APPLIED MEASUREMENTS LTD.
Transducer Specialists...

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AML/M Miniature LVDT Displacement Transducer

Key Features:

- Stroke Ranges: ±0.25mm to ±50mm
- AC mV/V Output or DC Voltage / Current Output
- Environmental Protection: IP40
- Core-Only, Core + Extension & Spring Loaded Versions
- Wide Variety of Different Outputs; mVac, 0-5Vdc, 0-10Vdc, 4-20mA, ±2.5Vdc
- Stainless Steel Construction
- Small Physical Size
- Simple Installation
- Ideally Suited for OEM Applications
- 3 Year Warranty

Image shows miniature LVDT with spring loaded option.

Click to watch the product video

The AML/M miniature LVDT displacement transducers are AC powered devices and are available in either 4-wire or 6-wire configurations. Typical applications include OEM and general purpose applications such as material testing machines, automotive/aerospace test rigs and actuators, etc. Their small physical size also makes them ideally suited for use in load cells, pressure transducers, weighing systems and in general closed loop control.

The AML/M is supplied in a variety of packaging formats, enabling engineers to select quickly and precisely, the product required for a particular application. In addition, the miniature LVDT is available in one of 3 mechanical configurations; plain core-only, plain core & extension rod and spring loaded core and extension rod.

The AML/M LVDT requires a sinusoidal AC supply voltage and provides an AC mV/V output signal which is linearly proportional to displacement. For a 0-5Vdc, 0-10Vdc or 4-20mA output, a compact in-line DC in/DC out signal conditioner can be provided, please speak to our technical sales team.

Options:

- Core-Only, Core + Extension & Spring Loaded Versions Available
- Longer Cable Lengths
- Higher Temperature Versions
- Custom Design Versions Available
- Miniature In-Line Signal Conditioner to Provide 0-5Vdc, 0-10Vdc or 4-20mA Output Signal.
- USB Version (via DSC-USB)
- Wireless Version (via T24 instrumentation)
- Single or Multi-Channel PC-Based Monitoring & Data Logging System.

Applications:

- OEM and General Purpose Applications
- Material Testing Machines
- Automotive/Aerospace Test Rigs & Actuators
- Quality Assurance Testing
- General Closed Loop Control

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Specification:

CHARACTERISTICS	AML/M	AML/MJ	AML/MU	AML/MU10	AML/MI	AML/MD	UNITS
Stroke Measurement Range:	±0.5, ±1, ±2.5, ±5, ±10, ±12.5, ±15, ±25, ±50, ±75, ±100, ±125, ±150, ±175, ±200, ±250 ±300, ±400, ±500 (maximum stroke is ±100 for Sprung Loaded Core & Extension)						millimetres
Signal Output:	See Table Below		0-5volt	0-10volt	4-20mA	±2.5volt	
No. of Wires	6	4	3	3	3	4	
Supply Voltage (unregulated):	2 to 5Vrms @ 1 to 5kHz		10-24Vdc	14-24Vdc	14-24Vdc	12Vdc regulated	
Supply Current:	-		35mA @ 15V	35mA @ 15V	35mA typ.	35mA @ 12V	
Max. Loop Resistance:	-		-	-	300 @ 30V	-	ohms
Max. Output Sink Current:	-		0.5	1	-	0.1	milliamps
Non-Linearity:	<1.0						±% Stroke Range
Repeatability:	<0.10						±% Stroke Range
Output Bandwidth (flat):	100		100	100	100	100	Hz
Output Ripple:	-		30mV max.	30mV max.	0.1% @ 20mA	30mV max.	
Operating Temperature Range:	AML/IE & IEJ: -30 to +85 Standard / -30 to +150 Optional				-20 to +85 on DC/DC models		°C
Zero Temperature Coefficient:	<0.020		<0.010				±%Stroke Range/°C
Span Temperature Coefficient:	<0.020		<0.030				±%Stroke Range/°C
Vibration Resistance:	20g up to 2kHz						
Shock Resistance:	1000g for 10milliseconds						
Construction Materials:	Body & Extension Rod: 303 St/Steel, Core: 416 St/Steel, Cable Gland: Nickel-Plated Brass, Spring: 316 St/Steel, Rod-End Bearings: Mild Steel (St/Steel on IP68 version)						
Connecting Cable:	2 metre screened PVC cable* (*Hi-Temp version = PTFE). Axial or radial exit available - see order codes for full details. **Spring-loaded version ONLY available with radial cable exit.						
Environmental Sealing:	IP40						

Note: On DC output version (0Vdc / 4mA) is given with the core in the extended / outwards position. This can be reversed if required, please request **Option Y** on your order.

**The spring-loaded version is only available with a radial cable exit due to the rear extension of the LVDT.

Note: On versions with in-line signal conditioner zero output (0Vdc / 4mA) is given with the core in the extended / outwards position. This can be reversed if required, please request **Option Y** on your order.

Wiring:

4-wire AC Version

Wire	Designation
Yellow	Primary +ve
Black	Primary -ve
Brown	Secondary +ve
Green	Secondary -ve
Ground	Screen (not connected to sensor body)

3-wire DC Versions (4-20mA, 0-5Vdc, 0-10Vdc, ±2.5Vdc)

Wire	Designation
Red	Supply
Blue	0V common
Green	Signal
Ground	Screen (not connected to sensor body)

6-wire AC Version

Wire	Designation
Yellow	Primary +ve
Black	Primary -ve
Green	Secondary 1 +ve
Red	Secondary 1 -ve (centre tap)
Brown	Secondary 2 +ve
Blue	Secondary 2 -ve (centre tap)
Ground	Screen (not connected to sensor body)

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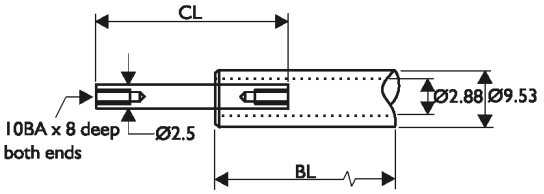
Dimensions (mm):

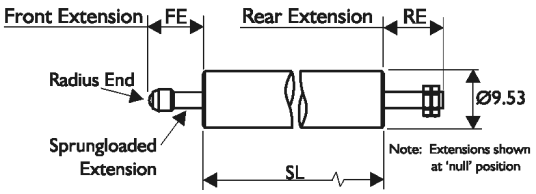
Stroke (mm)	Core Only STANDARD		Core/ Extension OPTION X	Core/ Extension OPTION S			Output Sensitivity @ 3kHz (mV/V)
	BL	CL	PL	SL	FE	RE	
±0.25	25	12.5	25	25	20	10	28
±0.5	25	12.5	25	25	20	10	55
±1	30	20	30	30	20	10	115
±2.5	38	20	38	38	23	11	90
±5	55	20	55	55	29	11.5	80
±12.5	82	30	82	82	53	20	300
±25	150	76	150	150	70	30	240
±50	220	94	220	220	120	57	320

CORE/EXTENSION MOUNTING OPTIONS

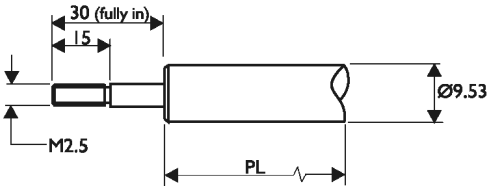
STANDARD
Core only



OPTION S
Sprung Loaded Core & Extension

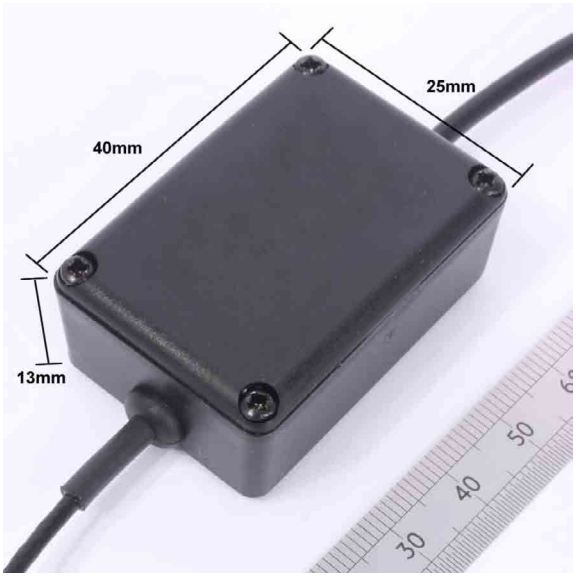


OPTION X
Plain Core & Extension



Optional In-Line Amplifier Housing Dimensions:

(Required for all conditioned output versions)



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Associated Products:

LVDT Amplifier / Signal Conditioner

In-Line LVDT Amplifier

Intuitive4-P Process Digital Indicator

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Ordering Codes:

AML/MJ+/-50mm-S0A-02-000	AML/M	J	+/-50mm	-	S	O	A	-	02	-	000
Example Code											
Product Family											
AML/M	AML/M										
Electrical Output											
Blank = 6-wire AC mV/V		Blank									
J = 4-wire AC mV/V		J									
U = 0-5Vdc *		U									
U10 = 0-10Vdc *		U10									
I = 4-20mA *		I									
D = ±2.5Vdc (12Vdc regulated supply required)		D									
* Provided by external amplifier mounted in-line on cable.											
Stroke Range											
+/-0.25mm (0-0.5mm)			+/-0.25mm								
+/-0.5mm (0-1mm)			+/-0.5mm								
+/-1mm (0-2.5mm)			+/-1mm								
+/-2.5mm (0-5mm)			+/-2.5mm								
+/-5mm (0-10mm)			+/-5mm								
+/-12.5mm (0-25mm)			+/-12.5mm								
+/-25mm (0-50mm)			+/-25mm								
+/-50mm (0-100mm)			+/-50mm								
Mechanical Configuration											
C = Core Only					C						
X = Un-Guided Core & Extension Rod					X						
S = Spring Loaded Core & Extension Rod with Ball-Tip (±75mm / 0-150mm max range)					S						
H = 150ºC High Temperature Version (DC output only with in-line amplifier @ 70ºC max.)					H						
Output Direction (only affects DC output versions)											
0 = Zero with core extended, Full Scale with core retracted						0					
Y = Full Scale with core extended, Zero with core retracted						Y					
Cable Exit Direction											
A = Axial (not available on spring loaded version)							A				
R = Radial							R				
Cable Length (in metres)											
02 = 2 metres (standard)									02		
0,2 = 0.2 metres									0,2		
10 = 10 metres									10		
Specials Code											
000 = No Special Requirements											000
Sales To Provide Specials Codes As Required											