

Sensor Connector Installation

A. Preparing the sensor wire.

- 1) If the sensor wire is 20 AWG (0.8 mm diameter) or thicker and single conductor, strip the insulation by 3/8" (9 mm).
- 2) If the sensor wire is less than 20 AWG and multi stranded, strip the insulation by 3/8" (9 mm). Then, insert the wire into the tube type terminal (also known as bootlace ferrules, or European style terminal) provided (shown in figure 1).

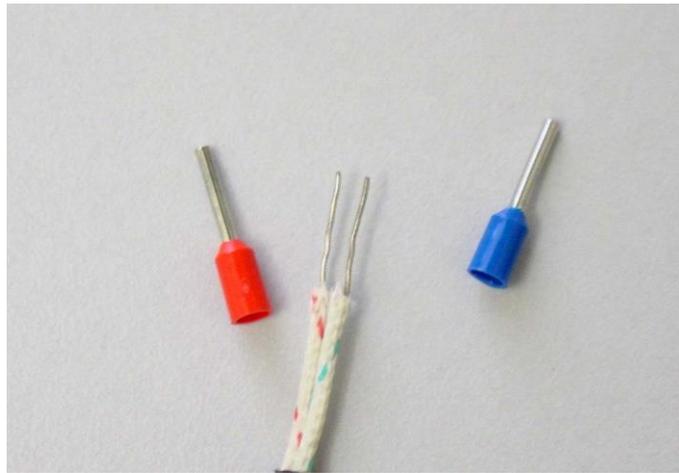


Figure 1. Sensor wires and tube type terminals

- 3) If the sensor wire is less than 25 AWG (very thin) and single conductor, strip the insulation by 3/4" (20 mm). Insert the wire to the tube type terminal. Then bend a loop at the tip of wire and push it back to the tube. This small hook will prevent the thin wire from being pulled out after crimping (see figure 2 below).

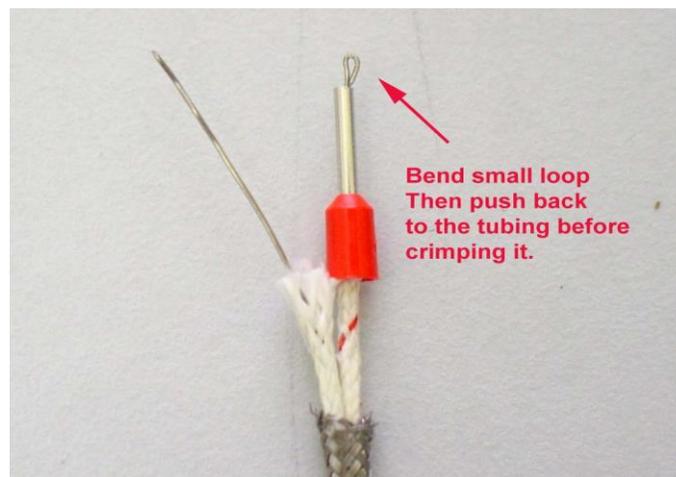


Figure 2. Bend a loop at the tip for wires less than 25 AWG before crimping

After that, crash the tube with a plier as shown in figure 3 blow. The tube can be crashed by special crimping tool for the bootlace ferrules as one at the top of the picture. However, since this crimping tool is hard to find, regular plier as the bottom one should also be fine.



Figure 3. Crimping tools

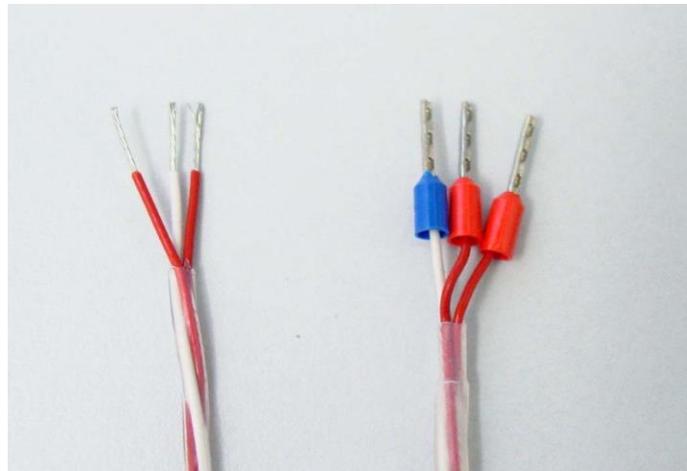


Figure 4. Wires with tube type terminals installed

B. Connecting thermocouple type sensor.

Thermocouple wires are polarized. The positive should be connected to the center slot of the connector. The negative should be connected to the right slot (facing the set screw of the connector). There are two commonly used color codes for the K type thermocouple. US color code uses yellow (positive) and red (negative). Imported DIN color code uses red (positive) and green/blue (negative). An easy way to remember this is: if there is a yellow, the yellow is positive; if there is no yellow, red is positive. The temperature reading will decrease as temperature increases if the connection is reversed.

Figure 5 shows how to connect K type thermocouple. Figure 5(a) has US color code. Figure 5(b) has DIN color code. Positive goes to the center slot. Negative goes to the right slot (when facing the set screw)

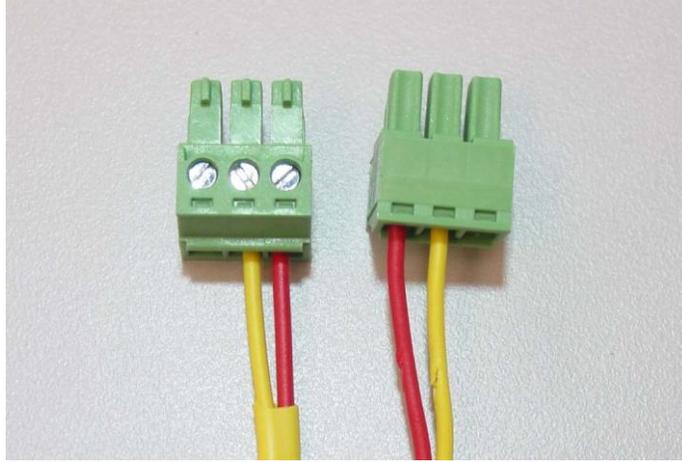


Figure 5(a). US color code K type thermocouple connection

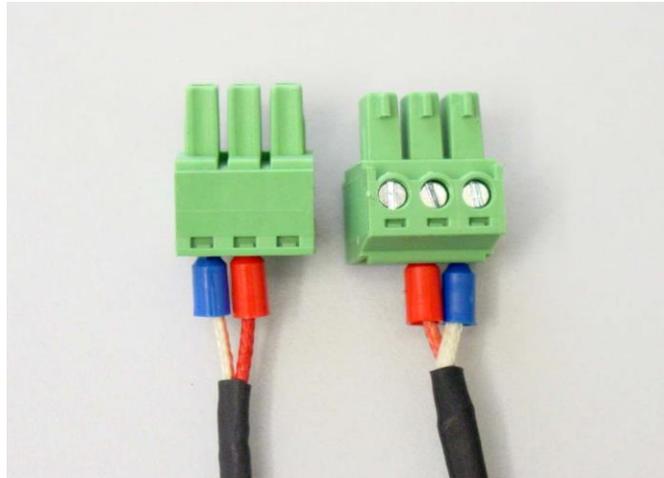


Figure 5(b). DIN color code K type thermocouple connection

C. Connecting RTD sensor

For a three-wire RTD with standard DIN color code, the two red wires should be connected to the center and right slot (when facing the set screw). The white wire should be connected to the left slot (see figure 6(a)). For a two-wire RTD, the wires should be connected to center and left slot. Jump a wire between center and right slot (see figure 6 (b)).

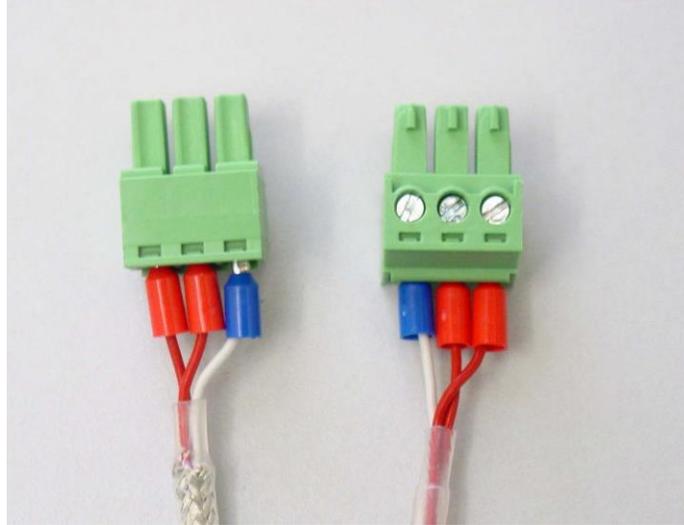


Figure 6(a) DIN color code three-wire RTD connection

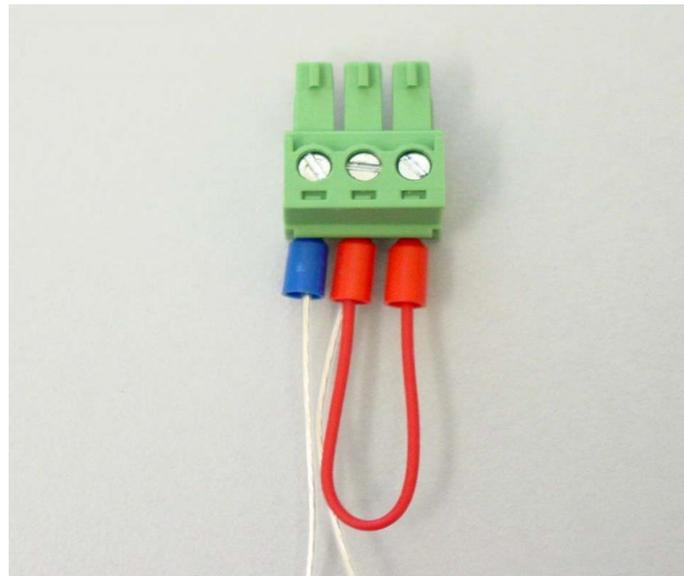


Figure 6(b) DIN color code two-wire RTD connection

Copyright 2007-2016, Auber Instruments All Rights Reserved.
No part of this manual shall be copied, reproduced, or transmitted in any way without the prior, written consent of Auber Instruments. Auber Instruments retains the exclusive rights to all information included in this document.