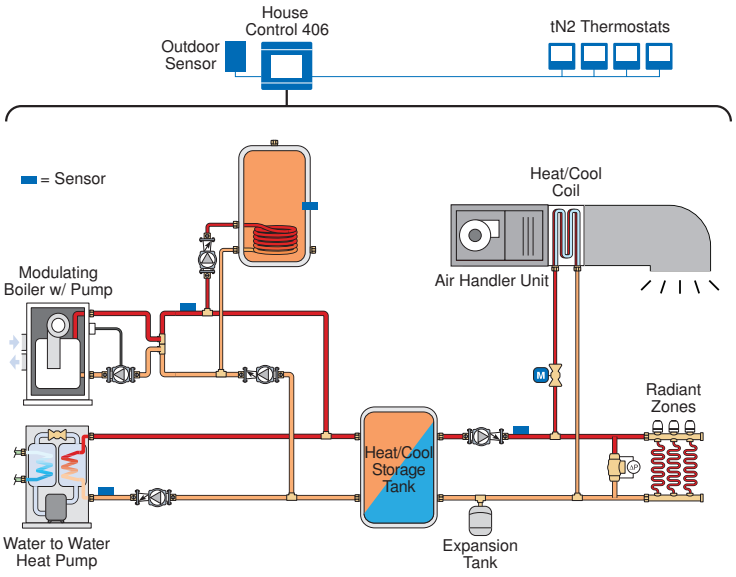
tekmar®
Better Control. Better Systems.

Leading the Way in Heat Pump Control

With an increased focus on going green, heat pumps are becoming increasingly popular as an alternative energy source in hydronic applications. Geothermal or air source heat pumps provide the benefit of supplying up to 4 or 5 times the amount of energy put into them. This “free” energy comes from the ground or the outside air making it an attractive solution for heating or cooling systems.

To get the best performance out of a heat pump system, the interaction between the zones, heat pump, domestic hot water and the back up heat source must be integrated in an organized and intelligent way. With the use of a single control, the entire system can be coordinated to seamlessly work together, improving system efficiency, reliability, and energy savings.



tekmar Control Systems Offers a Better Control

The House Control 406 is a heat pump control that operates up to two stages of air-to-water or water-to-water heat pump, in either heating or cooling mode in a single storage tank, 2-pipe system. The 406 operates a boiler for Domestic Hot Water, set point load, boiler zones, and backup for the heat pump.

www.tekmarcontrols.com/alternativeenergy.html

“tekmar offers an integrated system solution for heat pump applications making the House Control 406 unique in the industry today. Why settle for anything less than an integrated system?”

Integration Optimizes Heat Pump and Backup Operation

Heat pump applications may require a backup heat source to provide additional capacity when a heat pump alone is not sufficient. Common heat sources could include electric resistance, modulating condensing boiler or on/off non-condensing boiler. The House Control 406 will maximize operation of the heat pump by monitoring existing conditions. If conditions are not optimal, the control will enable the backup to satisfy the heating load.

Integration Improves Heat Pump Performance

Current heat pump applications operating with stand-alone setpoint or outdoor reset controls do not achieve their highest performance. During heating, heat pump performance can be improved with lower return water temperatures. The House Control 406 will target the lowest water temperature possible while still maintaining a comfortable temperature in the space. This is achieved through integration of outdoor reset & communicating thermostats which provide indoor temperature feedback.

Integration Provides Intelligent Switchover

A single tank 2-pipe system can only operate in either heating or cooling mode. The House Control 406 polls the thermostats to determine requirements for heating or cooling. When enough thermostats require the opposite mode, an automatic switchover occurs. In heating mode the 406 control forces the cooling zones off, likewise, if the control is in cooling mode, the heating zones are forced off. This more intelligent switchover maximizes overall system performance to better meet the requirements of the building.

DID YOU KNOW…

When a heat pump system has intelligent switchover to cooling through integration of the thermostats, any radiant floor zones have the potential to do floor cooling. Adding a humidity sensor to the system is all that is needed to calculate dew point in order to do floor cooling properly.