CTC sensors will function well with a constant current power unit, which provides 2-10 mA with a DC voltage level between 18 and 30 VDC. We recommend using a current source of 2 mA and 24 VDC. This can be provided by using a data collector or by an interface circuit.

The 100 ohm, ¼ watt resistor and 1N4148 diodes are used to suppress electrostatic discharge. The CR220 current regulator diode provides the necessary bias current for the sensor. The power supply can be virtually any regulated supply that provides a clean 24 volt DC output. The 22 µf tantalum capacitor removes the DC component from the signal. All parts in this circuit have polarity and must be connected correctly for the circuit to function properly.

Please note: The cable should be shielded and grounded at the interface end for optimum rejection of external noise. All CTC sensors have an internal shield that is connected to the negative terminal. CTC accelerometer cases are isolated from the circuitry for optimum noise rejection. Each sensor will transmit a signal riding on their specified bias voltage. This is typically ±5 volts riding on a 12 volt bias (please refer to the data sheet for each particular sensor).

This circuit is intended for non-intrinsically safe applications only