



WATER ENERGY DISTRIBUTORS, INC.

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Watt Saver Installation Technical Bulletin 2007-17

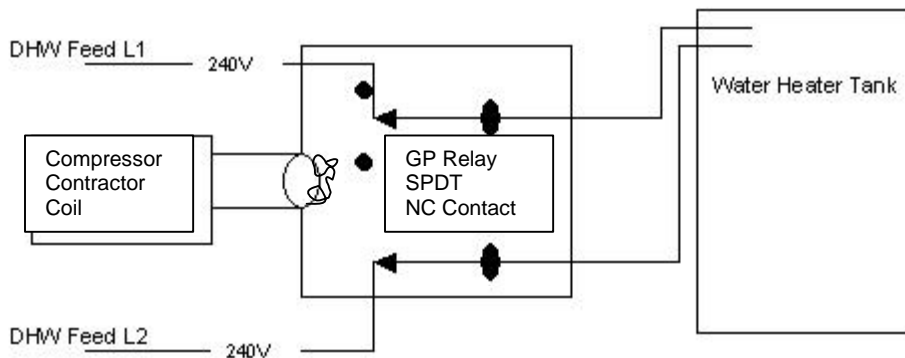
GENERAL

Geothermal and other heat pumps with desuperheaters can benefit from a simple relay arrangement to disable the related hot water tank elements whenever the heat pump compressor is active. This achieves several benefits:

- Only *one* electric feed is required for either the heat pump or the water heater
- Water heater electric use is greatly reduced
- Desuperheater performance is enhanced.

INSTALLATION

A general purpose 30 amp double pole double throw relay (typical Grainger 5X848) is low cost and serves as the automatic switching device. Several thousand geothermal heat pumps during the 1970s, 1980s, and 1990s used this method. As shown below, the relay only closes and enables the water tank elements when the compressor is off.



The average NH geothermal heat pump typically draws 3.5-4.5kW. By using this "watt saver," relay use of the heat pump will NOT increase the home's demand as only the heat pump OR the water heater is on at any time.

NOTES