

Modular Spinning Thermocouple Amplifier

Model AMP-TC Series

- 1 to 9 thermocouple amplifier channels
- Cold junction compensation
- High level voltage signal output
- Nonlinear output approximately 10 mV/°C
- K, J, T types Available
- Pilots on SR series slip ring rotors
- Amplifiers are stackable for multi-channel use



Description

The *Modular Spinning Thermocouple Amplifiers* are designed to mount on the rotor (spinning side) of all Michigan Scientific SR series slip rings. Superior data accuracy is achieved by locating precision amplifiers on the rotating side of the slip ring. This configuration greatly improves signal quality because the amplifier is located closer to the sensor which reduces errors caused by long lead wires, connector resistance variations, electro-magnetic interference, and temperature gradients across slip ring contacts.

These *Modular Spinning Thermocouple Amplifiers* provide amplification for one to nine thermocouple channels. For applications that require more than nine channels, the amplifiers may be stacked or arrayed around an adapter plate.

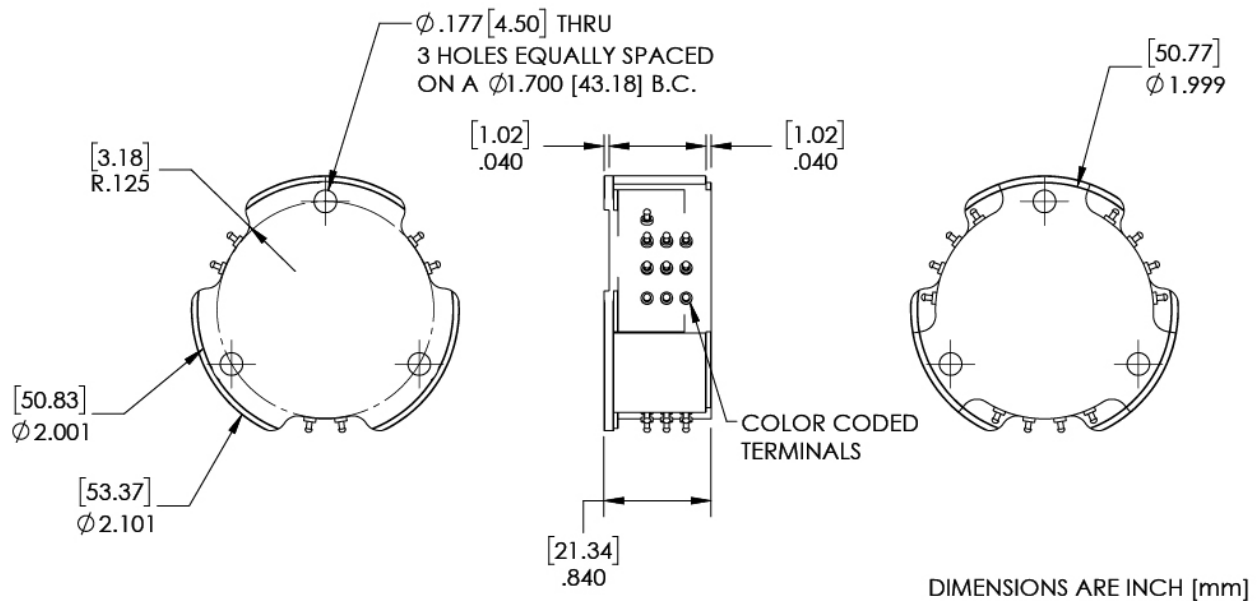
Refer to the literature in the Tech Notes section for wiring schematics of these amplifiers.

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Specifications

PARAMETER	SPECIFICATION
OUTPUT	Output is not linearized over temperature, if necessary, the output may be linearized externally
Range	Max ± 10 V
Sensitivity @ 25 °C (77 °F) TC Temperature	10 mV/°C
Capacitive Load	Max 1000 pF
TEMPERATURE ERROR	Includes errors due to nonlinearity over temperature in cold junction compensation
Initial @ 25 °C (77 °F) Case Temperature	Max ± 1 °C
-25 °C to +85 °C (-13 °F to +85 °F) Case Temperature	Max ± 2 °C
-55 °C to +125 °C (-67 °F to 257 °F) Case Temperature	Max ± 5 °C
NOISE	Referred to input of amplifier
0.01 to 10 Hz	0.8 μ V p-p
DYNAMIC RESPONSE	
Frequency Response @ -3 dB	1.56 kHz (Higher bandwidths available)
Slew Rate	0.4 V/ μ s
Settling Time 0.1 % / 0.01 %	40 μ s / 50 μ s
POWER REQUIREMENTS	
Voltage	± 15 Vdc
Current	Max Total ± 3 mA (1 channel) Max Total ± 15 mA (9 channels)
ENVIRONMENT	
Specification	-25 °C to +85 °C (-13 °F to +185 °F)
Operation	-55 °C to +125 °C (-67 °F to +257 °F)

Configuration



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