

Strain Gauge/Load Cell Amplifier/Signal Conditioner

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 $\pm 70\%$ FS
- Excitation: regulated 10V@110mA
- 3 year manufacturer's warranty
- Full CE approval



Introduction

Flexible Solution:

10v Excitation for up to 4 x 350R Strain Bridges
 Adjustable transducer sensitivity 0.1 to 30 mV/V
 User-selectable analogue output $\pm 10V$, $\pm 5V$, 0-10V, 0-5V, 0-20mA, 4-20mA

Simultaneous voltage and current output
 230/110VAC or 18-24Vdc power supply
 Direct connection to a PLC, a display unit, industrial instrumentation, chart recorder, or a P (with A/D card)
 An LVDT version of this unit is also available.

Simple to use

All parameters configurable by DIL switch
 Clear and concise operating instructions supplied

An ideal product to stock

Cost Effective

Attractive discounts on quantity orders

Fast delivery times

Specifications

Parameter

Parameter	Minimum	Typical	Maximum	Units
Power supply (SGA/A):- (110/230Vac) 50 - 60Hz	-	110/230	-	V AC
Power supply DC :-	18	-	24*	V DC
Power supply IS12/24 - Isolated	9	-	36	V DC
Power supply current DC :- (depends on loading)	50	90	200	mA
Bridge excitation 350R Strain Gauge	9.5	10	10.5	V
Bridge resistance	85	-	-	Ohms
Bridge sensitivity (Switchable)	0.06	-	29	mV/V
Gain adjustment (Pot - fine adj.)	0.06	-	1.0	mV/V
Offset adjustment (Pot - fine adj.)	-1.25	-	+1.25	%FR
Offset adjustment (Switchable - coarse adj)	± 1.25	-	± 79	%FR
Output load (Voltage output)	-	-	2	mA
Output load (Current output)	0	-	500	Ohms
Bandwidth (No filter and > 2mV/V) - 3d B point	DC	-	6	kHz
Filter cut-off (Switchable ranges) - 3 d B point	1	-	5000	Hz
Zero temperature coefficient (@2.5mV/V)	-	0.002	0.009	%/ °C @ 2.5mV/V FR
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	-	μV
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	°C
Storage temperature range	-20	-	70	°C
Humidity	-	-	95	%

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

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 160 x 80 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

Order Codes

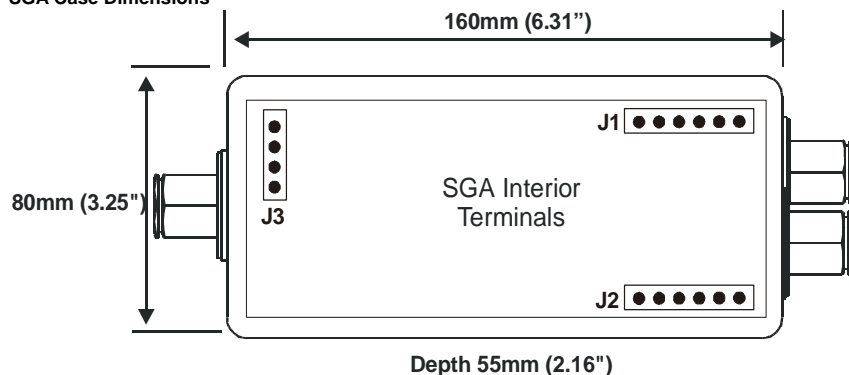
- SGA/A** 110/230v ac and/or 18-24v dc powered
- SGA/D** 18-24v dc powered
- IS12/24** Optional plug-in PCB for SGA/D – Isolated DC supply 9-36V

CE & Environmental

European EMC Directive
Low Voltage Directive

2004/108/EC
2006/95/EC

SGA Case Dimensions



SGA Connections Lid Label

SGA/A

Sw4 Analogue Output

Sw4	1	2	3	4	5	6	7
+/- 10V	0	1	0	x	x	1	Filter 1=No Filter
+/- 5V	0	1	0	x	x	1	Filter 1=No Filter
0-10V	0	1	1	x	x	1	Filter 1=No Filter
0-5V	1	1	1	x	x	1	Filter 1=No Filter
0-20mA	x	x	x	0	1	1	Filter 1=No Filter
4-20mA	x	x	x	1	1	1	Filter 1=No Filter
Filter out	x	x	x	x	0	1	Filter 1=No Filter
Filter in	x	x	x	x	1	1	Filter 1=No Filter

Analogue output Sw4 J1

Sw3 Filter

Sw3	1	2	3	4	5	6	7	8
1Hz	0	0	0	0	0	1	1	
5Hz	1	0	0	0	0	1	1	
10Hz	1	1	0	0	0	1	1	
50Hz	1	1	1	0	0	1	1	
100Hz	0	0	0	0	0	0	0	
500Hz	1	1	0	0	0	1	0	
1kHz	1	1	1	0	0	1	0	
5kHz	1	1	1	1	0	1	0	

Sw1 Span (gain) mV/V

Sw1	1	2	3	4	5	6	7	8
1=ON	0	0	1	1	0	0	1	1
0=OFF	1	1	0	0	1	1	0	0

Sw2 Zero (offset) Sw2

Sw2	1	2	3	4	5	6	7	8
%	+	-	40	20	10	5	2	1

NOTE: THE LOAD CELL INPUTS ARE NOT INTENDED TO BE CONNECTED TO VOLTAGES TO EARTH ABOVE 50V ac OR 120V dc

READ INSTRUCTION MANUAL BEFORE INSTALLATION



Designed, Manufactured & Supported in the UK



CE In the interest of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.

