

Specification for Heat Transfer Products, Inc. Vision 1 System

Two temperature control with outdoor reset:

Control system shall be manufactured by Heat Transfer Products, Inc. as complete package to enable the Munchkin 925 boiler control and standard equipment LED display user interface panel, with the following plug and play attributes:

- a. Establish the maximum user set boiler water temperature set point for central space heating in a range of 70°F to 203°F.
- b. Energize the 120V/60/1ph, central space heating primary pump up to 4.3 amps.
- c. Provide a central space heating pump post purge cycle with a range of 0 to 10 minutes.
- d. Establish the maximum user set point for the domestic water temperature stored in the indirect water heater with a range of 95° F to 185° F.
- e. Energize the 120V/60/1ph, indirect water heater heat exchanger pump, with priority control, up to 4.3 amps so as to deliver up to 203° F boiler water to the heat exchanger with a range of 119° F to 203° F.
- f. Provide domestic hot water priority control over space heating when the indirect tank sensor requires domestic hot water temperature set point recovery and establish maximum run time for priority control verses minimum run time for space heating. Range is 0 to 60 minutes.
- g. Provide for differential adjustment in the domestic hot water Vision 1 tank sensor response to stored water temperature changes. Range 1° F to 18° F.
- h. Establish a post purge pump cycle for the indirect heat exchanger pump. Range 0 to 60 minutes.
- i. Monitor outdoor temperature to turn the space heating function off when the warm weather shut down temperature is reached. Range 41° F to 122° F.
- j. Use the Munchkin LED display, and user interface, which is standard equipment, to establish an outdoor reset curve by inputting the required boiler water temperature at minimum space heating outdoor design temperature, and the required boiler water temperature at maximum outdoor temperature space heating will be allowed to operate.
- k. Enable the Munchkin boiler for use with the Interface Board option (part # 7250P-374) to connect to either a 0-10 volt building management system, or existing Tekmar control system, or provide a boost function to override the outdoor reset sensor and allow the boiler to go to maximum BTU input.
- l. Use the 925 boiler control on board 4 pin connection for easy PC interface using the Vision 1 software.
- m. Compatible with Vision 2 and Vision 3 control systems.
- n. Provide full display of all function parameters via the onboard LED display in the standard equipment user interface panel.

The Vision 1 control package shall contain the following:

- a. One (1) outdoor air temperature sensor part # 7250P-319
- b. One (1) indirect tank temperature sensor part # 7250P-325
- c. One (1) set of light green wires marked 'outdoor sensor' with Molex pins
- d. One (1) set of light blue wires marked "indirect sensor' with Molex pins
- e. One (1) purple wire marked 'indirect pump hot' with Molex pins
- f. One (1) pink wire marked 'indirect pump neutral' with Molex pins
- g. One (1) green wire marked 'ground' with female spade connector
- h. One (1) Vision 1 Installation Manual
- o. One (1) Vision 1 Warranty Registration