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

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 A&D PCB
Strain gauge amplifier board
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 %/ºC

Span temperature coefficient 0.007 %/ºC

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 ºC

Storage temperature range -20 to 70 ºC

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