



Analogue Strain Gauge Amplifier / Signal Conditioner



Introduction

The SGA offers a wide bandwidth and a wide input signal range. The device can be powered from AC or DC supplies providing excitation for up to 4 x 350 ohm strain gauge bridges.

The conditioned output signal can be selected from 0-20 mA, 4-20 mA, 0-10 V, 0-5 V, ± 5 V or ± 10 V. Options include. Isolated DC supply, DIN rail mount and OEM module.

The Strain Gauge Amplifier (SGA) is supplied in a waterproof IP65 NEMA 4 bulkhead mountable case and is robust and fully CE compliant.

For a digital version with set point relays, communications and display options please see our Load Cell Amplifier Model (LCA20).

Features & Benefits

- Suitable for almost any analogue application
- Very stable bridge excitation
- Selectable sensitivity
- High frequency filtering
- User selectable analogue outputs
- Bridge completion module now available

Ideal Applications

- Silo weighing
- Data acquisition systems
- Process control
- PLC interfaces

Related Products



SGABCM

Bridge completion module for both quarter and half bridges, compatible with all versions of SGA



IS1224

Isolated 12/24 V power supply for the SGA



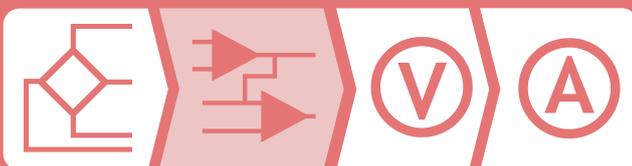
LVDT

Conditioner/amplifier, 4-20mA and voltage



SGA/D PCB

Strain gauge amplifier board



Specifications

Electrical Specifications

| | |
|---|--|
| Power supply (SGA/A only) | 110/230 V AC |
| Power supply DC (SGA/A and SGA/D) | 18 to 24 V DC (See note 1) |
| Isolated Power Supply (IS1224 option) | 9 to 36 V DC |
| Power supply current DC - (depends on loading) | 90 mA typical |
| Bridge excitation | 5 and 10 V |
| Bridge resistance (minimum for 10V Excitation) | 85 Ohms |
| Bridge sensitivity | 0.06 to 30 mV/V |
| Offset adjustment | ±80 %FR |
| Maximum Voltage Output load | 2 mA |
| Maximum Current Output load | 500 Ohms |
| Bandwidth (No filter and > 2 mV/V) | DC – 6000 Hz |
| Filter cut-off (Switchable ranges) | 1- 5000 Hz |
| Zero temperature coefficient (@2.5 mV/V) | 0.002 %/°C |
| Span temperature coefficient | 0.007 %/°C |
| Linearity | 0.03 %FR |
| Output options | ±10 V, ±5 V, 0-10 V, 0-5 V, 0-20 mA, 4-20 mA |

Note 1: 18 V max at full load (four 350 Ohm load cells connected in parallel @ 10 V excitation)

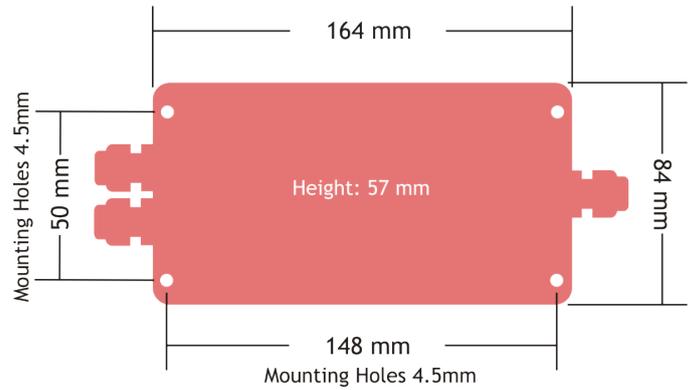
Environmental

| | |
|------------------------------------|--------------------|
| Operating temperature range | -10 to 50 °C |
| Storage temperature range | -20 to 70 °C |
| Maximum Humidity | 95% Non-Condensing |
| IP Rating | IP67/Nema4 |

Approvals

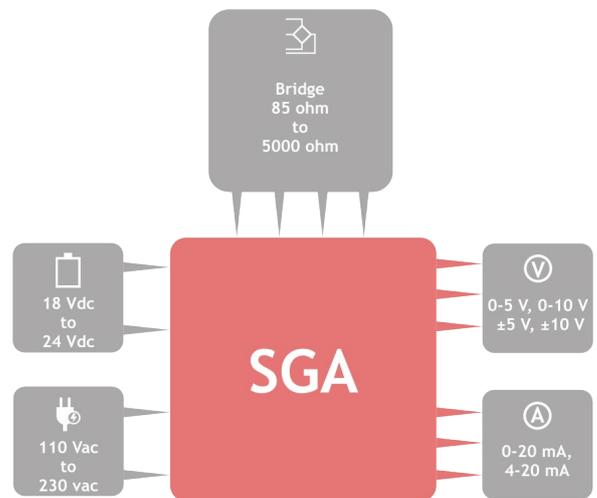
| | |
|-------------------------------|-------------|
| European EMC Directive | 2004/108/EC |
| Low Voltage Directive | 2006/95/EC |

Mechanical



IP67 ABS field case fitted with 3 M16 cable glands
Cable diameter: 4mm (0.16") to 7mm (0.27")

Functional Connections



Order Codes

SGA-A

110/230V AC 50-60Hz for connecting up to 4 transducers (min 350R each) in an ABS Case

SGA-D

18/24V DC for connecting up to 4 transducers (min 350R each) in an ABS Case

SGABCM

Retro fit PCB Bridge Completion Module for the SGA

IS1224

Isolated DC PSU Module for SGA/D

Mantracourt Electronics Ltd
The Drive, Farringdon
Exeter, Devon, UK
EX5 2JB

Tel: +44 (0)1395 232020
Email: info@mantracourt.com

mantracourt.com

