



NC = Normally closed
 NO = Normally open

Operation:

When hot water (~110-120 deg F) is drawn from the existing electric hot water tank, it is replaced by solar pre-heated water (~70-105 deg F) from the pre-heat tank.
 Colder well or city water (~50-70 deg F) replaces the solar pre-heated water drawn from the pre-heat tank.
 When the pre-heat thermostat senses the preheat tank is below the set point (~105 deg F) and the Heater Boards are hot, the solar fan is activated.
 The solar fan draws solar heated air from the Heater Boards.
 Solar heated air is sent through the internal heat exchanger of the solar pre-heat tank, heating the water in the pre-heat tank to as much as 75% of the required delivery temperature.
 The electric heating element in the electric tank, only operates to heat the water the final few degrees to the set point in the electric tank (e.g. ~105-120 deg F), reducing electric use by as much as 75%.
 The solar pre-heat tank can be bypassed and the electric tank will heat well or city water from the delivery temperature and maintain the electric tank temperature.
 Exhaust air from the solar pre-heat tank can be used to heat outdoor heat pump air coils or returned to the solar heater, in winter, and exhausted to the atmosphere in summer.
 For applications with continuous draw of water, storage is not required and an air to water pre-heat coil is used instead of a pre-heat tank.

TITLE **Solar Water Heating Schematic
 Using Heater Board Air Heating Panel**

DWG NO

REV

SCALE Not to scale

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SHEET

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