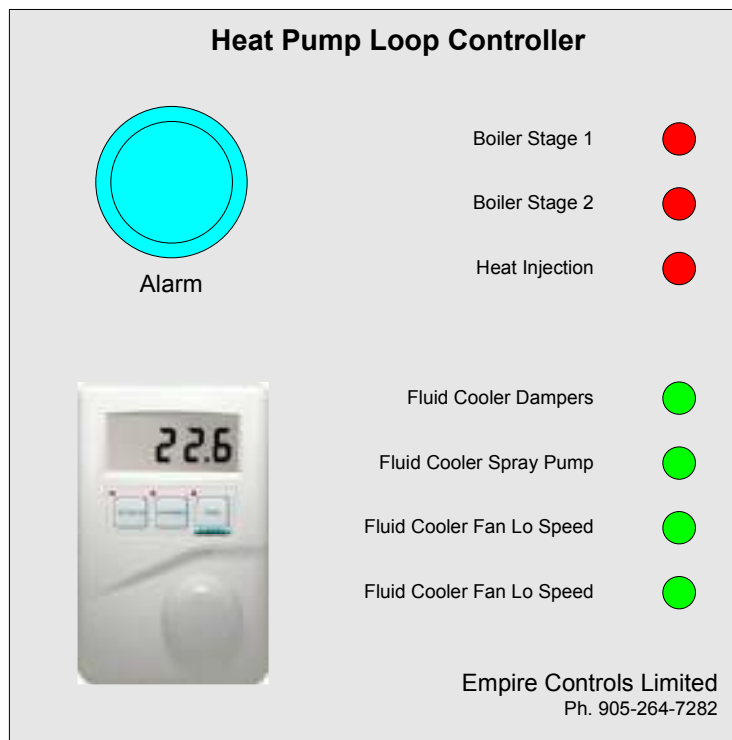


Heat Pump Loop Controller



Description

Heat Pump Controller provides integrated control of boilers, pumps and fluid cooler. Controller can be integrated into an Empire Controls DDC system, either at time of installation or at a later date. LCD, setpoint adjustment knob, time of day scheduling/Real Time Clock features are optional. Unlike controllers provided by heat pump salesmen, the Empire HP Controller offers complete design flexibility and delivers energy savings by using P + I control of both boilers and heat rejection functions. The Empire controller can be configured to handle any configuration, and any number of boilers and fluid coolers.

Guide Specification

Products

2.x Heat Pump Loop Controller

Combination Heat Pumps Controller, Model BNR-HPL complete with immersion sensors, OAT sensor, flow switch, control relays, alarm strobe, indication lights, setpoint adjustment knob, heat injection valve assembly, control relays, transformer and liquid crystal display as manufactured by Empire Controls Limited of Woodbridge, Ph 905-264-7282, Fax 905-850-8564, empire@empirecontrols.com. Controllers incapable of controlling modulating valves or network communications are not acceptable.

Execution - Sequence of Operations

3.4.x Heat Pump Loop Controller

Controller monitors primary HWST & HWRT, boilers status, and heat pump loop supply and return water temperatures, and using proportional plus integral control, cycles boilers in stages, modulates the heat injection valve, and cycles the fluid cooler damper(s), spray pump, and two speed fluid cooler fan in sequence as required to maintain the temperature of water supplied to heat pumps no cooler than 18 °C and no warmer than 32 °C.

The Empire controller activates the alarm strobe if a boiler is in flame failure, or if there is no flow in the heat pump loop, or if the heat pump loop temperature is outside of the acceptable temperature range.

Mount controller enclosure on wall, and provide 24 volt power. Connect temperature sensors, heat injection valve and start/stop points to controller. Check operation of boilers, valve and fluid cooler functions.

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