



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339

info@appmeas.co.uk

<https://appmeas.co.uk>

AML/IE Industrial Series LVDT Displacement Transducer

Key Features:

- Stroke Ranges: $\pm 0.5\text{mm}$ to $\pm 500\text{mm}$
- AC mV/V Output or DC Voltage / Current Output
- Environmental Protection: IP65
- Optional IP68 Submersible & High Temperature Versions
- Stainless Steel Construction
- Core + Extension, Spring-Loaded & Rod-End Bearings Versions
- Simple Installation
- Wide Variety of Different Outputs; mVac, 0-5Vdc, 0-10Vdc, 4-20mA, $\pm 2.5\text{Vdc}$
- 3 Year Warranty

Image shows IP68 rated version with option R rod ends



Click to watch the video

The [AML/IE industrial LVDT displacement transducers](#) can be AC or DC powered and are sealed to IP65 as standard with the option of IP68 making them ideally suited for harsh and demanding applications where conditions are humid, wet, dusty or dirty. Typical applications include process plants, paper mills, and industrial test rigs.

The AML/IE industrial displacement transducers are constructed from stainless steel and fitted with a tough cable and can be supplied in a variety of mechanical configurations including captive guided core & extension rod, which is standard, plus spring-loaded core & extension rod with ball-end or guided core & extension with spherical rod-end bearings.

The AML/IE 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 $\pm 2.5\text{Vdc}$, as well as a 3-wire 4-20mA current output, please speak to our technical sales team.

The AML/IE 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
- $\pm 0.25\%$ Accuracy
- IP68 Sealing to 5bar (50 metres depth)
- Integral Bayonet Lock Connector
- Axial Cable Exit
- USB Version (via DSC-USB)
- Wireless Versions (via T24 instrumentation)
- Single or Multi-Channel PC-Based Monitoring & Data Logging System.

Applications:

- Process Plants
- Paper Mills
- Industrial Test Rigs
- Harsh & Demanding Applications (IP68)



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Specification:

CHARACTERISTICS	AML/IE---	AML/IEJ---	AML/IEU---	AML/IEU--- -10	AML/IEI---	AML/IED---	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)						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 (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* (*IP68 = PUR / Hi-Temp = PTFE).						
Environmental Sealing:	IP65 (IP68 optional)						
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)

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)

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)



Dimensions (mm):

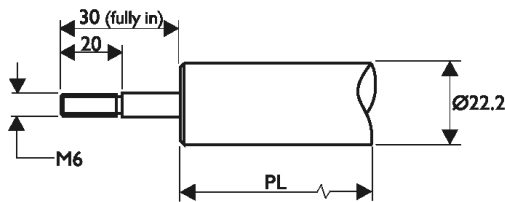
Dimension for AC Units (AML/IE & AML/IEJ only)

Stroke (mm)	Core Extension STANDARD	Core Extension OPTION S	Core Extension OPTION R	AML/IE & IEJ Output Sensitivity @ 3kHz (mV/V)
	PL	SL	EL	
±0.5	80	80	146	50
±2.5	90	90	166	90
±5	115	115	181	80
±10	130	130	196	280
±12.5	160	160	226	300
±15	175	175	241	230
±25	235	235	301	240
±50	320	320	386	320
±75	390	390	456	350
±100	450	390	516	190
±125	500	n/a	566	300
±150	560	n/a	626	330
±175	615	n/a	681	310
±200	700	n/a	766	300
±250	810	n/a	876	350
±300	920	n/a	986	400
±400	1150	n/a	1216	460
±500	1410	n/a	1476	390

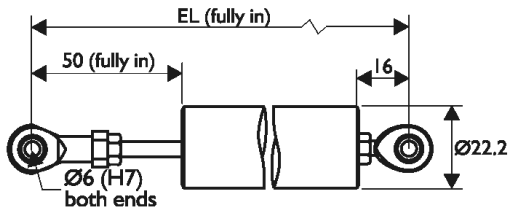
Dimensions for DC units only (AML/IEU, AML/IEU-10, AML/IEI & AML/IED)

Stroke (mm)	Core Extension STANDARD	Core Extension OPTION S	Core Extension OPTION R
	PL	SL	EL
±0.5	130	130	196
±2.5	140	140	206
±5	165	165	231
±10	180	180	246
±12.5	210	210	276
±15	225	225	291
±25	285	285	351
±50	370	370	436
±75	440	440	506
±100	500	440	566
±125	550	n/a	616
±150	610	n/a	676
±175	665	n/a	731
±200	750	n/a	816
±250	860	n/a	926
±300	970	n/a	1036
±400	1200	n/a	1266
±500	1460	n/a	1526

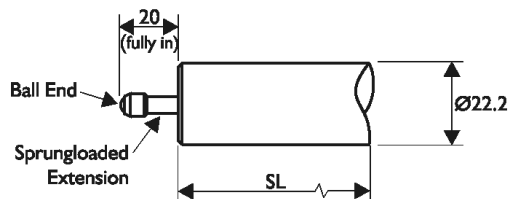
STANDARD Plain Core & Extension



OPTION R Guided Core & Extension with Rod End Bearings

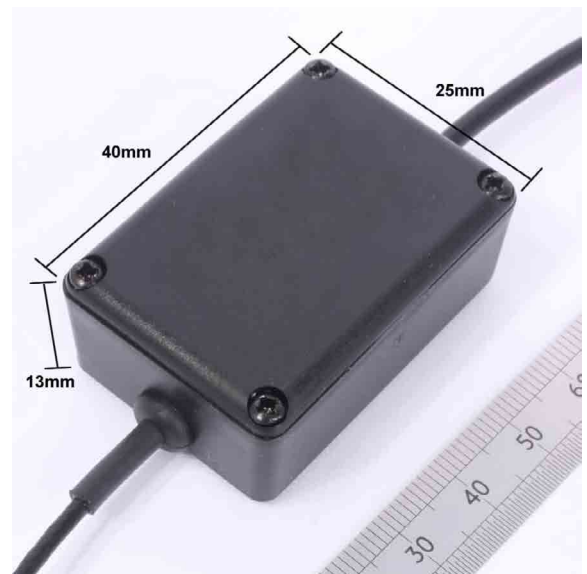


OPTION S Sprung Loaded Core & Extension



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/IEU10+/-500mm-WROA-0.2-000	AML/IE	U10	+/-500mm	-	WR	O	A	-	0.2	-	000
<i>Example Code</i>											
Product Family											
AML/IE	AML/IE										
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											
G = Guided Core & Extension Rod					G						
S = Spring Loaded Core & Extension Rod with Ball-Tip (±100mm max range)					S						
SW = IP68 Rated to 5bar/50m with Spring Loaded					SW						
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						
W = IP68 Rated - Waterproof/Submersible to 5bar External Pressure (50 metres)					W						
WR = IP68 Rated with Rod-End Bearings - Waterproof/Submersible to 5bar External Pressure (50 metres)					WR						
<i>Continued on next page</i>											



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AML/IEU10+/-500mm-WR0A-0.2-000	AML/IE	U10	+/-500mm	-	WR	O	A	-	0.2	-	000
<i>Example Code</i>											
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											024
021 = Extension Rod Wiper											021
Sales To Provide Specials Codes As Required											
Example code											
AML/IEU10+/-500mm-WR0A-0.2-000	AML/IE	U10	+/-500mm	-	WR	O	A	-	0.2	-	000

Associated Products:



[LVDT Amplifier / Signal Conditioner](#)



[In-Line LVDT Amplifier](#)



[Intuitive4-P Process Digital Indicator](#)