APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339
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AML/E Standard LVDT Displacement Transducer

Key Features:

- Stroke Ranges: ±0.5mm to ±500mm
- AC mV/V Output or DC Voltage / Current Output
- Environmental Protection: IP54
- Core-Only, Core + Extension
- Spring Loaded & Rod-End Bearing Versions
- Stainless Steel Construction
- Simple Installation
- Versatile Packaging, Giving Many Standard Mounting Options
- Ideally Suited for OEM Applications
- 3 Year Warranty

Click to watch the product video

The AML/E standard LVDT displacement transducers can be AC or DC powered and are widely used in OEM and general purpose applications such as material testing machines, automotive/aerospace test rigs and actuators, etc.

The AML/E displacement transducers are constructed from stainless steel, sealed to IP54 and can be supplied in a variety of mechanical configurations including plain core-only, plain core & extension rod, guided core & extension rod, spring-loaded core & extension rod with ball-end or with guided core & spherical rod-end bearings.

The AML/E is supplied in a variety of packaging formats, enabling engineers to select quickly and precisely, the product required for a particular application.

An AC mV/V output is available as standard, with a range of DC voltage signal output options also offered including 0-5Vdc, 0-10Vdc and ±2.5Vdc, as well as a 3-wire 4-20mA current output, please speak to our technical sales team.

The AML/E is supported with a versatile range of instrumentation to enable engineers to implement the sensor with the minimum of fuss within a system. Supporting instrumentation includes trip amplifiers, indicators, PC interfaces, rack systems, and more, please contact us to discuss your requirements.

Options:

- Variety of Mechanical Configurations Available
- Longer Cable Lengths
- Higher Temperature Versions
- Custom Design Versions Available
- ±0.25% Accuracy
- USB Version (via DSC-USB)
- Wireless Versions (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
- Industrial Automation
- Research & Development
- Manufacturing and Machine Building

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Specification:

CHARACTERISTICS	AML/E---	AML/EJ---	AML/EU---	AML/EU10	AML/EI---	AML/ED---	UNITS
Stroke Measurement Range:	±0.5, ±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 - Option S)						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:	<0.50 (<0.25 optional)						±% Stroke Range
Repeatability:	<0.10						±% Stroke Range
Output Bandwidth:	100		100	100	100	100	Hz
Output Ripple:	-		30mV max.	30mV max.	0.1% @ 20mA	30mV max.	
Operating Temperature Range:	AML/E & EJ: -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						
Electrical Connection:	2 metre screened PVC cable* (*High-Temp Version = PTFE). Axial or radial exit available - see ordering codes for full details.						
Environmental Sealing:	IP54						
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.							

Wiring:

4-wire AC Version

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

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Dimensions (mm):

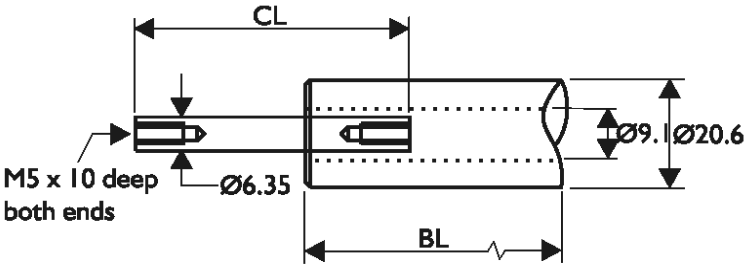
Dimension for AC Units with Radial Cable Exit (AML/E & AML/EJ only)

Stroke (mm)	Standard		Option X & G	Option S	Option R	AML/E & EJ Output Sensitivity @ 3kHz (mV/V)
	BL	CL	PL	SL	EL	
±0.5	25	15	25	50	111	120
±2.5	32	15	32	57	118	138
±5	73	29	73	98	159	140
±10	77	35	77	98	159	165
±12.5	92	35	92	117	178	200
±15	120	50	120	145	206	220
±25	160	76	160	185	246	230
±50	246	115	246	271	332	320
±75	320	138	320	345	406	405
±100	377	140	377	345	463	260
±125	435	152	435	n/a	521	300
±150	512	165	512	n/a	598	230
±175	563	180	563	n/a	649	260
±200	628	185	628	n/a	714	285
±250	750	170	750	n/a	836	310
±300	850	185	850	n/a	936	270
±400	1100	250	1100	n/a	1186	440
±500	1350	314	1350	n/a	1436	475

Dimensions for DC units only (AML/EU, AML/EU-10, AML/EI & AML/ED)

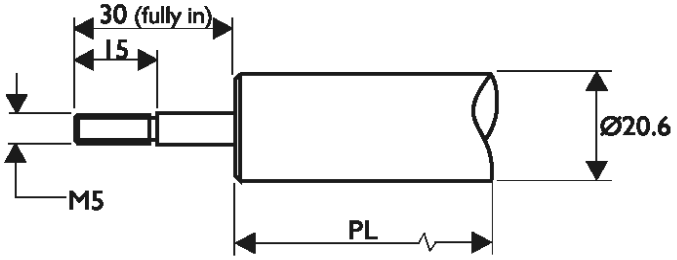
Stroke (mm)	Standard		Option X & G	Option S	Option R
	BL	CL	PL	SL	EL
±0.5	75	15	75	100	151
±2.5	82	15	82	107	158
±5	123	29	123	148	199
±10	123	35	123	148	199
±12.5	142	35	142	167	218
±15	170	50	170	195	246
±25	210	76	210	235	286
±50	296	115	296	321	372
±75	370	138	370	395	446
±100	427	140	427	395	503
±125	485	152	485	n/a	561
±150	562	165	562	n/a	638
±175	613	180	613	n/a	689
±200	678	185	678	n/a	754
±250	800	170	800	n/a	876
±300	900	185	900	n/a	976
±400	1150	250	1150	n/a	1226
±500	1400	314	1400	n/a	1476

STANDARD
Unguided Core Only



OPTION X
Unguided Core & Extension

OPTION G
Guided Core & Extension



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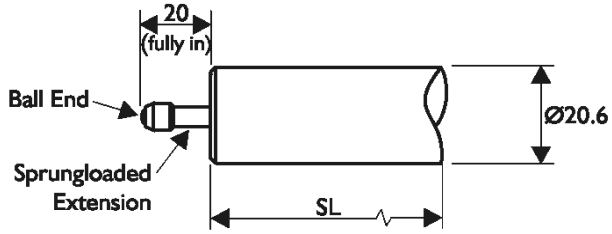
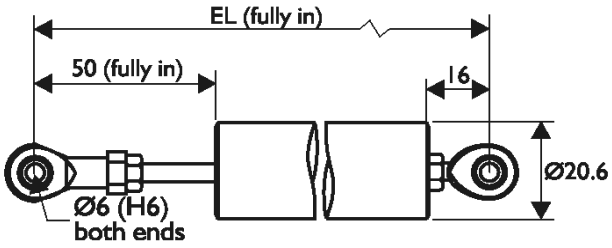
OPTION S
Sprung Loaded Core & Extension



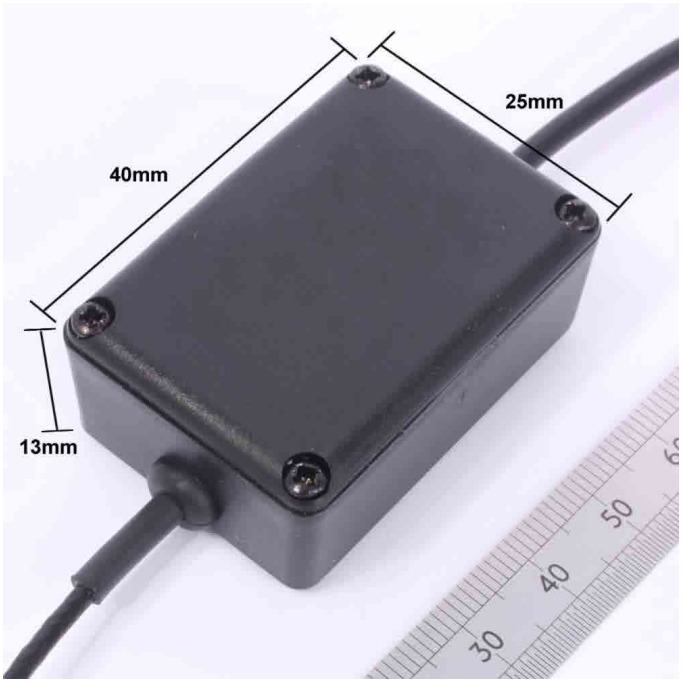
OPTION R
Guided Core* & Extension with Rod End Bearings



*Core is not captive. Please consult sales if captive core is required

Optional In-Line Amplifier Housing Dimensions:

Required for high temperature versions with conditioned output.
Can also be used with any AC version to give a DC output when minimum LVDT body length is required.



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Ordering Codes:

AML/EU10+/-500mm-X0A-02-000	AML/E	U10	+/-500mm	-	X	O	A	-	02	-	000
Example Code											
Product Family											
AML/E	AML/E										
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									
Stroke Range											
+/-0.5mm (0-1mm)			+/-0.5mm								
+/-2.5mm (0-5mm)			+/-2.5mm								
+/-5mm (0-10mm)			+/-5mm								
+/-10mm (0-20mm)			+/-10mm								
+/-12.5mm (0-25mm)			+/-12.5mm								
+/-15mm (0-30mm)			+/-15mm								
+/-25mm (0-50mm)			+/-25mm								
+/-50mm (0-100mm)			+/-50mm								
+/-75mm (0-150mm)			+/-75mm								
+/-100mm (0-200mm)			+/-100mm								
+/-125mm (0-250mm)			+/-125mm								
+/-150mm (0-300mm)			+/-150mm								
+/-175mm (0-350mm)			+/-175mm								
+/-200mm (0-400mm)			+/-200mm								
+/-250mm (0-500mm)			+/-250mm								
+/-300mm (0-600mm)			+/-300mm								
+/-400mm (0-800mm)			+/-400mm								
+/-500mm (0-1000mm)			+/-500mm								
Mechanical Configuration											
C = Core Only					C						
X = Un-Guided Core & Extension Rod					X						
G = Guided Core & Extension Rod					G						
S = Spring Loaded Core & Extension Rod with Ball-Tip (±100mm max range)					S						
R = Rod-End Bearings (with Guided Core)					R						
H = 150°C High Temperature Version (DC output only with in-line amplifier @ 70°C max.)					H						
HR = 150°C High Temperature Version with Rod-End Bearings					HR						
Continued on next page											

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AML/EU10+/-500mm-X0A-02-000	AML/E	U10	+/-500mm	-	X	O	A	-	02	-	000
Example Code											
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 rod end bearing 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
024 = Improved ±0.25% Accuracy											
Sales To Provide Specials Codes As Required											
Example code											
AML/EU10+/-500mm-X0A-02-000	AML/E	U10	+/-500mm	-	X	O	A	-	02	-	000

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Associated Products:

LVDT Amplifier / Signal Conditioner

Intuitive4-P Process Digital Indicator

In-Line LVDT Amplifier