

Multi-Channel Strain Gage Amplifier

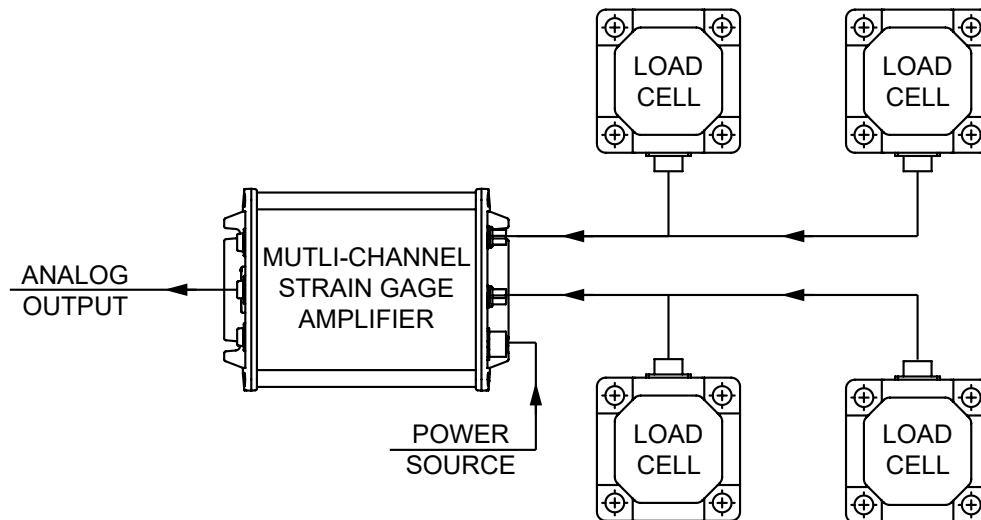
Model SGA3, SGA6, SGA12

- Turnkey solution for MSC Multi-Axis Load Cells
- Available as 3, 6, or 12 channel units
- Highly accurate bridge excitation
- Provides high level voltage signal output
- Precision, low noise differential amplifier
- Bridge excitation On/Off capability
- Shunt calibration capability
- Wide input voltage range



Description

The Michigan Scientific *Multi-Channel Strain Gage Amplifier* is a turnkey solution for use with any of MSC's *Multi-Axis Load Cells*. Up to four of MSC's wide variety of *Three Axis Load Cells* can be connected to the amplifier. The *Multi-Channel Strain Gage Amplifier* provides highly accurate excitation voltage to the load cell, a stable differential amplifier, and integrated shunt resistors for system calibration. The result is an accurate high level voltage output signal. The shunt calibration can be easily invoked with the flip of a switch and bridge excitation can be turned on or off while the amplifier package remains powered.



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Rev. A

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Specifications

PARAMETER	SPECIFICATION
BRIDGE EXCITATION	
Type	DC Constant Voltage (Bipolar excitation)
Magnitude	±5 V (10 V total)
Accuracy	0.10 %
Temperature Drift	Max 0.0005 %/°C (0.00028 %/°F)
Minimum Bridge Resistance	350 Ω
INTEGRATED CALIBRATION	
Positive & Negative Shunt Calibration	
Shunt Resistance	100 kΩ
Shunt accuracy	0.01 %
GAIN	
Nominal Gain (Default)	201 V/V
Accuracy @ 25 °C, Gain =201	±0.1 % typ
Temperature Drift	0.0025 %/°C (0.0014 %/°F)
OUTPUT	
Range	Max +10 V
VOLTAGE OFFSET	
Referred to input of amplifier	
Initial @ 25 °C	±25 μV
Temperature Stability	±0.2 μV/°C
DYNAMIC RESPONSE	
Frequency Response -3 dB @ Gain=201	7.5 kHz
POWER REQUIREMENTS	
Voltage	9 Vdc to 36 Vdc
Current	1 A
ENVIRONMENT	
Operation Temperature	0 °C to 70 °C (32 °F to 158 °F)
MECHANICAL	
Size (L x W x H)	16.00 cm x 10.80 cm x 5.86 cm (6.30 in x 4.25 in x 2.30 in)

Electrical Connections

Inputs			Outputs
M12A-2pos	M12A-12pos		Signal Breakout
Function	Load Cells	Channels	26 - D-sub connector
+10 Vdc to +30 Vdc	1	x,y,z	** Refer to signal breakout sheet in user manual
DC Input Ground	2	x,y,z	
N/C	3	x,y,z	
	4	x,y,z	

Controls

Power	The power switch powers on the device.	<u>Power Switch</u> On Off
Bridge Excitation	The bridge kill switch turns the excitation to the bridge on or off without turning off the amplifier.	<u>Bridge Kill Excitation</u> On Off
Shunt	The shunt switch must be held in the positive or negative position to output shunt voltage.	<u>Shunt Switch</u> + Shunt Hold - Shunt Hold

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