

Notes on tuning the Remote Heat Station

The basic principle for operating a Remote Heat Station efficiently and safely is that the current in the cable needs to be minimized. The 7.5kW models' cable can carry 100A continuous. By making the LC at the remote box the same value as the LC inside the power supply the cable current is at minimum. For a particular output coil, this effectively means that a fixed ratio of capacitance between the RHS unit and the Power supply exists. There is some flexibility with the adjustable inductor inside the unit, but operating limits of the power supply limit that range of adjustment somewhat.

1. To tune the RHS unit. Attach the work coil to the remote heat station.
 - Add capacitors to the capacitor rail. For smaller coils, you will need more capacitance, depending on the desired frequency of operation.
 - Add the desired number of caps. For better capacitor life, keep capacitors above and below. The closest capacitor to the output will tend to heat the most, so having a close pair and one behind is better than one close and two behind.
2. Add a lesser amount of capacitance inside the Power Supply. With a larger coil, the ratio could be 2:1, but with a smaller coil, the ratio could be 10:1.***
3. Install a CT on one leg of the RHS cable to monitor current. This is usually easiest at the power supply end.
4. Turn on the power supply at lower power. Closely monitor the current in the cable. Properly tuned, the RHS cable should be below 100 for 7.5kW. The cable will run comfortably with 100Amps or less.

*** For precise tuning of work coil and part, contact manufacturer for tailored application tuning.