sigPOD ACCESSORIES

sciemetric

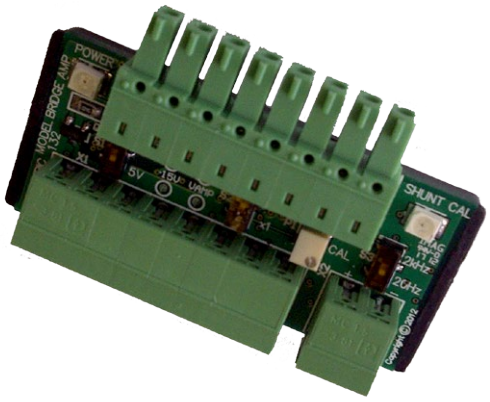
MODEL 132 BRIDGE AMPLIFIER

OVERVIEW

The model 132 Bridge Amp is a compact inline differential input amplifier module that enhances the analog measurement capabilities of model 1302, 140X,[1] 1508 and 1608 sigPODs.

The model 132 increases common mode rejection, provides an extra x100 gain and includes an integrated anti-aliasing filter. This enables the sigPOD to provide accurate, low noise measurements of mV-range bridge sensors, including load cells, torque transducers, pressure transducers and more.

A unity-gain setting allows the module to be used for high level signals as well. Featuring a compact plug-in design that does not require additional wiring or mounting fixtures, the model 132 can be quickly and seamlessly integrated into any new or existing sigPOD installations.



BENEFITS

- Extends the sigPOD's analog measurement range down to mV levels where it can be used to measure low output bridge sensors such as load cells, pressure transducers, torque transducers and more.
- Unity gain setting allows the model 132 to be used on larger signal applications in situations where the anti-aliasing filters, optional 5 V excitation voltage and/or shunt cal features are needed
- Supports automated shunt calibration for use in production applications
- Compact, inline module plugs directly into the analog input connector on the sigPOD to instantly extend and enhance analog input performance without the need for additional wiring or mounting fixtures

FEATURES

- Buffered precision differential input amplifier
- Increased common mode rejection
- Integrated 2 pole anti-aliasing filter can be switched between 20 Hz and 2 kHz
- Inline plug-in module in a compact footprint
- Amplifier gain can be switched between x1 or x100
- Powered by the 10V excitation output from the sigPOD – no external power source required
- Switchable 5V or 10V excitation output
- Integrated relay for automated shunt calibration
- Buffered input allows for accurate measurements with high input impedance type sensors
- Settings configured with on-board mini DIP switches

TORQUE TO TURN | CRIMPING | SOUND & VIBRATION | WELD | DISPENSE MONITORING | PRESS FITTING | PROFILING | FUNCTIONAL TESTING

1 The sigPOD 140X models were retired as of January 31, 2013.

TECHNICAL SPECIFICATIONS

Power

- **Supply voltage:** 10 V (from the sigPOD excitation)
- **Input current:** < 60 mA
- **Power consumption:** < 0.6 W

General

- **Dimensions:** 0.47" x 1.75" x 1.00" (HxWxD) when connected
- **Operating temperature:** 5 – 45˚C
- **Operating humidity:** 8 – 90%
- **Finish:** Black polyimide encapsulation (bottom)

Analog

- **Number of channels:** 1
- **Input voltage:** ±10 V
- **Common mode range:** ±10 V
- **Gain:** x100 and x1 (switched)
- **Gain accuracy:** x1: 0.05%, x100: 0.1%
- **Linearity:** 0.005%
- **Max input offset:** x1: 1.5 mV, x100: 60 µV
- **Input offset drift:** <±0.01% of FS / °C
- **Input leakage:** < 350 nA
- **Output noise:** < 100 µV with 1 kΩ input resistance
- **CMRR:** x1: 85 dB, X100: 95 dB, (1 kΩ source imbalance)
- **Input impedance:** > 30 MΩ
- **Filter:** 20 Hz and 2 kHz 2 pole, fixed, low pass filter
- **Input protection:** ±24 VDC continuous without damage
- **Output voltage:** ±10 V

Excitation Output

- **Voltage:** +10 VDC or +5 VDC switched
- **Accuracy:** ±0.1%
- **Load:** 350 Ω min
- **Current:** 50 mA continuous
- **Protection:** Short circuit continuous
- **Noise:** <100 µVRMS

Shunt Cal

- **Control input voltage:** +15 V to +30 V Max isolated (note: requires digital output to operate)
- **Output resistance:** SSR relay < 1.5 Ω
- **Control to output isolation:** 5 x 10^{10} Ω

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www.sciemetric.com
inquiries@sciemetric.com
1-877-931-9200

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