PULSE TECHNOLOGY BASED

MICROCONTROLLER BASED

Introduction:

MLDT range of Pulse base LVDT [DC/AC] is available in 10 different regular models apart from tailor made solutions. Virtually covering all industrial and research applications requirement like electrical, thermal, mechanical, and environmental specifications. These Sensors/controllers are used in generation, transmission/distribution/heavy electrical engineering industries, defense, electrical/mechanical m/c testing, industrial electronics, railway, and avionics and many research and development activities. These LVDTs are compatible to any standard makes very high degree of accuracy(upto one micron meter)/repeatability/reliability. These indicators are available in different constructional material like ceramic-coated ms/poly carbonate/Al/SS...

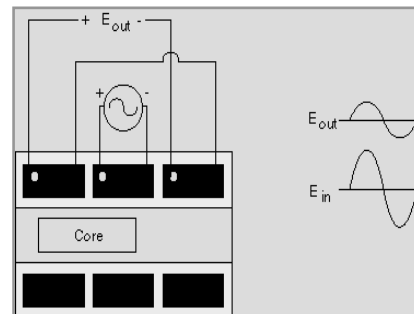
Operating Principle: The Pulse LVDT is based on two secondary coils, symmetrically wound on to a primary coi excited by pulses tain. Movement of the push rod displaces the position of the high permeability armature, which determines the voltage induced from the primary to each secondary. This voltage is essentially a linear function of displacement and is conditioned by the hybrid circuit. The coils are separated from the armature assembly by a stainless steel bobbin, which provides excellent isolation from the outside environment such as fluids, dust, etc. In 'free armature' unguided versions there is no physical contact between, the armature and coils making it inherently a friction free device providing infinite resolution with least hysteresis. This means the LVDT can respond to the most minute movement of the high permeability armature.



Pictorial presentation of product



Pictorial presentation of product



pictorial presentation of working

Models & Technical data:

LVDT [A.C.]

Stroke length < 99.9999 m.m.

LVDT [D.C.]

Stroke length < 99.9999 mm

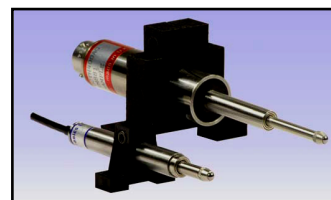
Model	Stroke-length Full/Usable m.m.	Guided/UnGuided/Weight(gms)	KHz	V/in/V 10 ⁻³	O.D. /I.D. m.m.	Model	Stroke-length Full/Usable m.m.	Guided/Un-ded/weight	KHz X10	V/in/V 10 ⁻³	O.D. /I.D. m.m.
MPECDL-01001	0001.0/0010.0	Option/060	1.0	2.60	option	MPECDL-01002	0001.0/0010.0	Option/068	13	2.60	option
MPECDL-02001	0002.0/0016.5	Option/075	5.0	3.90	option	MPECDL-02002	0002.0/0016.5	Option/085	12	3.90	option
MPECDL-02501	0002.5/0025.0	Option/100	2.40	1.60	option	MPECDL-02502	0002.5/0025.0	Option/120	8.0	1.60	option
MPECDL-03001	0003.0/0036.0	Option/140	2.4	0.75	option	MPECDL-03002	0003.0/0036.0	Option/160	6.0	0.75	option
MPECDL-05001	0005.0/0040.0	Option/155	2.0	0.61	option	MPECDL-05002	0005.0/0040.0	Option/180	5.0	0.61	option
MPECDL-07501	0007.5/0050.0	Option/170	2.0	0.41	option	MPECDL-07502	0007.5/0050.0	Option/190	4.5	0.41	option
MPECDL-10001	0010.0/0100.0	Option/170	2.0	0.23	option	MPECDL-10002	0010.0/0100.0	Option/210	3.0	0.23	option
MPECDL-20001	0020.0/0150.0	Option/190	1.5	0.19	option	MPECDL-20002	0020.0/0150.0	Option/220	2.5	0.19	option
MPECDL-30001	0030.0/0150.0	Option/210	1.5	0.12	option	MPECDL-30002	0030.0/0150.0	Option/245	2.0	0.12	option
MPECDL-40001	0040.0/0200.0	Option/220	1.5	0.09	option	MPECDL-40002	0040.0/0200.0	Option/255	1.5	0.09	option
MPECDL-50001	0050.0/0300.0	Option/260	1.0	0.02	option	MPECDL-50002	0050.0/0300.0	Option/265	1.0	0.02	option
MPECDL-60001	0060.0/0300.0	Option/290	1.0	0.009	option	MPECDL-60002	0060.0/0300.0	Option/285	1.0	0.009	option
MPECDL-99001	00100.0/300.0	Option/310	1.0	0.002	option	MPECDL-99002	00100.0/300.0	Option/340	1.0	0.002	option
MPECDL-15001	00150.0/300.0	Option/310	1.0	0.002	option	MPECDL-15002	00150.0/300.0	Option/340	1.0	0.002	option

General electrical/mechanical specifications:

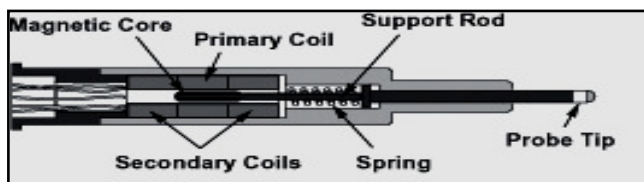
- Operating voltage: 12 volts D.C. /220 Volts A.C./option
- Frequency: 50-20,000 Hz
- Linearity: 0.1/0.2/0.3% of F.S.
- Null voltage: 0.5/1/1.5% of F.S.V.
- Position offset/Gain: programmable
- Operating Temperature range: 60/100/200 Degree cel
- Temperature coefficients of measurement: 10x10⁻⁶ ppm/degree cel
- Temperature range: 0-70 degree cel
- Permissible harmonic: upto 3.0% of principle harmonic
- Power consumption: 5.0 V.A [max]
- Accuracy error: 0.5/1.0/2.0 % reading
- Repeatability: 100 of reading Size: 6x8x8
- Resolution: 1/10 of least significant bit(1/10 micron)
- Switching operation life: 10000
- Control: control against three different set point
- Interface: RS-232/0-5 volt D.C/ proportional to displacement
- Additional: linearity control in six steps. /
- Tip: gold/platinum plated/Al.N/Si.C



Tips



Mountings



Pictorial presentation of working of MPECDL

NOTES:

The Four numeral after product code indicates the (displacement in m.m.),and last digit corresponds AC/DC excitation(1-A.C.,2-D.C.,3-PULSE)

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PRECISION DYNAMIC DISPLACEMENT SIGNAL CONDITIONER (A.C./D.C./PULSE EXCITATION)

Introduction:

Precision dynamic displacement signal conditioners are available in 8 different regular models apart from tailor made solutions virtually covering all industrial and research applications meeting all electrical, thermal, mechanical, and environmental specifications. These indicators are first choice for online monitoring of high response/precision displacement under hostile operational conditions. These finds applications in electrical generation, civil sytructure under vibration/explosive conditions, defense motives applications, electrical/mechanical m/c testing instrument, industrial electronics, railway, and avionics and solid state physical applications etc, switch gears, MEMS and many research and development activities. These precision conditioners offers measurement with very high degree of accuracy/repeatability/reliability at ultra high speed and are available in different constructional material like ceramic-coated MS, poly carbonate cabinets.

Benefits:

- High input impedance/Low input biased current /higher accuracy/.
- 5-1/2 & 6-1/2 digit display /consistent performance
- ce over large temperature/humidity range (70°C and 80 % RH)
- Scaled directly in nano/micro meter range with repeatable accuracy.
- Auto/manual zero offset without drift.
- Auto drift tracking
- RS-32 interface/high sample rate – 10,000 sample/second.
- Feed back current measurement technique.



MPECDLSC-0009991



MPECDLSC-0099991



MPECDLSC-9999992

ELECTROMETER static/dynamic Range<999999 nano meter

Model	Range m.m.	Pulse/D.C./Pulse Frequency Range	sensor Burdon	Accuracy Restricted to Resolution level	Resolution/Quantified/ optional	Voltage/current source Volt/current/optional	INTERFACE
MPECDLSC-9999990101	10.0/5.0-9999.99 mm	0-50K.Hz	< 100 micro-volts	99.99999%	50 micro meter	015 VOLTS/001.0 A	RS-232USB
MPECDLSC-9999990401	10.0/5.0-999.999mm	0-50 k.Hz	< 100 micro volts	99.99999%	10.0 micrometer	040 VOLTS/001.0 A	RS-232/USB
MPECDLSC-9999990102	05.0/1.0-999.999mm	0-50K.Hz	< 100 micro volts	99.99999%	05.0 micrometer	015 VOLTS/001.0 A	RS-232/USB
MPECDLSC-9999990402	10.0/5.0-99.9999mm	0-50 k.Hz	< 100 micro volts	99.99999%	05.0 micrometer	040 VOLTS/001.0 A	RS-232/USB
MPECDLSC-9999991002	05.0/1.0-99.9999mm	0-50k..Hz	< 100 micro volts	99.99999%	100.0 nano meter	100 VOLTS/001.0 A	RS-232/USB
MPECDLSC-9999992002	01.0/0.10-99.9999mm	0-50 k.Hz	< 100 micro volts	99.99999%	100.0 nano meter	200 VOLTS/001.0 A	RS-232/USB
MPECDLSC-9999992002	010/0.10- 9.99999mm	0-50 k.Hz	< 100 micro volts	99.99999%	100.0 nano meter	200 VOLTS/010.0m A	RS-232/USB

Six digit after product code indicate count, next, Two digit indicate voltage and last digit indicate 01- micro meter/02-nano meter.

General electrical/mechanical specifications:

Operating voltage: 220 volt A.C. (50-20,000 Hz)/ 12 volts D.C.
 Measurement range (full scale): as above in different model.
 Displacement measurement range: 0-40/0-100/0-500 m.m. /optional
 Input capacitance: 10 nF
 Response time: 1000 sample/sec
 Electrical Burden: less than 100 micro volt/full scales current or better
 Accuracy error: 0.5/1.0/2.0 % reading
 Repeatability: 100 of reading
 Resolution: 100 n.m./option/ **may be altered based on time behaviour of signal**
 Displacement Range :10⁻⁰⁸-10⁻⁰³/10⁻³-10⁺²/10⁺²-10⁺⁴ m.m. least count- 1.0/10.0/100.0 nano meter
 Linearity adjustment: upto 100 nano meter
 Input imedence: ultra low(<1000 nano volt burdon),
 Filtering: low pass/high pass(adjustable)
 Offset: variable upto 10,000 nano volts (manual/auto)
 CMMR: >80 db at 50-60 Hz
 Isolation: > 100 giga ohm
 Connector: BNC-9 pinx2 and BNC-25 pinx2
 Size: 5X8X8 inches/rack mounted or portable
 Interface: RS-232

Option : Addition software to plot displacement/velocity/acceleration etc.
THESE SPECIFICATIONS OR PART THERE OF MAY BE MODIFIED TO MEET ANY TAILOR MADE SOLUTIONS.

NOTES: The numeral after product code indicates the (ampere meter) range and last digit corresponds to size (5x5x8, 8x8x12)



MPECDLSC-9999990402