

Dual Output Vibration and Temperature Sensors

Dual output vibration and temperature sensors also employ IEPE technology and an integrated circuit to measure the temperature. **Dual output vibration and temperature sensors are a three-wire technology where Pin A is positive vibration, Pin B is a shared common, and Pin C is positive temperature.** Dual output vibration and temperature sensors are available in Centigrade and Kelvin temperature scales.

Centigrade Temperature Output

The TA102-M12 (100 mV/g), TA104-M12 (100 mV/g), and TA184-M12 (100 mV/g) series provide an mV/g vibration output and a 10 mV/°C temperature output. IEPE power must be applied to the vibration circuit to measure the temperature. Please reference Figure #1.

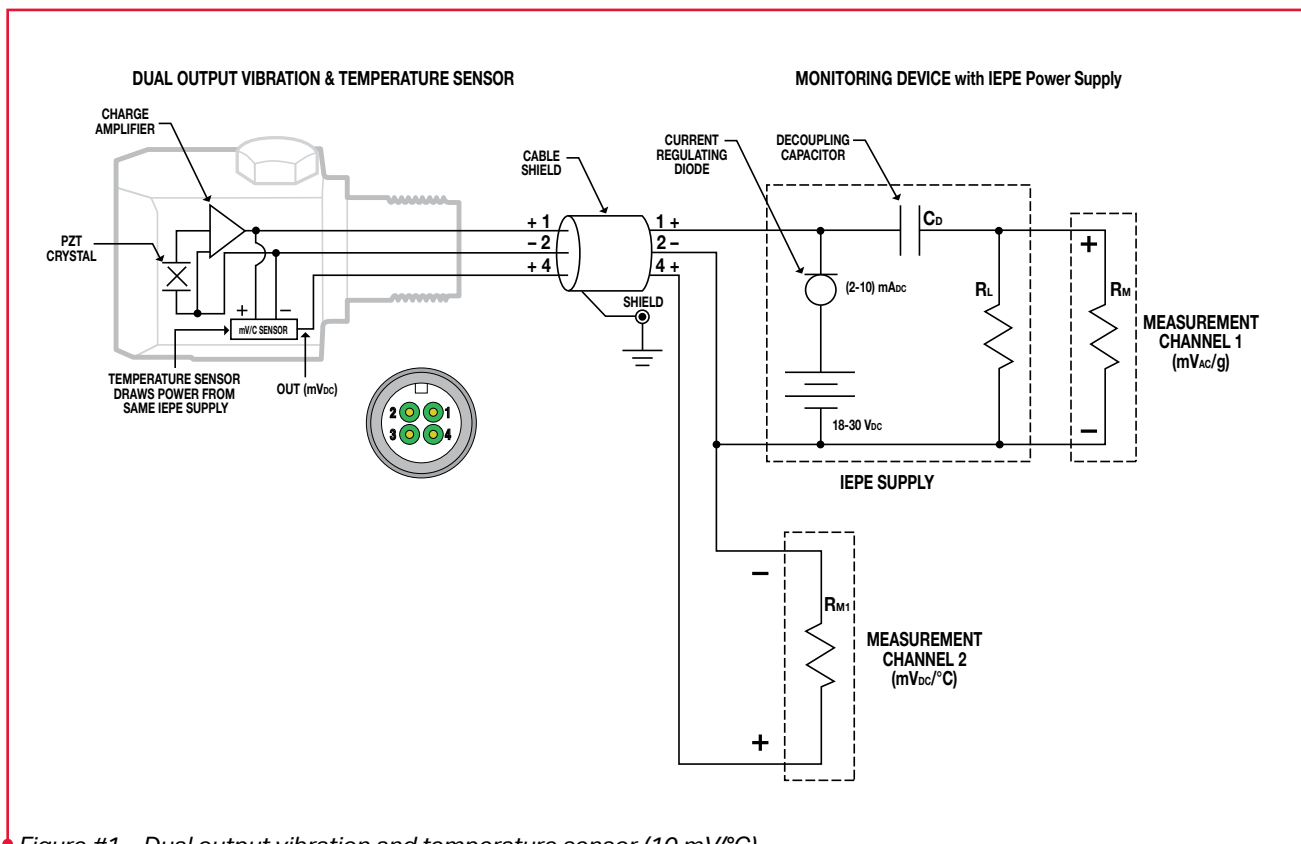


Figure #1 – Dual output vibration and temperature sensor (10 mV/°C)

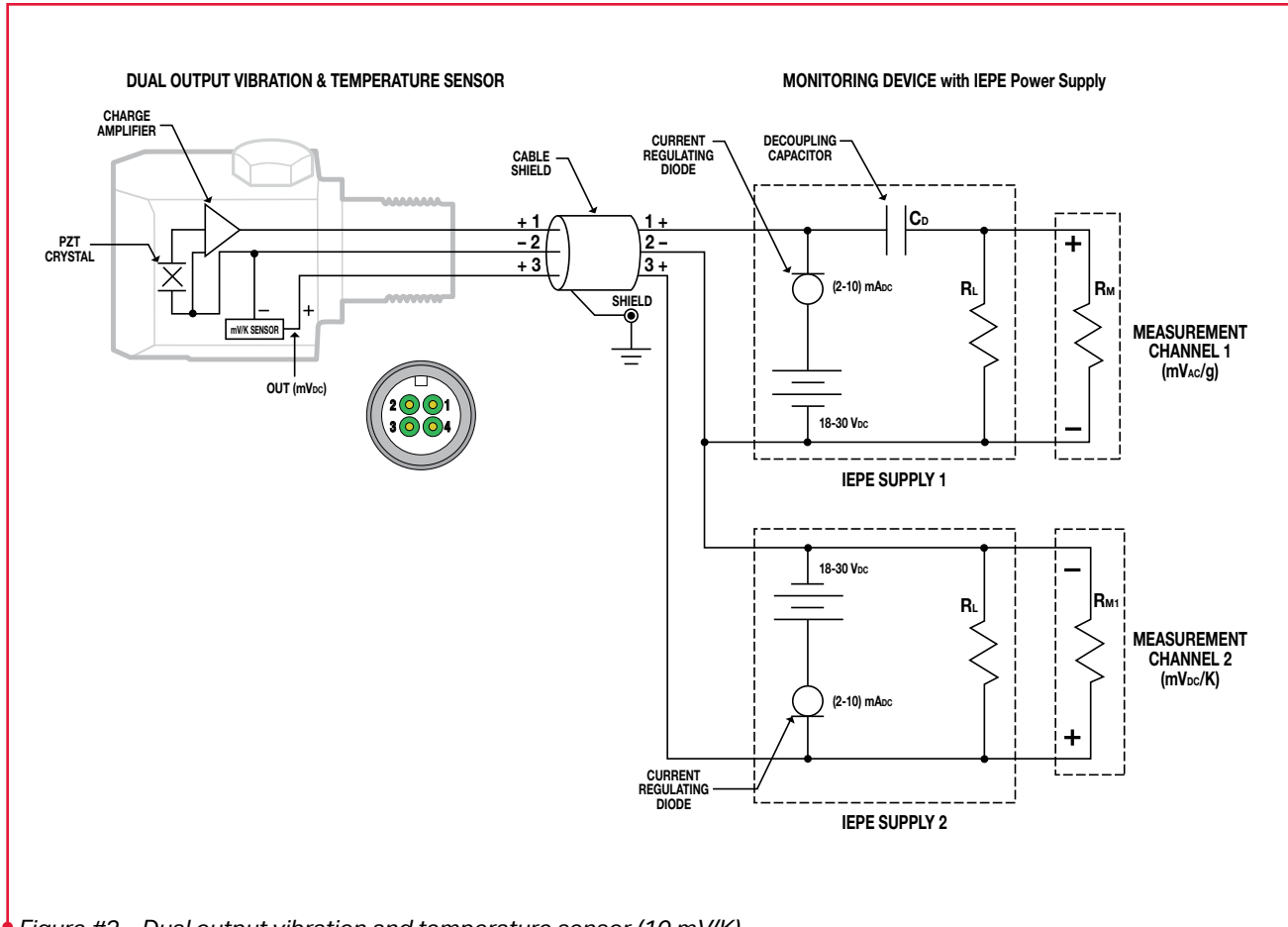
CENTIGRADE WIRING

Relative to Figure #1, for a three-wire vibration and centigrade temperature sensor, the positive vibration wire would be connected to Pin 1, the negative wire would act as a shared common and be connected to Pin 2, and the positive temperature output would be connected to Pin 4. In this configuration, the temperature output will be directly measured as a DC voltage across Pin 4 (positive) and Pin 2 (negative). Pin 3 is not used.



Kelvin Sensors

The TA172-M12 (100 mV/g), TA174-M12 (100 mV/g), and TA178-M12 (100 mV/g) series provide an mV/g vibration output and a 10 mV/K temperature output. IEPE power must be applied to the vibration circuit and temperature circuit to measure the temperature. This will require two channels in the data collector, dynamic signal analyzer, or on-line condition monitoring system with two IEPE power supplies. Note that the temperature output is DC coupled (decoupling capacitor removed from circuit) Please reference Figure #2.



• Figure #2 – Dual output vibration and temperature sensor (10 mV/K)

KELVIN WIRING

Relative to Figure #2, for a three-wire vibration and Kelvin temperature sensor, the positive vibration wire would be connected to Pin 1, the negative wire would act as a shared common and be connected to Pin 2, and the positive temperature wire would be connected to Pin 3. In this configuration, the temperature output will be measured as a DC voltage across Pin 3 (positive) and Pin 2 (negative) of the IEPE circuit. **Remember, this will require two channels in the data collector, dynamic signal analyzer, or on-line condition monitoring system with two IEPE power supplies. Note that the temperature output is DC coupled (decoupling capacitor removed from circuit).**

[Click here](#) to download our entire guide to wiring CTC accelerometers.

