TYPE: SGA

SGA Analogue Strain Gauge Load Cell Amplifier

Features

- Very Stable Bridge Excitation
- Selectable Sensitivity
- High Frequency Filtering
- User Selectable Analogue Outputs
- High Specification
- IP65 ABS field case with cable glands
- Surface mount PCB
- Wide range filtering 1Hz to 5kHz
- Switch selectable offset ±70% FS
- Shunt Calibration facility (120Kohms)
- Excitation: regulated 10V@110mA

Typical Applications

- Force measurement systems
- Interface sensors to chart recorders
- Simple weighing systems
- Conversion of load cell signals for long cable run applications

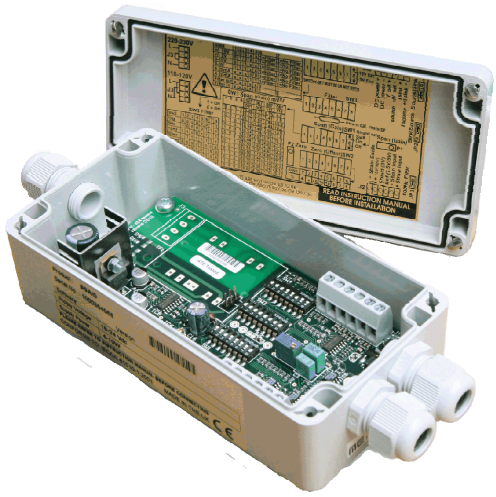
Description

The SGA range of strain gauge amplifiers offers great flexibility. Both the 110/230Vac powered SGA/A and 18-24Vdc powered SGA/D offer 10volt on-board excitation, capable of powering up to four 350ohm strain gauge bridges. Please note that the 110/230Vac version can also be DC powered.

With an input sensitivity range of ±0.06 to ±29 mV/V. Any sensor in this input range can be amplified to give ±10V, ±5V, 0-10V, 0-5V, 0-20mA or 4-20mA outputs.

There is also a wide offset control, using a combination of switches and a potentiometer. This gives an adjustment range of ±70%. The SGA is an ideal product for many OEM customers, as its flexibility means that it can be configured to suit most applications.

The SGA can be supplied calibrated with any of LCM Systems sensor range or could be integrated within a larger instrumentation system.



Specification

Parameter	Min	Typ	Max	Units
Power supply (SGA/A):- (110/230Vac) 50 - 60Hz	-	110/230	-	V AC
Power supply DC :-	18	-	24*	V DC
Power supply current DC :- (depends on loading)	50	90	200	mA
Bridge excitation 350R Bridge	9.5	10	10.5	VDC
Bridge resistance	85	-	-	Ohms
Bridge sensitivity (Switchable)	0.06	2.5	29	mV/V
Gain adjustment (Pot - fine adjustment.)	0.06	-	1.0	mV/V
Offset adjustment (Pot - fine adustment.)	-1.25	-	+1.25	%FR
Offset adjustment (Switchable - coarse adjustment)	±1.25	-	±79	%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	%/ºC@2.5mV/V
Span temperature coefficient	-	0.007	0.01	%°C
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	-20	-	50	°C
Storage temperature range	-40		70	°C
Humidity	-	-	95	%

***N.B. 18V max at full load** **FR= Full Range**

Output options set by on	±10V, ±5V, 0-10V, 0-5V, 0-20mA, 4-20mA board switch
Connections	Field screw terminals - 2.5mm² rising clamp
Enclosure	ABS case 160 x 80 x 55 sealed to IP65 fitted with 3off cable glands
Controls	Gain pot Offset pot Coarse gain switches Coarse offset switches Filter cut-off switches Output mode switch

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CE & Environmental

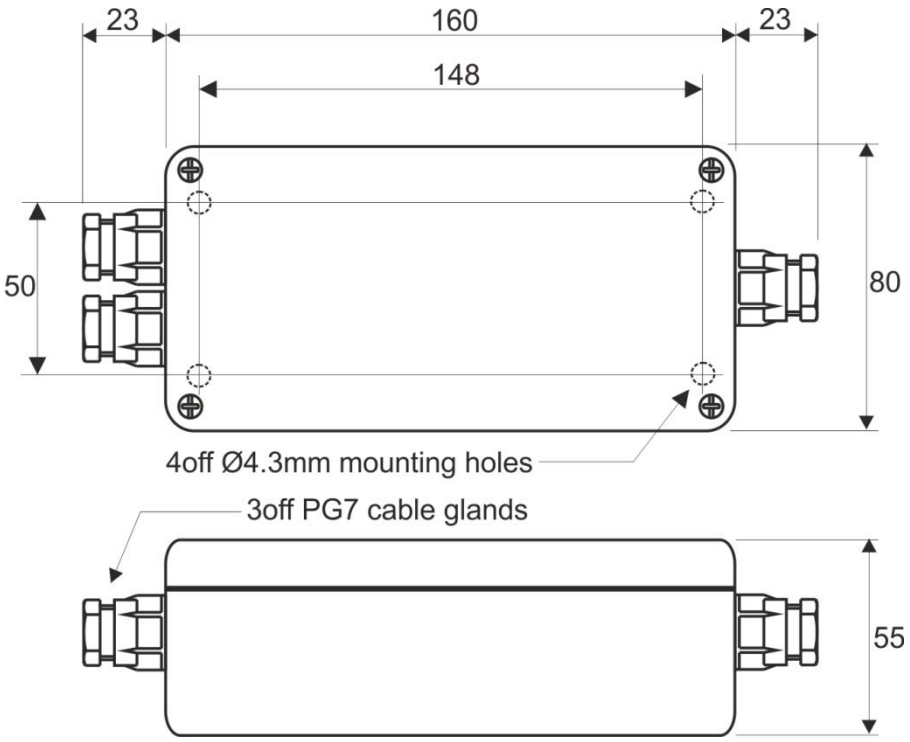
Storage temperature	-20 to +70ºC
Operating temperature	-10 to 50°C
Relative humidity	95% maximum non condensing
Low Voltage Directive	2006/95/EC
EMC Directive	2004/108/EC

Order Codes

Order Codes	**SGA/A**	110/230v ac and/or 18-24v dc powered
	SGA/D	18-24v dc powered

Mechanical Dimensions

All dimensions in millImeters



Unit 15,
Newport Business Park
Barry Way, Newport,
Isle of Wight,
PO30 5GY
United Kingdom
Tel: +44 (0) 1983 249264
Fax: +44 (0) 1983 249266
sales@lcmsystems.com

Due to continual product development, LCM Systems Ltd. reserves the right to alter product specifications without prior notice.

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