Temperature Sensor Identification

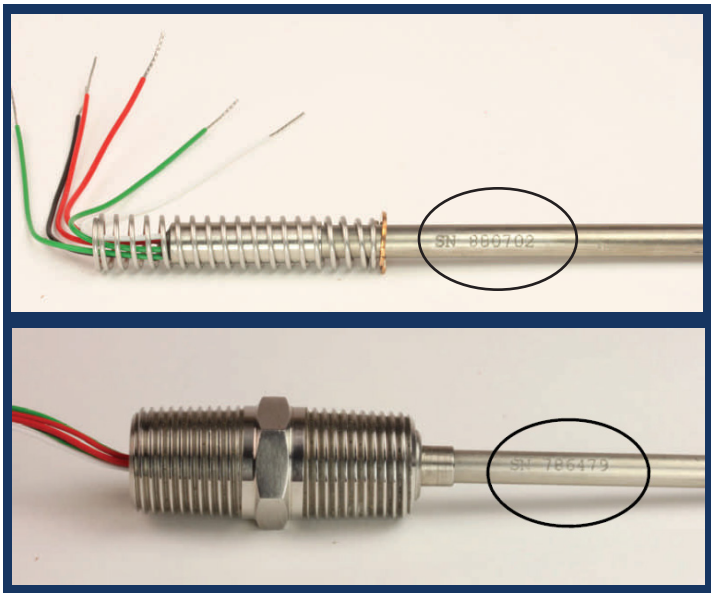
Case A120712

Application

RTD? Thermocouple? Interchangeability? Length? What type is it? These are questions that arise when attempting to replace a failed RTD or thermocouple and no documentation exists to trace its lineage. With a few simple checks you can determine enough information so that we can identify the correct replacement part.

Challenge

Many times on older sensors no information exists and you are not even sure if it is an RTD or thermocouple or some other type of temperature sensor. Tags and other readily identifiable labeling have long since disappeared under paint, corrosion, or just plain crud.



Serial Number Examples

Solution

Begin by removing the sensor from the thermowell or process. Look for a 6 digit serial number on the probe sheath or wrench hex. It may be electro-etched or engraved by hand and may be difficult to read. Next note the number and color of the lead wires. If there are two wires it is most likely a thermocouple. The color codes will indicate the thermocouple type. Red is negative on all the standard types and the positive leads are: blue = type T, white = type J, yellow = type K, and purple = type E. If there are 3, 4, or 6 wires it is probably an RTD. Common colors are 2 red, 1 white for one sensing element and 2 green, 1 black for the second element if present. Measure the overall length and diameter of the sensor and note if there is a threaded connection as in the photo above. Knowing only a couple of these identifying characteristics we can help unravel your temperature sensor mystery.