

## 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.

24 Gauge thermocouple wire is recommended.

### 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)
- 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*

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.

PTC Instruments  
2301 Federal Ave  
Los Angeles, CA 90064

Tel: 877.782.2329  
Fax: 310.312.0826

[sales@ptc1.com](mailto:sales@ptc1.com)

[www.ptc1.com](http://www.ptc1.com)  
[www.ptcmetrology.com](http://www.ptcmetrology.com)  
[www.ptcinstruments.com](http://www.ptcinstruments.com)

# TCTemp1000 Thermocouple Change Procedure



PTC Instruments  
2301 Federal Ave  
Los Angeles, CA 90064

Tel: 877.782.2329  
Fax: 310.312.0826

sales@ptc1.com

www.ptc1.com  
www.ptcmetrology.com  
www.ptcinstruments.com



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).

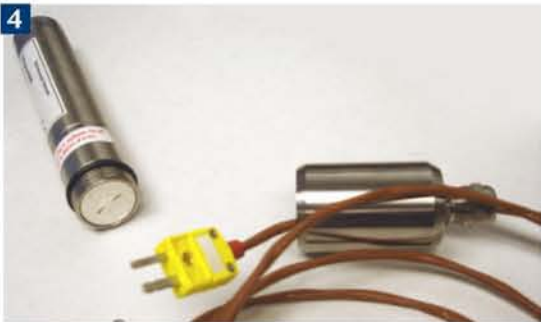


Figure 3 – Male mini plug disconnected; next step: loosen cable gland nut so the thermocouple can be removed (pulled out).

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 new thermocouple through the cable gland as shown above and re-attach the mini connector

Be sure to twist the thermocouple wire approximately 1 1/2" and weld tip for improved accuracy.

## TCTemp1000 Thermocouple Change Procedure



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

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.



PTC Instruments  
2301 Federal Ave  
Los Angeles, CA 90064

Tel: 877.782.2329  
Fax: 310.312.0826

[sales@ptc1.com](mailto:sales@ptc1.com)

[www.ptc1.com](http://www.ptc1.com)  
[www.ptcmetrology.com](http://www.ptcmetrology.com)  
[www.ptcinstruments.com](http://www.ptcinstruments.com)