APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339
info@appmeas.co.uk
https://appmeas.co.uk

Load Cell Amplifier | Load Cell Signal Conditioner | SGA

High Speed, High-Performance Signal Conditioner, up to 4 Strain Gauge Bridges

- **Lead Time:** 1 week
- **Buy online:** https://appmeas.co.uk/shop/instrumentation/sga/

AT A GLANCE

- Input: 0.06mV/V to 30.3mV/V
- Output: 0-5Vdc, 0-10Vdc, 4-20mA, 0-20mA, ±5Vdc or ±10Vdc
- Environmental Protection: IP67
- High Speed: Bandwidth 6kHz max.
- Mains & 18-24Vdc Versions

- **Ideal for use in most Industrial Environments**
- **Dust Tight & Waterproof**
- **AC or DC Versions Available to Suit Your Specific Application**
- **Simple Setup** – With Non-Interactive Span & Zero Controls
- **Let Us Save You Time** – We can calibrate it with any of our strain gauge transducers

DESCRIPTION

Applied Measurements SGA load cell amplifier / load cell signal conditioner is designed to provide a high stability, high speed, conditioned analogue output from up to four 350Ω strain gauge bridges connected in parallel.

The SGA load cell signal conditioner is capable of working with very low-level input signals right down to 0.06mV/V and amplifying them into a stable, high-level industry standard process signal such as 0-10Vdc or 4-20mA.

The high-speed load cell signal conditioner is housed in a rugged ABS enclosure rated to IP67 making it suitable for use in a wide range of industrial locations.

Other features of the load cell amplifier include straightforward configuration using non-interactive zero & span controls and variable low-pass filter to allow fine tuning for any application.

There are two versions of the load cell amplifier available: the SGA-A model which requires a 110 or 240Vac supply, and the SGA-D which operates from an 18-24Vdc supply.

The SGA load cell amplifier can be supplied fully-wired and calibrated with any strain gauge transducer from our wide range listed in the associated products section below.

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TECHNICAL SPECIFICATIONS

Parameter	Min	Typical	Max	Units
Power supply (SGA/A) 50 - 60Hz	99/198	110/230	126/253	Vac
Power supply DC (SGA/A and SGA/D)	18		24	Vdc (Note: 1)
Power supply IS12/24 - Isolated (optional)	9		36	Vdc
Power supply current DC :- (depends on loading)	50	90	200	mA
Bridge excitation (10V) 350R Strain Gauge	9.75	10	10.25	Vdc
Bridge excitation (5V) 350R Strain Gauge	4.85	5	5.15	Vdc
Bridge resistance	85			Ohms
Bridge sensitivity (Switchable)	0.06		30	mV/V
Gain adjustment (Pot - fine adj.)	0.06		1.0	mV/V (Note: 2)
Offset adjustment (Pot - fine adj.)	-1.25		+1.25	%FR (FR=Full Range)
Offset adjustment (Switchable - coarse adj)	±1.25		±80	%FR
Output load (Voltage output)			2	mA
Output load (Current output)	0		500	Ohms
Bandwidth (No filter and > 2mV/V) - 3dB point	DC		6	kHz
Filter cut-off (Switchable ranges) - 3dB point	1		5000	Hz
Zero temperature coefficient (@ 2.5mV/V)		0.002	0.009	%FR/ ºC at 2.5mV/V FR
Span temperature coefficient		0.007	0.01	%FR/ ºC
Linearity		0.03		%FR
Gain stability -1st 1000 Hours		0.2		%FR
Gain stability - 2nd 1000 Hours		0.1		%FR
90 day Offset stability		3.3		uV
Output load stability gain (0 - 100%)			0.01	%FR
Output load stability offset (0 - 100%)			0.01	%FR
Power supply rejection gain (0 - 100%)			0.01	%FR
Power supply rejection offset (0 - 100%)			0.01	%FR
Operating temperature range	-10		50	ºC
Storage temperature range	-20		70	ºC
Humidity			95	%
Note 1: 18V max at full load.				
Note 2: Depends on sensitivity settings				
Output Options Set by On-Board Switch	±10V, ±5V, 0-10V, 0-5V, 0-20mA, 4-20mA			
Connections	Field screw terminals - 2.5mm² rising clamp			
Enclosure	ABS case 164 x 84 x 55 sealed to IP65 fitted with 3 off cable glands			
Controls	Gain pot, Offset pot, Coarse gain switches, Coarse offset switches, Filter cut-off switches, Output mode switch			
CE Environmental Approvals	European EMC Directive 2004/108/EC, Low Voltage directive 2006/95/EC			

Product Dimensions

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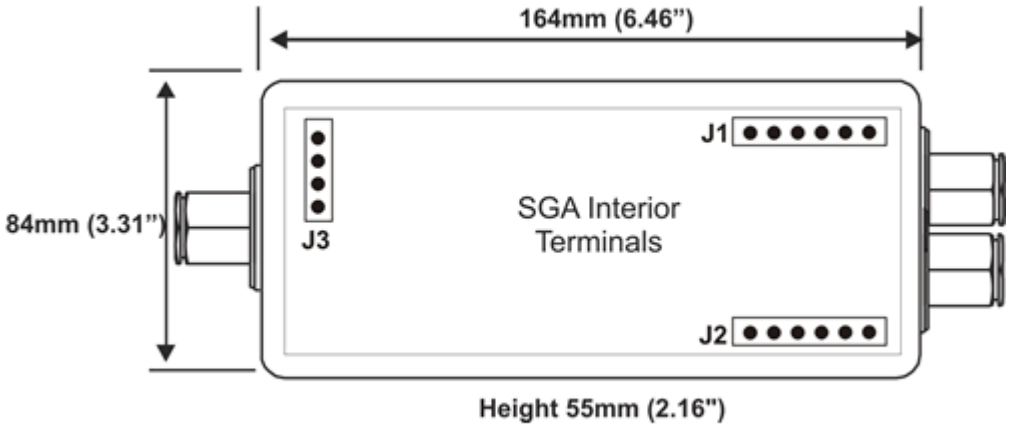
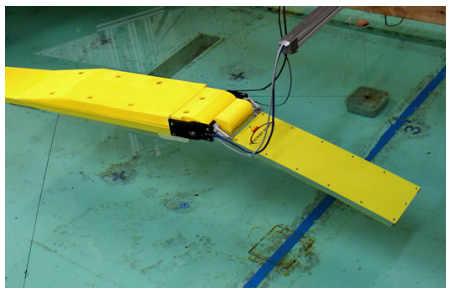


ORDERING CODES & OPTIONS

Core Product	Supply Voltage	Example Result
SGA	99-120/198-253Vac (in ABS case)	SGA/A
SGA	18-28Vdc (in ABS case)	SGA/D
SGA	18-28Vdc (PCB only)	SGAPCB/D
D4	DIN Rail Mounts for SGA Case	D4
IS1224	Isolated 9-32Vdc PSU for SGA/D	IS1224
SGABCM	¼ & ½ Bridge Completion Module	SGABCM

CASE STUDIES



Incredible Miniature Reaction Torque Sensor Helps Create Ocean Energy

The YDNS miniature reaction torque sensor's compact size and in-line direct drive measurement capability meant it could easily be housed within the waterproof enclosure of the 1/50th scale wave energy converter.

Read more... (https://appmeas.co.uk/blog/incredible-miniature-reaction-torque-sensor-helps-create-ocean-energy/)

Applied Measurements' Displacement Transducers Make Tracks Through Turkey

Applied Measurements were asked to design a bespoke bridge monitoring system for Turkey's new rail tunnel – The Marmaray Project. We created a bespoke bridge monitoring system using 3 off 50mm AML/SGD displacement transducers, forming a triaxial measurement of each joint. The AML/SGD series of displacement transducers utilise strain gauge technology to convert the linear movement of the joints within the tunnel into an analogue electrical signal. The AML/SGD series of displacement transducers were chosen for their excellent accuracy (0.1%), coupled with their high resolution and long-term stability, making them a perfect transducer for The Marmaray Project.

Read more... (https://appmeas.co.uk/blog/displacement-transducers-turkey/)

RELATED PRODUCTS

Buy Online

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Industrial Pressure Sensor | Industrial Pressure Transducer | Pi600

DISCONTINUED PRODUCT

Strain Gauge Displacement Sensor | Linear Position Sensor | AML/SGD

0-5mm to 0-100mm

From **£425**

Load Cells & Force Sensors

Torque Transducers & Torque Sensors

View this page in a browser:

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