

**Room Thermostat, Cycles Per Hour Setting** - Most electronic or newer thermostats no longer have the term “differential” but now use the setting “cycles/hour”. Since heat pumps and WarmFlo maximum efficiency depends upon long run cycles, it is **imperative** the installer change the typical roomstat setup default. Electro suggests “2 cycles/hour” for basically all of our forced air installations.

**Roomstat System Setup or Type** - Throughout the Electro Industries product history all products are basically designed to operate from a single heat or cool call roomstat set point. Electro does not promote or design applications/equipment based upon a complex, multi-staging, room thermostat. In recent product updates this has become a stronger point to where all products now require conventional, 1H/1C or 2H/2C, system setup. Some installers refer to this as “4-wire roomstat”. All newer thermostats have a system setup programming feature to where this is a common procedure.

For all products, setup roomstat as conventional, 1H/1C or 2H/2C.

**Humidifier/Electro-Mate Type Plenum Installation** - The humidifier recirculating outlet air must not enter at the bottom of the Electro-Mate elements (inlet). Experience says this will disturb the airflow entering the elements and cause overheat or prevent longterm reliability of the electric elements. Typically the humidifier recirculated air entering the warm air plenum should be **above** the electric elements.

**Humidifier Hookup Suggestions** - If the stat W terminal will not work for controlling the humidifier, hookup suggestions ED006 may help. Request as required.

**Two Furnaces/Two Electro-Mate Units, One Roomstat/One WarmFlo Interface Module** - This can relate to Electro-Mate plenum heater, basic WarmFlo Duct Heater, heat pump or non-heat pump, etc. A special connecting cable can easily accomplish this arrangement.

Interconnecting Cable & Hookup    HH007

**SOT Delay Timer** - For Electro terminology, SOT is a device or software logic technique providing a switchover or standby sequence after a specific roomstat run time (renews each roomstat heat cycle). All of the forced air WarmFlo products have this built into the programmable features and is either factory default set or controlled by the handheld, WF-ANZ7. For these products the WF-ANZ7 can modify this time entered value.

For non-WarmFlo or boiler applications and any other hardware relay contact applications the SOT module is still available. Check with factory for model number and drawings to fit your specific needs - SOT-EM-60, SOT-HP-\*\*, etc.

**Dual Fuel, Non-Electro-Mate or Strip Heat** - Typically heat pump/gas furnace only is controlled by a multi-stage thermostat. Often this complicates load control, proper action of the furnace blower, discomfort operating gas on stage 2 or stage 3, installer complication, etc. Electro provides an easy to install, easy to use, simple 4-wire interface unit to simplify this application. The latest improved controller has built-in temperature sensing and no extra ODT or equipment needed for switchover and easy defrost heat option. It can also be set up to automatically switch to the gas furnace if the heat pump outlet temperature is too cool for specific homeowner. This has been very well received, one distributor has already ordered 150 units. Note: This new controller applies to 4-wire stat only.



Application - any manufacturers’ model or brand air source heat pump, no electric resistance, utility load control, desire simple one package fossil fuel kit. Reference: HI109.

- WF-DFHP1 - single speed equipment
- WF-DFHP2 - 2-speed equipment

**Dual Fuel (HP and Gas) but using Electro-Boiler below ODT** - This arrangement allows the electric boiler whenever the heat pump is below outdoor switchover. The gas furnace is still used for load interrupt standby.

Information & Installation                      HC108

**Utility Load Control, Electro Zone Controller With Pumps, Interrupt All Pumps** - Normally the zone pumps and zone thermostat are wired ahead of the Electro-Boiler control board action. This is correct and takes care of all requirements for dual heat (standby boiler) transfer and operation. However, during interrupt (without standby boiler) the zone controller involvement will operate the pumps as the slab stats come on or off. An added extra control relay can keep the pumps off during load control.

Information & Hookup                              BH028  
Switching Relay                                      EE-5051

**Radiant Floor/Forced Air Combo** - If there is radiant floor in the lower level with forced air zone system, there no doubt is a wall thermostat for the forced air zone. There is no successful way you can operate the radiant electric boiler with a wall stat. The boiler wall stat will simply follow the forced air setting or vice versa. The solution is a slab stat for the radiant boiler set for a fixed floor temperature. With the slab stat (ES-24-BR) the comfortable and economic heating from the floor will be priority and the zoned air stat will only come on when the boiler/radiant floor is slipping room temperature.

**WarmFlo Control Boards, Electro-Boiler Specifically, Plug-In Sensor Terminal Block** - For control boards which have the remote terminal block and 4-position sensor terminal block there is a possibility of plugging the sensor terminal block into the remote socket. This is not a good idea, immediate sensor and control board destruction occurs.

**Gas Furnace Blower Lock-Up** - On some newer gas furnaces and some Dual Energy Furnaces (one specific Honeywell board 1012-925) a situation associated with the WarmFlo SOT programmable backup function can exist where WarmFlo SOT has timed out switching over to the gas furnace, the gas furnace fails to ignite under its own control board sequence, then the gas furnace locks out its furnace blower. If there is a WarmFlo sequence to go back to electric elements (all automatic before the next thermostat cycle) the furnace blower is now locked out (by the gas furnace board) and there is no airflow for the electric elements.

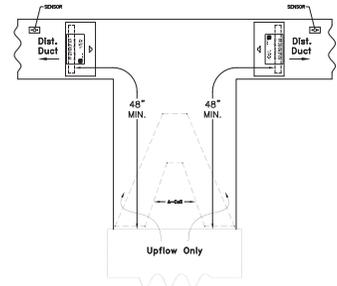


**Remedy** - add relay board HD5634 with special wiring instructions in order to take the furnace blower function away from the gas furnace control board.

**PC/Laptop - WF-ANZ** - New USB cable/adaptor and Windows® software allows you to use your own PC. All monitor and entries are on one page/screen.



**Existing Dual Fuel, Add Two 5 kW Comfort Module Duct Heaters** - When limited space in the plenum does not allow room for the use of the Electro-Mate, two WarmFlo Comfort Modules can be inserted into the take-off ducts as an alternative solution. Hookup wiring with an existing fossil fuel kit and 2-stage HP stat is quite easy. However, the temperature sensing set point controlling the WarmFlo stab-in duct heaters is active and will temper the output of the heat pump independent of outdoor temperature. In other words, with each thermostat cycle the WarmFlo units are active.



Information	HC311
DF, Multi-Stage Stat	HH321
WF-DFHP1	HH350

**WarmFlo Associated With Various Manufacturers' Zone Controllers** - This collection of hookup drawings provides Electro Industries' suggestions for the easiest to use zone panels and also has suggested connections for several industry common zone controllers.

Zone Panel Drawing Relating To WarmFlo Interface Modules	HH337
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**Lennox Dual Heat - Heat Pump XP15/XP19** - A special procedure is available for including WarmFlo Select with these Lennox heat pump/furnace combinations. Request EC705.

Conversion Kits - Updates

**HeatChoice I, Control Board Conversion to HeatChoice II**

Because the updated HeatChoice board has more features, SOT's, etc; this new board with packaged information may apply. EH205 shows the detailed installation.

Order EM-HC2-KIT

**WF-DHEMK**

WarmFlo controller, temperature sensors, triac, and all necessary relays and wires to convert any age or existing Electro-Mate or HeatChoice plenum heater to WarmFlo for heat pump or air conditioning. This same new WF+ control board now has a field selection switch for HP or AC. The previous kit number was WF-EPM4-EM.



**Application** - converting any Electro Industries' plenum heater product to WarmFlo. Reference: EI821 or ES816.

**WarmFlo Select, 30 kW Sizing**

A 5 kW insert can be added above the standard EM-WU25\*\* SL1 or SL2 Electro-Mate with the addition of one relay. This kit is detailed on drawing EH713.

Order model EM-SL30-KIT

**WF-DHKIT**

This kit provides the new WarmFlo+ controller (EZ3/EM3 concept) within a new compact enclosure and control wire harness, all necessary triac, temperature sensors, heating element relays, element power wires, etc. The previous number was WF-EPM4-KIT.

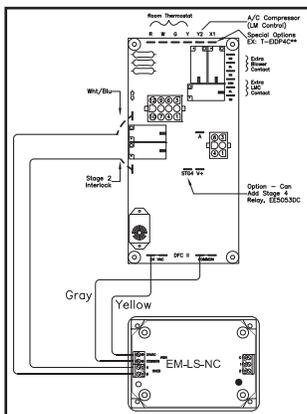


**Application** - Brand X or existing strip heat electric furnace/HP air handler. With this kit all Electro-Mate/WarmFlo functions and features can be implemented and used without purchasing the Electro heating product. Reference: HI322 or HS334.

Circuit On, Detection Switch

For at least 20 years, Electro has had a remote CT module which detects a circuit current and typically interrupts a secondary load or relay contact. Traditionally this has been under our Peak Interrupter product family and primarily used as a load shed or load sharing interrupt application. Dual water heater interrupt is also an application for this item. The historic model numbers are: PI-0A1DYM0, PI-031DYH0, PI-031DYZ0, etc. The application for this module is being broadened, and re-identified to make it easier to apply.

**Electro-Mate or WarmFlo Stage Shedding or Interlock**



**EM-LS-NC**

Remote CT detects an appliance or non-critical circuit, normally closed contact field wired into a typical 5 kW heating stage. Installation instructions include various Electro Industries' heating product models.

**Air Make-Up or Other Switch-On Devices**

**EM-SW-NO**



Remote CT strips over the circuit wire to the forced outlet ventilation motor, which requires turn-on of the air make-up unit. Switch-on level is set at 3 amps, if this triggering threshold is too high or not sensitive enough, simply wrap the CT additional turns. Example - 1-amp triggering requirement, 3 turns.



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