

Wiring instructions for the TLZ10
Temperature Controller and
Thermoelectric Cold Plates
TCP-50 & TCP-100



There are a variety of ways to configure the TLZ10 and our cold plates. Following is the method we recommend. You will need two additional pieces additional of wire, one about 3 inches, the other about 2 feet (60cm) long.

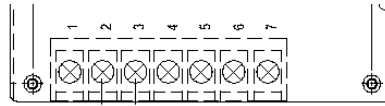


Caution! Risk of electric shock. Your new TLZ10 temperature controller and our cold plates are designed for use from a DC power source. Do not connect directly to 110-120 V AC sources.

1. If you have purchased a power supply from us you may need to attach a power cord. On the back of the supply, locate the two terminal posts in the (AC) input section of the power supply. Typically these are the first two posts on the left hand side of the unit. Connect the white wire from the power cord to the 1st post marked "L" and the black wire to the 2nd or negative post marked "N." Finally connect the green wire to the post marked with the ground symbol \perp in the 3rd terminal post position. Do not plug the power cord in until you have finished all remaining steps.

Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG \perp		



Typically there are two pairs of DC output terminal posts on all of our power supplies rated for 300 Watts or less. Two adjacent posts are marked "-V" near the center in positions 4 and 5 and those marked "+V" on the right hand side are numbered 6 and 7. Post numbered 4 and 6, the first from the left of each V- and V+, are a pair and remaining set numbered 5 and 7 are a pair.

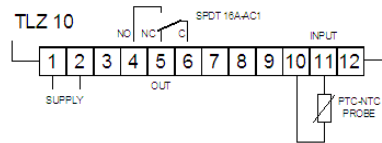
2. Connect the fan leads from the cold plate directly to the power supply using the pair of posts 5 and 7, on the right hand side of the power supply. The fan leads are typically thinner than the leads for the TEC/s. We connect the fan directly to the power supply so that it is supplied a constant nominal voltage. (If it were connected within the loop that's temperature controlled, at the very low power levels the controller may supply, the fan/s may squeal or not supply enough airflow to cool the heatsink.) We will connect the remaining cold plate leads shortly however, you may want to confirm that you have the correct leads attached by plugging in the power cord and observing that the fan/s spin/s. If the fans do not work, unplug the power cord and connect the other pair of leads to the supply in those post

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positions. Again, plug in power cord in and confirm the fans are operational then unplug the power cord until all steps have been completed.

3. Next, let's connect the TLZ10 temperature controller. On the back of the TLZ10 you will note this illustration:



4. Connect the NTC (or PTC) sensor that we've included by opening slots 10 and 11 with a small Phillips head screw driver. Insert one lead in each slot and tighten the screws to hold the leads in place. The sensor will work with either lead in either slot.
5. Terminals 1 and 2 marked "SUPPLY" are for DC power input from the power supply. Connect +V output from terminal post 6 (second from right) from the power supply to slot 1 on the TLZ10 temperature controller then connect -V output from post 5 of the power supply to input 2 on the TLZ10.
6. Using a spare piece of wire about 3 inches long make a jumper from TLZ10 slot 1 (also connected to the power supply) to the TLZ10's terminal 6 (common of SPDT switch)
7. Connect the red, positive lead/s from the TEC/s in the cold plate to TLK10's slot 4 identified by "NO" (meaning a normally open circuit of SPDT relay).
8. Connect the negative lead from the cold plate to -V terminal post 4 on the back of the power supply. Finally with an extra piece of wire at least a foot long also connect the power supply -V terminal post 4 to TLZ10 slot 2
9. You may now plug in the power cord and begin the programming of the TLZ10 for your application. You will find information on the various functions and procedure for setting up the controller in the TLZ10 User's Manual located at electracool.com/TLZ10Manual.pdf

If you encounter any problems we are delighted to assist you. From the United States, Canada and most of the Caribbean please call us toll-free at: 1-866-665-5434 otherwise e-mail: help@electracool.com.

