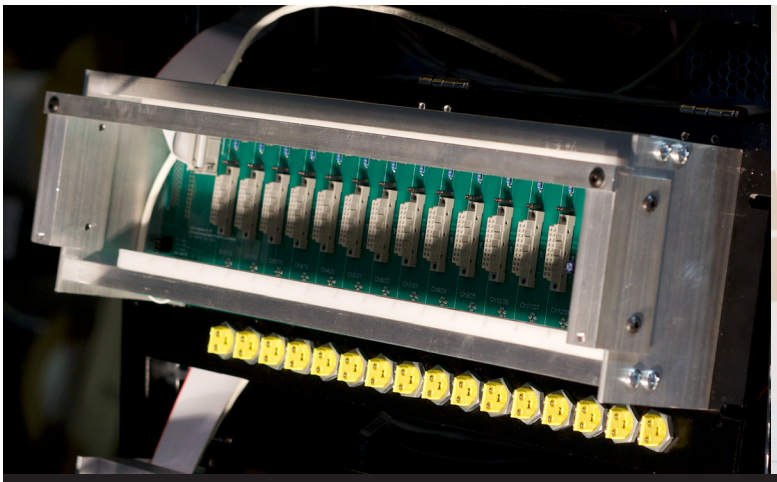
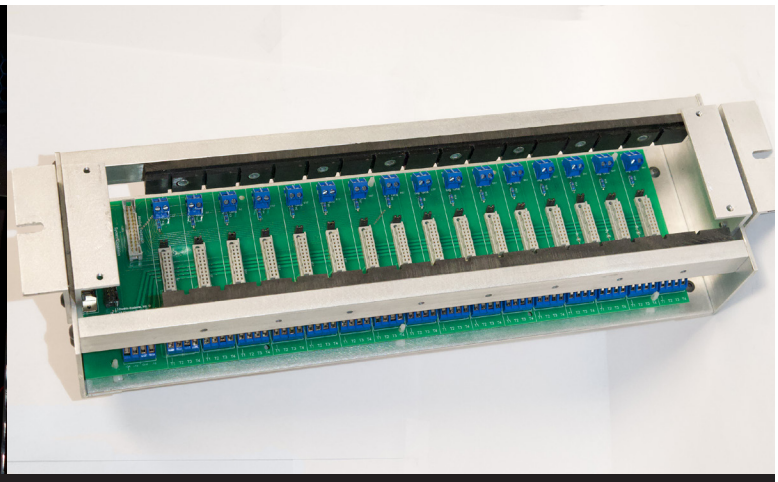
Signal Conditioning System



Rack Panel Mount with Flip Down



DIN Rail Mount With Backplane

System Explanation

Signal conditioning is an important aspect of any test system. A conditioner converts the signal from a transducer into a voltage that represents the physical attribute the transducer is designed to quantify. The Oneiric Systems Signal Conditioning System configures each channel to function independently.

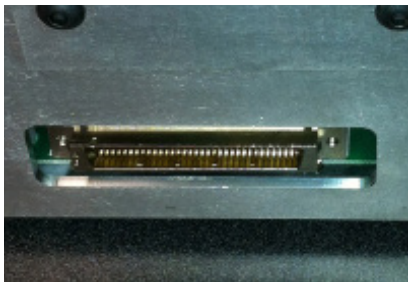
The system's backplane is designed to interface directly with National Instruments 68 pin (NI68) MIO devices. It provides expansion for all the signals available at the connector, but can be used as a conditioner without connecting to a DAQ device. With single channel conditioning, a transducer type can be altered without changing the channel being digitized. This is a useful feature, for example, when a system is designed with a string pot to measure displacement and it's later found that an LVDT is required for the application. The user would only need to replace the conditioning card, wire the LVDT to the proper terminals, and re-calibrate the system with the new transducer. Re-configuring the software to acquire data from another channel is not necessary. With the Oneiric Signal Conditioning System, a designer can concentrate on crafting the overall system, and focus on individual channels later in the process.

31711 Sherman Ave., Madison Heights, MI 48071 | www.oneiricsystems.com | 248-554-3090

Signal Conditioning System

Product Specs

Conditioning Backplane and Card Cage **configurable **provided in quote*

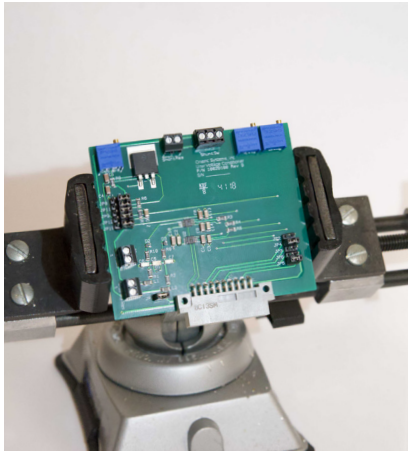


- **Three versions:** 16, 8 or 4 individual channels in DIN rail card cages
- **Screw terminal wiring for transducers and signals**
- **USER PROVIDES:** External power supply
- **Includes direct interface to National Instruments (NI68) pin MIO devices**

Conditioning Cards

- **Universal input:** on-board adjustable voltage supply; fine signal and trim adjustment; jumpers to program function of card; terminals for resistors: 4-20ma completion, gain, shunt; terminals for shunt calibration switch
- **LVDT input**
- **Thermocouple input**

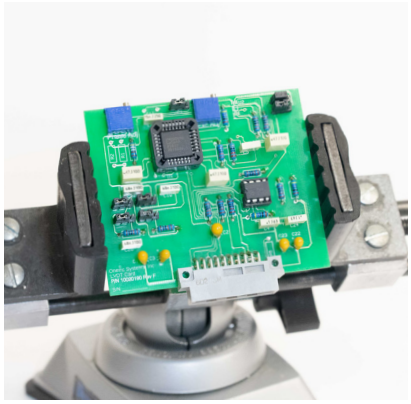
Universal Input Conditioner **configurable*



- **Provides excitation & conditioning for the following types of sensors:**
  - Strain gage bridges, ICP accelerometers and micro-phones, 4-20ma powered & unpowered, voltage input with or without power to sensor, constant current source for resistive sensors
  - Special order available for other sensors

AC/AC LVDT input Card

» **4 wire LVDT interface:** works with 5 & 6 wire LVDT's with proper wiring



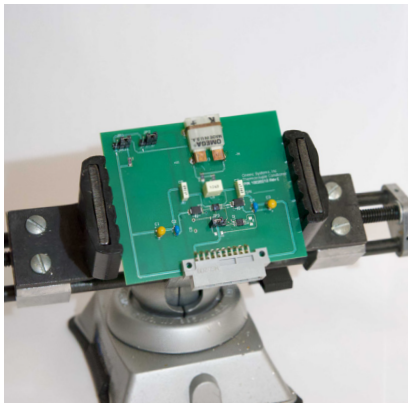
Thermocouple Conditioner

» **Two versions:** J or K type

» **Onboard cold junction compensation**

» **Connector on card:** improved cold junction compensation

» **Measurement range:** J (-200 to750°C); K (-200 to 980°C)



Optional Expansion | Interface board analog output and DIO board

» **Compatible with National Instruments E, M and X series MIO boards:** requires connection using 68 pin connector on 16 channel backplane

» **Fifty pin interface directly connects to conditioning backplane**

» **Two analog output channels:** DAQ output buffered through 1 amp power op-amp (power limited: 2 watts- drive 1amp at 2V :0.2 amps at 10V)

» **Twenty-four configurable DIO channels**

- Opto-isolated inputs and outputs
- FET drivers on outputs
- Performs PWM output, and frequency and/or event counting on inputs using counter/timer channels
- Separate power supply to drive relays/solenoids (tested with 12 and 24 VDC)
- Free wheeling diode on outputs to protect circuit for high inductance switching transients
- Configured for fail safe operation (fails to off)

Call for a Quote 248-554-3090