



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

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<https://appmeas.co.uk>

AML/SGDA Amplified Strain Gauge Displacement Transducer

Key Features:

- Stroke Ranges: 0-5mm to 0-100mm
- Outputs: 4-20mA, 0-5V and 0-10V
- Environmental Protection: IP54
- Spring Loaded
- High Accuracy: $<\pm 0.1\%$ (0-5mm to 0-50mm)
 $<\pm 0.2\%$ (0-100mm)
- Strain Gauge Based Design
- Compact Size - Simple to Install
- 3 Year Warranty



Click to watch product video

The [AML/SGDA amplified strain gauge displacement transducers](#) utilise strain gauge technology to provide a linearly proportional industrial output in relation to the movement of a captivated spindle. Output options include: 4-20mA, 0-5Vdc and 0-10Vdc. The AML/SGDA's compact size and rugged construction makes them ideal for use in a diverse range of applications such as Geotechnical Testing, R&D, Aerospace, Civil Engineering and Automotive.

The AML/SGDA amplified strain gauge displacement transducer offers excellent accuracy of better than 0.1% on ranges up to 0-50mm and 0.2% on the 0-100mm versions, coupled with high resolution and long-term stability.

The design principle incorporates a low-noise signal conditioner, avoiding the need for external modules and simplifying the installation and configuration process.

The AML/SGDA series are compatible with a broad range of standard analogue and digital instrumentation, as well as PLC's, SCADA systems and data loggers.

[See our range of displacement transducers.](#)

Options:

- Customised Versions
- Longer Cable Lengths
- Vacuum Application Version
- Wider Operating Temperature Range
- Wireless Version (via T24 instrumentation)
- Single or Multi-Channel PC-Based Monitoring & Data Logging System.
- TEDS (Transducer Electronic Data Sheet)
- TEDS Allows Plug & Play with TEDS Enabled Instrumentation.

Applications:

- Geotechnical Testing Material Testing Machines
- Research & Development
- Aerospace
- Civil Engineering
- Automotive



Specification:

CHARACTERISTICS	AML/SGDA					UNITS
Stroke Length:	0-5	0-10	0-25	0-50	0-100	millimetres
Spindle Force:	50-250	50-250	50-250	50-250	90-380	gf
Output Options:	0-5Vdc, 0-10Vdc or 4-20mA					
Non-Linearity, Hysteresis, Repeatability (total error):	<0.10			<0.20		±% of Rated Output
Operating Temperature Range:	-10 to +70					°C
Temperature Effect On Output:	<0.010					±% of Rated Output/°C
Temperature Effect On Zero:	<0.010					±% of Rated Output/°C
Safe Overload:	See note 4 below					
Excitation:	18 -24					Volts DC
Current Consumption:	<40					mA
Insulation Resistance:	>2000					Megohms
Output Bandwidth:	100					Hz (nominal)
Construction:	Stainless Steel/Aluminium					
Environmental Protection:	IP54					
Cable:	2m, 3-core Screened Cable (min bend radius 10mm)					
Weight (excluding cable):	135	140	150	200	320	grams
Operational Notes: 1. The outer case must not be distorted when clamping the sensor. A full diameter clamp is advised. 2. The sensor is not recommended for use in hostile environments without additional protection. 3. Special tools are required to remove the plunger tip (anvil) to avoid damage to the spindle. 4. With the plunger tip (anvil) attached this forms a positive overload protection stop. If the anvil is removed, the threaded end of the plunger must not be allowed to enter the case.						

Wiring Diagram:

Wire	Designation
Red	+ve supply
Blue	0V common
Green	+ve signal
Screen	To ground - not connected to load cell body



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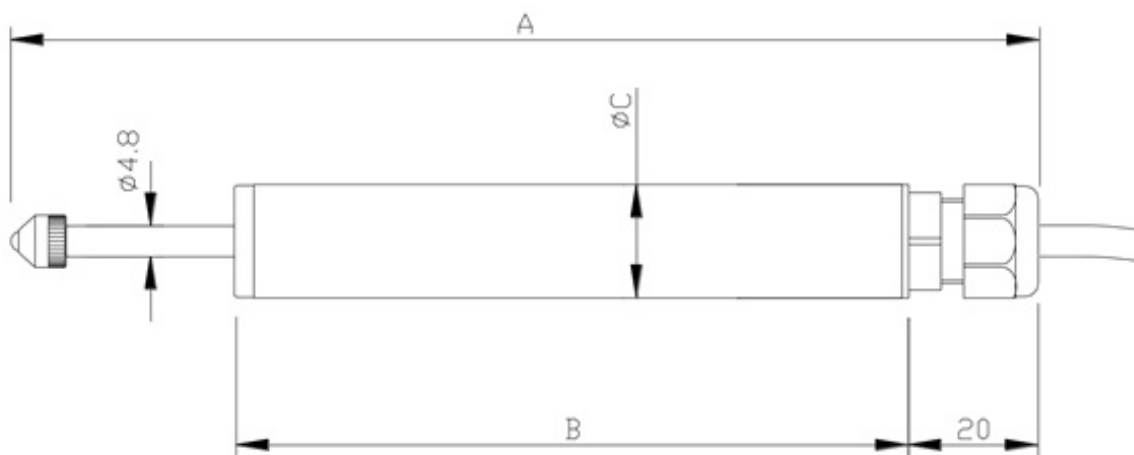
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Dimensions:

Stroke Range (mm)	A	B	ØC
5mm	145	114	17.4
10mm	151	114	17.4
25mm	181	119	17.4
50mm	259	179	17.4
100mm	392	264	25.4



Ordering Codes:

AML/SGDAU10-25mm-002-000	AML/SGDA	U10	25mm	-	002	000
Product Family						
AML/SGDA	AML/SGDA					
Electrical Output						
U = 0-5Vdc		U				
U10 = 0-10Vdc		U10				
I = 4-20mA		I				
Stroke Range						
0-5mm			5mm			
0-10mm			10mm			
0-25mm			25mm			
0-50mm			50mm			
0-100mm			100mm			
Cable Length (in metres)						
0,2 = 0.2 metres					0.2	
002 = 2 metres					002	
Specials Code						
000 = Standard Product (as per datasheet)						000



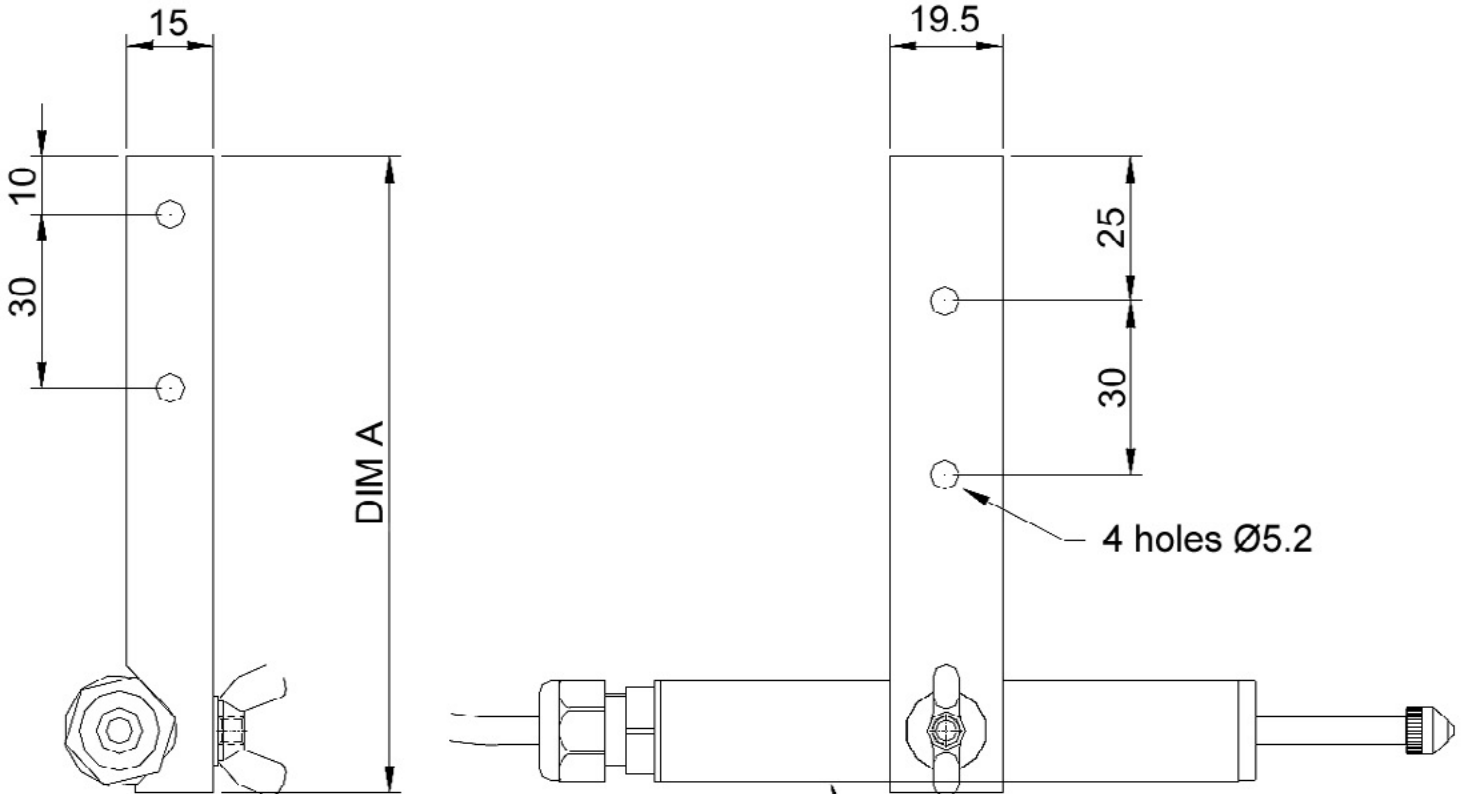
AML/SGDA Displacement Sensor Mounting Clamps:

Single End Clamp Types:

- SMC 17
- SMC 20
- SMC 25

Materials Clamp Bar Anodised Aluminium
Ring & Fixings Stainless Steel

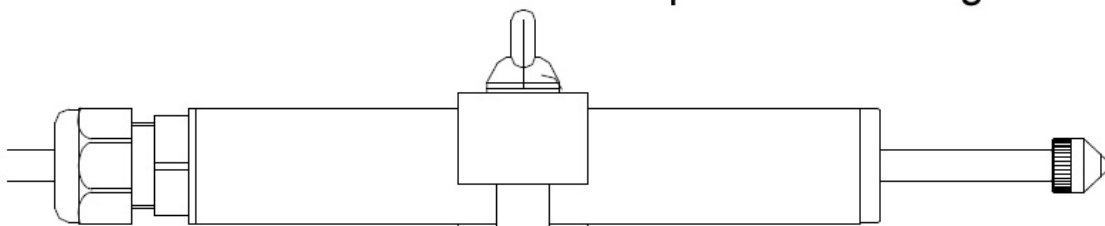
Note: Clamp bar can be machined to suit applications.



Displacement sensor shown for reference only

Type	DIM A	Sensor Diameter
SMC-17	110	Ø17.4
SMC-19	110	Ø19
SMC-25	115	Ø25.4

Wing nut can be replaced by M5 full nut for permanent fixing





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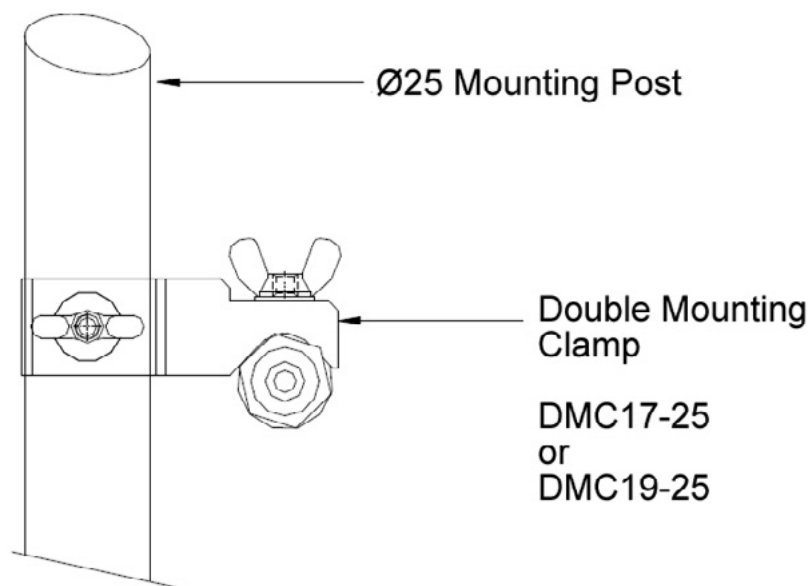
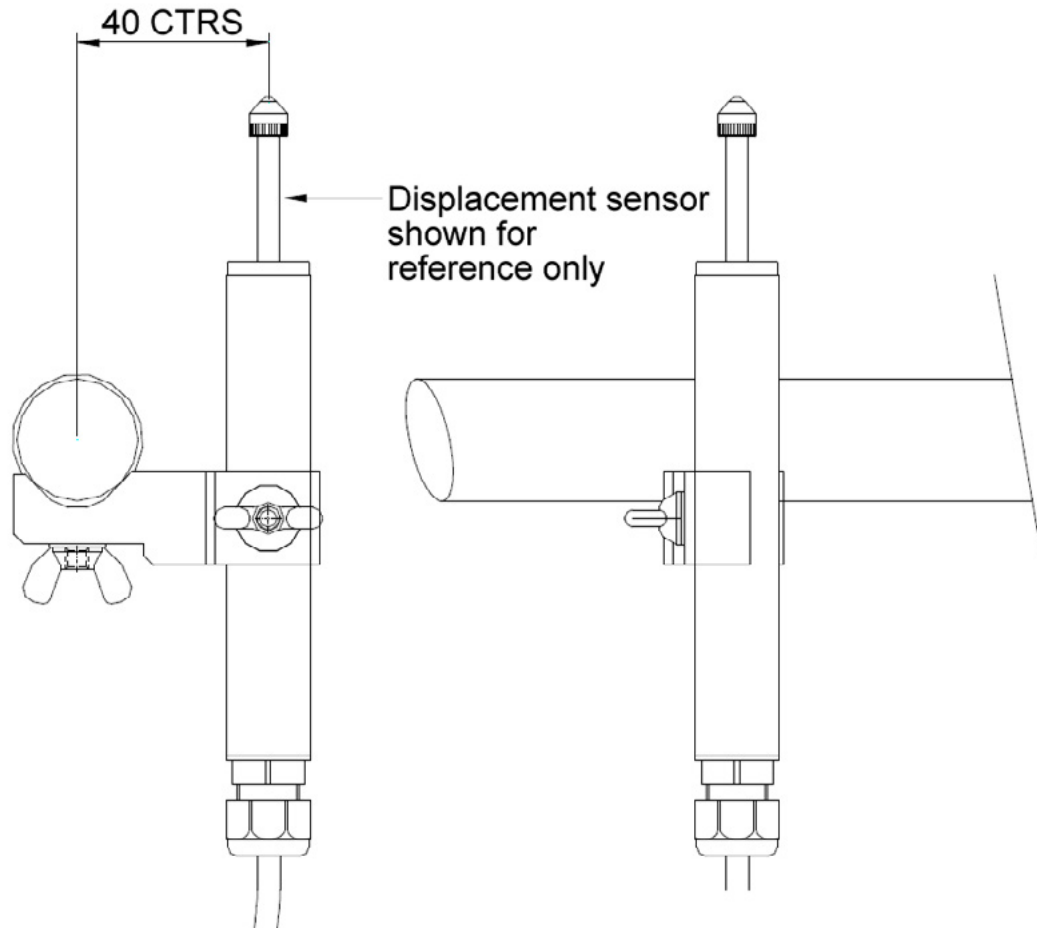
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AML/SGDA Displacement Sensor Mounting Clamps:

Double End Clamp Types:

- DMC 17-25
- DMC 19-25

Materials Clamp Bar Anodised Aluminium
Ring and Fixings Stainless Steel





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Clamp Ordering Codes:

Code	Details
AML/SGD-DMC17	Double mounting clamp for AML/SGDA 5-50mm post clamp
AML/SGD-DMC25	Double mounting clamp for AML/SGDA-100mm with 19mm post clamp
AML/SGD-SMC17	Mounting clamp for AML/SGDA 5mm to 50mm ranges
AML/SGD-SMC25	Mounting clamp for AML/SGDA-100mm



Image of SMC mounting clamps

Associated Products:



[Intuitive4-P Panel-Mount Indicator](#)



[T24 Wireless Telemetry Range](#)



[FUSION Large Digital Display](#)