

# Thermocouples

The thermocouple is a temperature sensor created by joining two dissimilar metals together to form a sensing junction. The output is a very small EMF, which has a predictable value to the temperature of the sensing junction in reference to a reference junction. This technology was discovered in the 1800's and today, widely used in the measurement industry. Thermocouples are defined by the dissimilar metals used and designated with a letter which is known as the thermocouple type. Colour coding has also been standardized for distinguishing thermocouple types when examining thermocouple wire.

Aircom contributes to the thermocouple technology by manufacturing it into usable temperature devices such as sensor probes and assemblies for commercial and industrial purposes. The primary factor in selecting a thermocouple for a given application is the temperature range it will be exposed. The graph below offers a reference for this purpose. Other important factors to consider in thermocouple temperature sensor design are the process conditions the sensor will experience. This includes things such as the pressure rating and process media itself. Further information is provided in this catalog to assist with thermocouple temperature sensor design.

