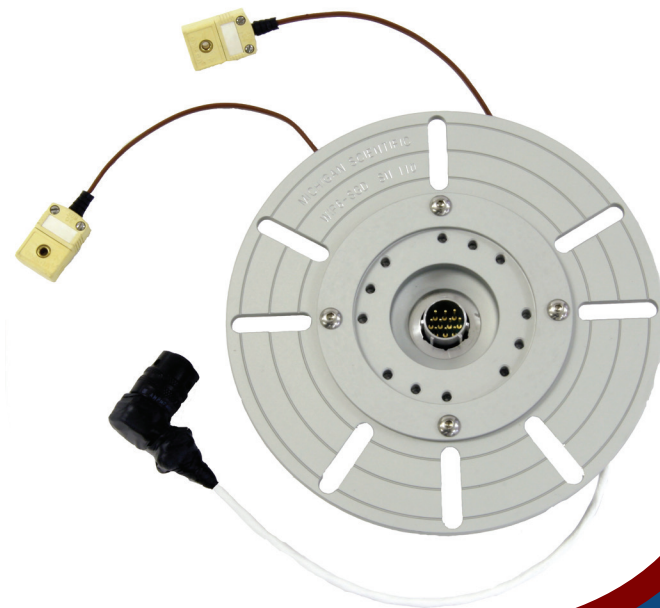
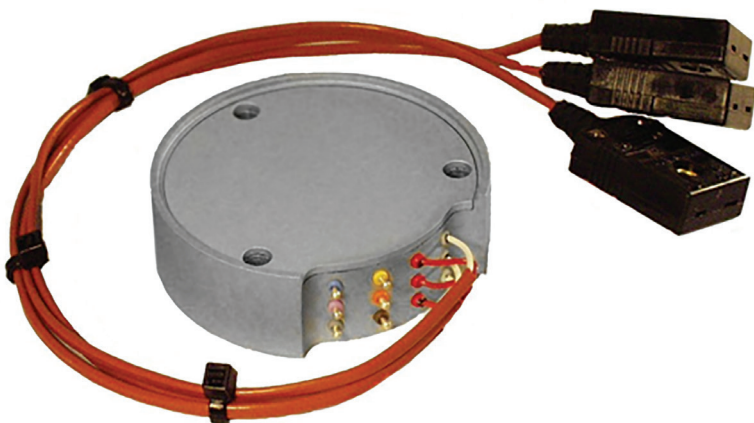


Signal Conditioning Amplifiers

Strain Gage ♦ Thermocouple



In electronics, signal conditioning is the process of manipulating an analog signal in such a way that it meets the requirements of the next stage for further processing. In control engineering applications, it is common to have a sensing stage (which consists of a sensor), a signal conditioning stage (where amplification of the signal is done), and a processing stage (carried out by an ADC and a micro-controller). Signal amplification performs two important functions: increases the resolution of the input signal, and increases the signal-to-noise ratio. For example, the output of an electronic temperature sensor, which is in the millivolts range, is too low to process directly; thus it is necessary to bring the voltage level up to that required by the data acquisition.



Stain Gage Amplifier

Modular Strain Gage Spinning Signal Conditioning Amplifiers



Model AMP-SG-U2



Model AMP-SG2-U2



Model AMP-SG3-U2

- 1, 2, and 3 Channel Strain Gage Amplifiers
- Designed to mount on the rotor (spinning side) of Michigan Scientific SR series slip rings
- Highly accurate bridge excitation
- Provides high level voltage signal output
- Externally adjustable shunt resistance
- Externally adjustable gain
- Precision low noise differential amplifier
- Remote bridge excitation On/Off capability
- Remote shunt calibration capability

Miniature Signal Conditioning Amplifiers



Model AMP-SG-MH



Model AMP-SG-M1

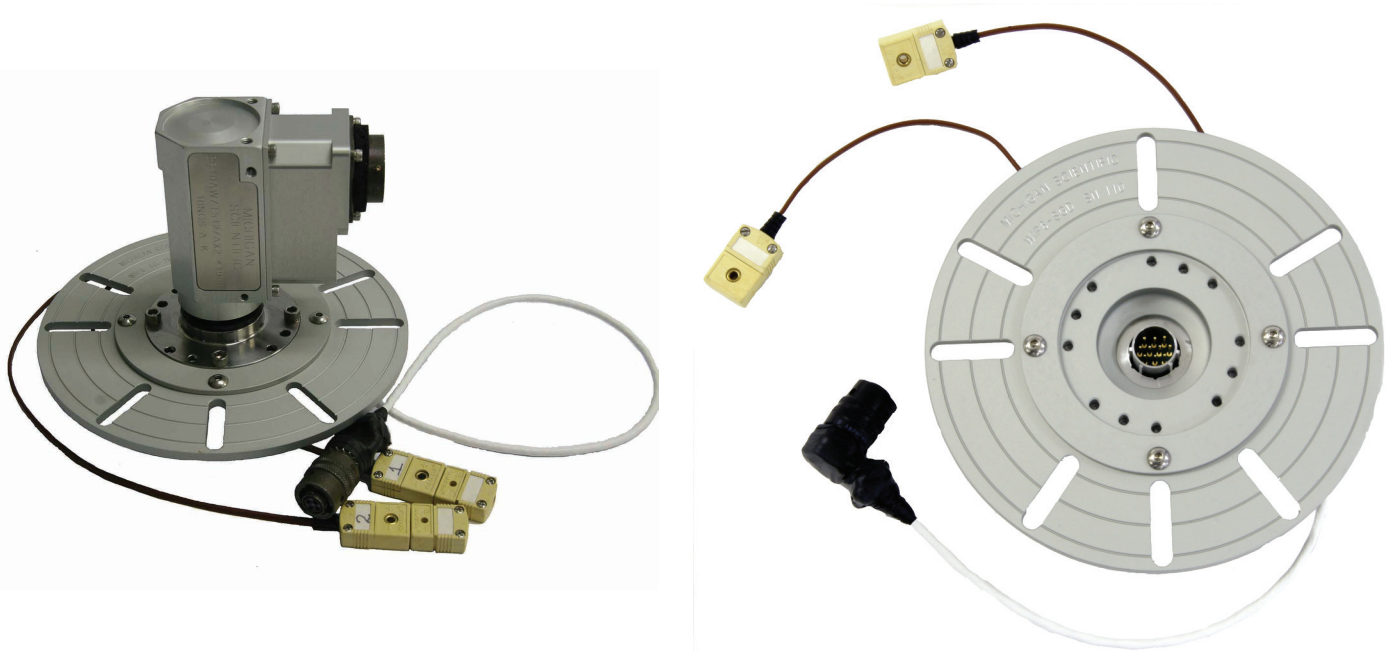
- Ideal for applications where signal conditioning is needed and space is limited



WIP

Wheel Instrumentation Package

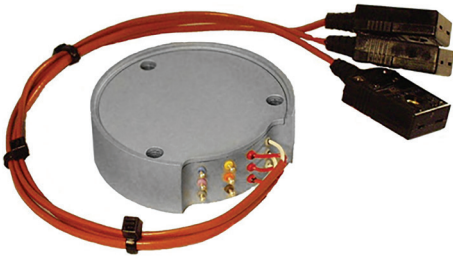
- Weatherproof when used with Michigan Scientific slip ring
- Precision bridge excitation of 5 or 10 volts
- Bridge excitation may be remotely controlled
- Amplified strain signal is at high-level voltage
- Thermocouples available in K, J, E, and T types
- TC signals amplified to 10 mV/deg C
- Mates most wheel lug patterns



Michigan Scientific's WIP is ideal for collecting data in rotating wheel applications. The amplifiers are built into a low profile, rugged housing that when used with Michigan Scientific slip rings are weatherproof. This configuration greatly improves signal quality because the amplifier is located closer to the sensor, which reduces errors due to long lead wires, connector resistance variations, and electro-magnetic interference.

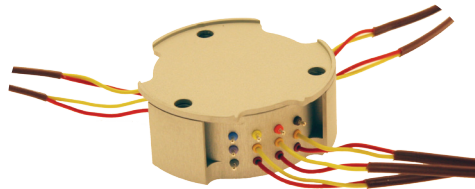


Thermocouple Amplifier



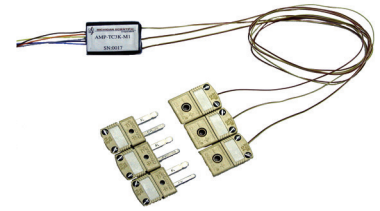
Model AMP-TC3-J2

- Available with 2 or 3 channels
- Pilots on SR series slip ring rotors
- Units available in K, J, T, and E types



Model AMP-TC8-U2

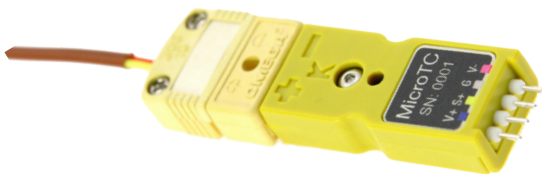
- Available with 4 to 9 channels
- Pilots on SR series slip ring rotors
- Units available in K, J, T, and E types



Model AMP-SG3-M1

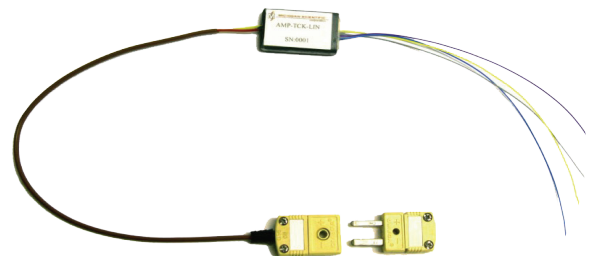
- Available with 1, 2, or 3 channels
- Units available in K, J, T, and E types

- Cold junction compensated
- Precision, low noise, differential amplifier
- Signal is greatly immune to external noise sources
- High level voltage signal output



Model MICROTC

- Thermocouple connector and amplifier in one small unit
- Nonlinear thermocouple input signal is converted to linear output voltage
- Units available in K-type
- Dual or single supply options



Model AMP-TCK-LIN

- Nonlinear thermocouple input signal is converted to linear output voltage
- Units available in K and J types



MSC Slip Rings with Integrated Amplifiers

In some applications there is an advantage to having the amplifier built into the slip ring. The combination of a slip ring with an integrated amplifier reduces the overall size, mass, and inertia. It can improve the concentricity as well, making it an ideal solution for high speed applications or where space is limited. A variety of models are available. Consult Michigan Scientific to determine the best model for your application.



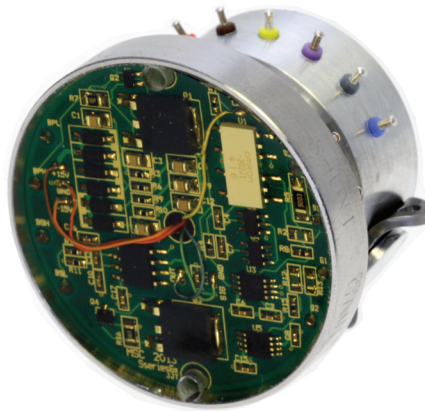
SHORT S6/T/TC3'x'



S6/Gx



SHORT S6/T/Gx



- Strain gage or Thermocouple conditioning
- 1, 2, or 3 channel options
- Same electrical specifications as Miniature Amplifiers

Related Products



PS-AC Remote Amplifier Control Unit



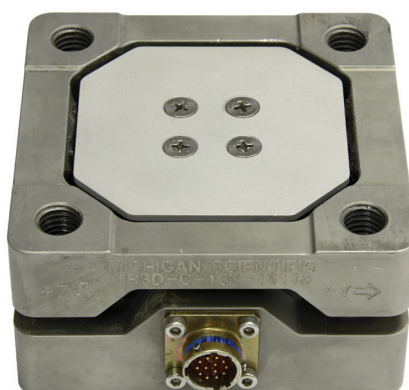
PS-DC Remote Amplifier Control Unit



TDM, Transducer Display Module



SGA3A
Three Channel Strain Gage Amplifier Box



TR3D-C-*
Square Three Directional Load Cell