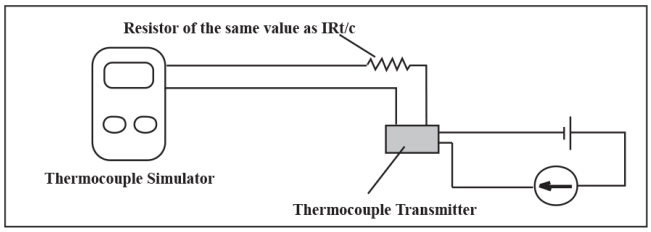
CALIBRATING WITH THERMOCOUPLE SIMULATORS

A common practice in thermocouple transmitter calibration is to set the 4 to 20 mA range on the bench before installation. The usual procedure is to employ a thermocouple simulator which can be programmed to produce a thermocouple equivalent signal of the desired type and temperature range. In this fashion, the 4 mA is set with the ZERO, and the 20 mA with the SPAN for the desired range.

Bench calibration of a transmitter can be performed to operate with any IRt/c by adding the following step to the normal method:

- Measure the electrical resistance of the IRt/c to be used with the transmitter, and add a resistor of the same value in series with the simulator.

With this step, the simulator "looks" to the transmitter exactly the same as the IRt/c, and any offsets caused by transmitter leakage currents can be calibrated out. Good practice is to check to make sure that the calibration remains stable on the bench, in case the transmitter leakage current is not constant. As always with infrared devices, a final trim calibration should be performed in actual operation (see Tech Note #1).



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