

Megohm Testing

1. Electrical insulation resistance testing should be performed prior to initial start-up.
2. Electrical insulation resistance testing (using a megohmmeter) should be conducted at 500 and 1000 Vdc to measure the resistance between the heating cable bus wires and the braid. Do not allow test leads to touch junction box, which can cause inaccurate readings.
3. All insulation resistance values should be greater than 10 megohms.
4. Follow the procedure below to perform a megohm test:

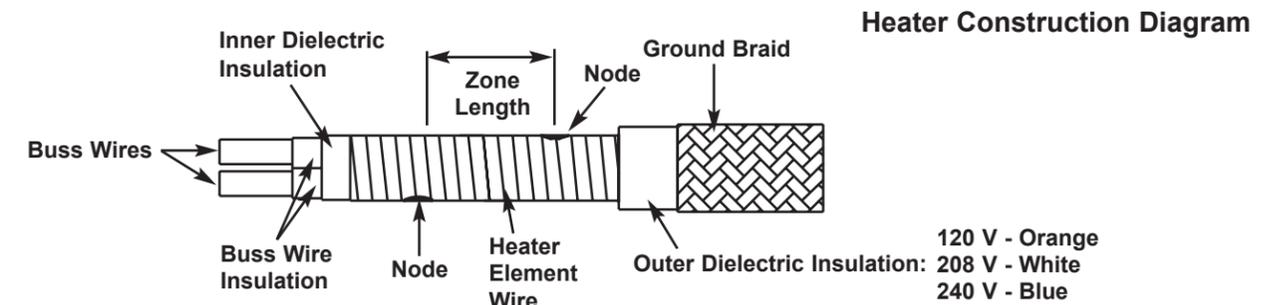
▲ CAUTION: If there are any discrepancies between the following instructions and the instructions provided with your megohmmeter, follow your megohmmeter's manufacturer's instructions.

- De-energize the circuit.
- Disconnect the thermostat or controller if installed.
- Disconnect buss wires from the power source.
- Set test voltage at 0 Vdc.
- Connect the negative (-) lead to the heating-cable metallic braid.
- Connect the positive (+) lead to both heating-cable buss wires simultaneously.
- Turn on the megohmmeter and set the voltage to 500 Vdc apply the voltage for 1 minute. The resistance value should be greater than 1000 megohms.
- Repeat previous step at 1000 Vdc.
- Turn off the megohmmeter.
- If the megohmmeter does not self-discharge, discharge phase connection to ground with a suitable grounding rod. Disconnect the megohmmeter.
- Reconnect buss wires to the power source.
- Reconnect the thermostat or controller.



T9G90-UC Power & End Terminations for T, TY & TN Tracers

Installation Instructions



T9G90-UC Kit Contents

- 1 Silicone Two-Leg Connection Sleeve
- 1 Silicone Tracer End Cap
- 1 Tube of RTV Silicone
- 1 Ring Terminal
- 1 Entry Seal
- 36" (915mm) Heat Shrink Tubing

▲ CAUTION: All electrical connections and installations must comply with the requirements of all applicable national and local codes. If there is a conflict between these instructions and the requirements of applicable codes the requirements of the codes must be followed.

Locate Node

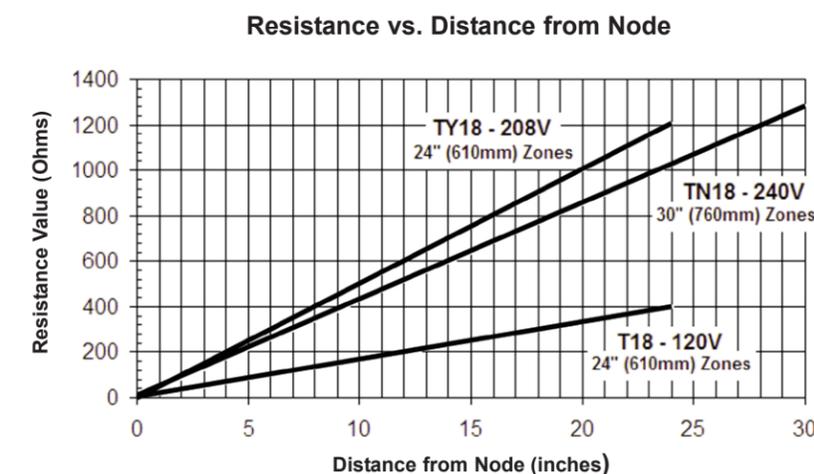
1. Determine the zone length of the heater cable.
T18: 120 V - 24" (610mm) zone lengths
TY18: 208 V - 24" (610mm) zone lengths
TN18: 240 V - 30" (762mm) zone lengths
2. Locating the node nearest to the end of the cable:

Peel back 1" (25mm) of the outer dielectric insulation to locate the heater element wire, then unravel 4-5 spirals from around the insulated core.

Using a standard electrical multi-meter set to measure resistance, connect one test lead to the end of the heater element wire, then contact each of the buss wires separately using the other test lead. One of the two buss wires will display a significantly higher electrical resistance value.

Make a note of the lower of the two electrical resistance readings. Refer to the chart on left, referencing the particular cable you are testing.

Using a tape measure mark the first node in relation to the end of the heating cable.



Example: Testing a TN18 cable you obtain a low resistance reading of 800 ohms. Find 800 ohms on the Y axis (Ohms) and read across until this line intersects the curve labeled TN18. Follow this point down to the X axis (Distance). The first node is 18.5" (470mm) from the end of the cable.

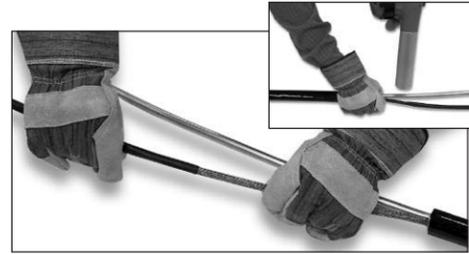
Power Connection

1. Locate the node nearest to the end of the cable (Refer to Locate Node section on Page 1).
2. To calculate the cold lead length: leave a minimum of 6" (150mm) from the first node to the entry seal, add length required to make connections inside junction box, and minimum lengths required by applicable national and local electrical codes, then cut cable accordingly.
3. Heat shrink tubing is furnished to provide additional corrosion protection to exposed ground braid. Cut the heat shrink tubing 7" (175 mm) shorter than the total length of exposed heater cable including hot and cold lead sections. Slide the heat shrink tubing over the heater cable all the way back to the end of the bundle. Starting at the bundle use a suitable heat gun to shrink the tubing.
4. Slide entry seal over tracer.
5. Use a screwdriver to open braid about 6" (150mm) from the cut end of the heater cable or at the end of the heat shrink. Bend the heater cable back and pull it through the braid.
6. Twist the braid tight enough to insert the end into the ring terminal provided. Use a crimping tool to secure the ring terminal to the braid.
7. Remove outer dielectric insulation and heater element wire to expose 4" (100mm) of insulated buss wires. Unwrap the spiral heater element wire and cut it off flush with the end of the outer dielectric insulation.
8. Strip 1" - 2" (25 - 50mm) of inner dielectric insulation from the end of each buss wire. The inner dielectric consists of two layers, one around the individual buss wires and a second layer covering both buss wires. Remove the inner layer of dielectric insulation covering both buss wires. This will leave the buss wires free but still covered with a layer of dielectric insulation.
9. Fill silicone two leg sleeve with RTV silicone and slide over end of heater cable.
10. Tighten entry seal to junction box.
11. Connect heater cable to power source using connectors suitable for 105°C and tighten gland.

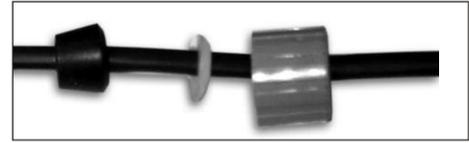


CAUTION: END TERMINATION MUST BE INSTALLED BEFORE ENERGIZING CIRCUIT.

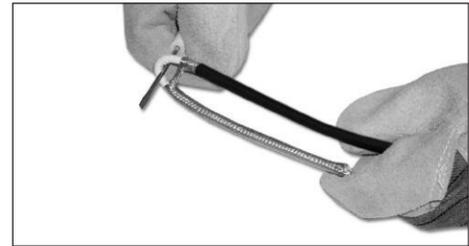
Step 3



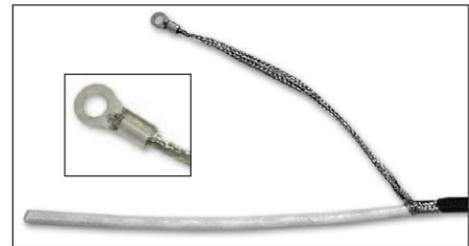
Step 4



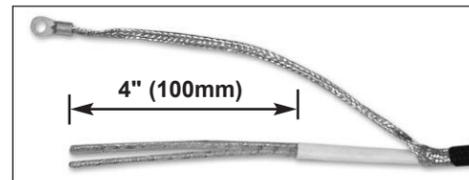
Step 5



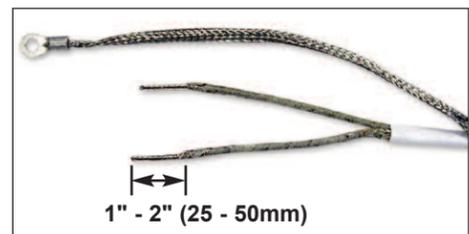
Step 6



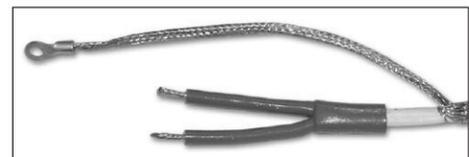
Step 7



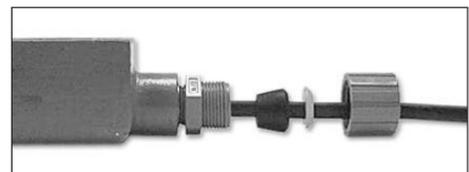
Step 8



Step 9



Step 10

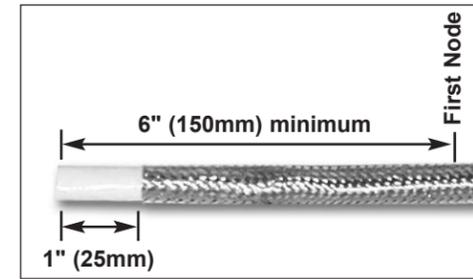


End Termination

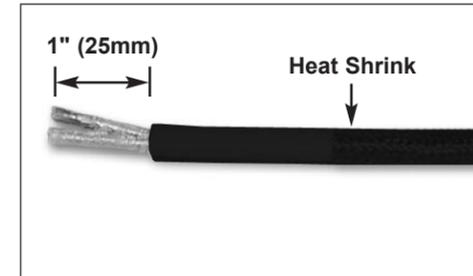
1. Locate the node nearest to the end of the heater cable (Refer to Locate Node section on Page 1).
2. Cut cable at least 6" (150mm) past last node.
3. Heat shrink tubing is furnished to provide additional corrosion protection to exposed ground braid. Cut the heat shrink tubing 1" (25 mm) shorter than the total length of exposed heater cable including hot and cold lead sections. Slide the heat shrink tubing over the heater cable all the way back to the end of the bundle. Starting at the bundle use a suitable heat gun to shrink the tubing.
4. Remove outer dielectric insulation and heater resistance wire to expose 1" (25mm) of insulated buss wires. Care should be taken not to remove buss wire insulation.
5. Cut one insulated buss wire 1/4" (6mm) shorter than other insulated wire so they can not come into contact with each other.
6. Fill silicone end cap with RTV silicone and slide over end of cable.

Cut braid back 1" (25mm) from end of cable.

Step 3



Step 4



Step 5



Step 6



Heater Cable Wiring Diagram

