



## KE2 Fan Control

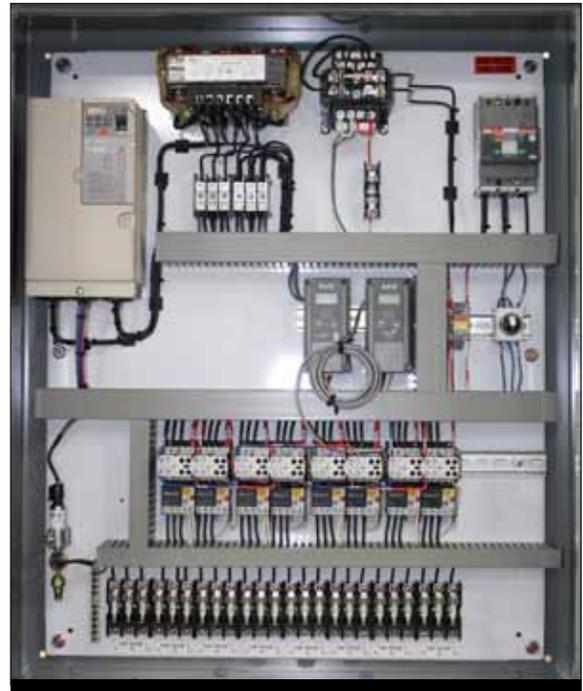
### Features and Benefits

#### Features and Benefits:

- typically 50 - 60% energy savings compared to existing technology
- payback regularly 30 months or less
- patented, Plug-and-Play solution
- pre-programmed, wired and tested package reduces installation time significantly, and eliminates the potential for callbacks
- Fan Load Matching means no wasted horsepower
- control scheme allows for reduced inverter size and cost
- protects existing motor windings and bearings by filtering inverter output
- simplifies installation and field retrofits install in as little as four hours
- 1/2 to 50 horsepower split or non-split condensers
- eligible for energy rebates in most areas
- built to UL508 standards

#### Applications:

- multi-fan condensers
- cooling towers
- air handlers



## KE2 Fan Control delivers an average payback of 30 months or less, here's how:

The pre-programmed, wired, and fully tested, KE2 Fan Control incorporates variable frequency drive (VFD) technology to match fan speed with varying load and ambient conditions, providing a rapid and continuing payback on both first cost and operating cost for the life of the condenser.

Whether a new install or retrofit application, the KE2 Fan Control eliminates the time and expense of on site assembly, and the hassle of proper VFD programming. Many installs, which would have taken days to pull together, can be up and running with the KE2 Fan Control in as little as four hours.

In addition to the significant time savings during installation, the energy savings provided by the KE2 Fan control is in the range of 50% to 60%, providing another huge opportunity to save money and insure a quick return on investment. Almost every electricity provider in the country has significant rebates available for VFD installations. Applications are generally straightforward, and since KE2 Therm Fan Control units are VFD based, rebates can reduce ROI time to less than 24 months. KE2 Therm Solutions can help identify rebate information and support.

The KE2 Fan Control package contains proprietary algorithms that match system conditions with equipment operation -- providing the highest level of efficiency, improving system operation and saving money. Typically, condensers are sized for conditions that are experienced less than 5% of the time, wasting a lot of energy during times of low demand.

The Fan Affinity Laws prove that the power needed to run a fan varies at the cube ( $x^3$ ) of the speed of the fan. This means that to double the speed of a fan requires 8 times more power! Additionally, every time a fan cycles on, it experiences an in-rush current, which is typically 5-6 times greater than the full load rated amps. Starting inrush current from the KE2 Fan Control is about half of that of traditional fan starting methods, reducing stress on the motor and increasing motor life. With the KE2 Fan Control, for a given air flow requirement, the VFD can run all of the fans at a lower, and much more economical speed, matching system needs.

Stabilizing discharge pressure, which also increases efficiency, is another benefit provided by the KE2 Fan Control. And, a more stable operating pressure at the condenser translates to a more stable liquid temperature at the expansion device. Stable expansion valve operation means more consistent superheat at the compressor. This reduces compressor cycling, energy use, and wear and tear on this expensive component. Again, providing better system performance and efficiency. Combining ease of installation, tested and proven algorithms, and rebate eligible VFD's is KE2 Therm's solution to saving energy, quick return-on-investment, and reducing environmental impact.