

TCTemp1000 Thermocouple Change Procedure

Getting Ready

Ensure the data logger is stopped.

The thermocouple in the TCTemp1000 is type K and utilizes a male subminiature mini plug termination. The TCTemp1000 can accept J, K, T, E, R, S, B and N thermocouple types, and therefore all instructions in this procedure can be applied to the installation of other thermocouple types, but they must have male subminiature mini plug terminations.

Replacement thermocouple and tools needed

Basic hand tools are required to change the thermocouple in the TCTemp1000:

- 1) Replacement thermocouple (termination requires a flat, two-prong, subminiature male mini plug)
 - a. The replacement thermocouple part number for the thermocouple probe sold with the TCTemp1000 is P/N: SEN-KTTSSMP-06
- 2) Adjustable wrench
- 3) 9/16" combination wrench

The Procedure



There is a cable gland nut attached to the thermo cover, which when tightened, secures the entire TCTemp1000 data logger, electronics, thermocouple lead wire, and mini plug from the ingress of dust or water. To loosen the cable gland nut gently unscrew the nut using an adjustable wrench in conjunction with a 9/16" combination or open-ended wrench.



Figure 1 – Removing thermo cover from TCTemp1000 data logger body. Note the right hand is holding the cable gland, and the thermo cover is being removed from the TCTemp1000 data logger body.

The thermocouple end of the TCTemp1000 body (called a thermo cover) must be removed to allow thermocouple replacement since it conceals the female mini plug adapter.

Separate the data logger body from the thermo cover by using both hands to twist the thermo cover off.



Figure 2 – Female mini plug (left) and male mini plug (right).

Disconnect the male mini plug that is connected to the data logger body (see figure 5).

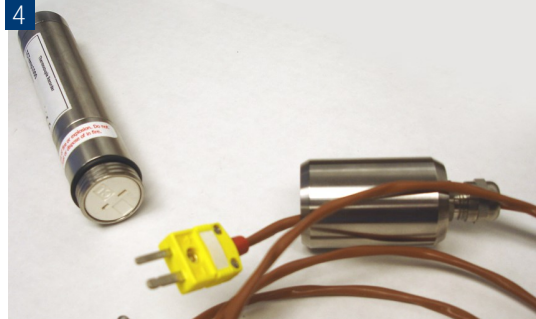


Figure 3 – Male mini plug disconnected; next step: loosen cable gland nut so the thermocouple can be removed (pulled out).

Once the thermo cover is removed and the male mini plug is disconnected, loosen the cable gland nut to pull the old thermocouple out of the thermo cover.



Figure 4 – Pull the thermocouple out of the thermo cover.

Pull the thermocouple out of the thermo cover by the mini plug end, ensuring the thermocouple sheath passes through the cable gland (note that sheath diameters **larger than 3/16" are not recommended**), and then discard the old or faulty thermocouple.



Figure 5 – Slide the new thermocouple sheath-first.

Slide the new thermocouple, sheath-first, through the cable gland as shown above.

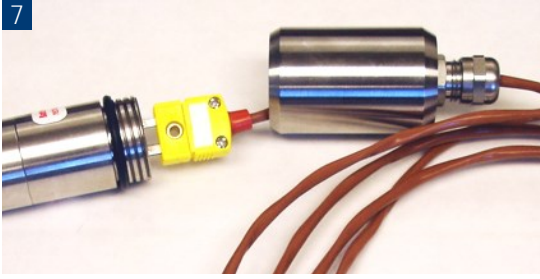


Figure 6 – The new thermocouple inserts into the body of the data logger.

Connect the male mini plug to the female mini plug on the data logger body. Thermocouples are polarity sensitive, so there is only one way to insert the mini plug into the thermocouple input on the TCTemp1000.



Figure 7 – Make sure to screw the enclosure together tightly.

Screw the thermo cover onto the data logger body so the o-ring is no longer visible.



Figure 8 – Tightening the cable gland nut.

Tighten the cable gland nut and the thermocouple replacement is complete.