

## USING A SOFT STARTER WITH A SOLAR ENERGY SYSTEM

*Solar Energy Systems and backup generators provide power when standard AC power is not available*



### Application

Solar panel energy systems are becoming increasingly popular to power homes, RVs, boats and more. There are also a huge number of aftermarket kits containing the basic components: solar panels, charge controllers, batteries, and inverters. These kits are rated based on the wattage that can be supplied by the panels and the amp hours that can be stored in the battery bank.

There are special considerations for refrigerators and air conditioners. Both appliances have compressors with motors that must start to operate. They are rated by not only wattage, but also Locked Rotor Amps (LRA). LRA is the amount of current required for the motor to start rotation and can be several times greater than the typical load rating. For example, a 15,000 Btu RV air conditioner may have an average requirement of 1500 watts during operation and needs 3500 watts during start-up! This additional energy is referred as inrush current. Inrush current causes wear to the battery bank, can cause a fault on the inverter, stress on the motor, and generates heat that will decrease the life expectancy of the system. Sizing a system to meet inrush current results in a system that is physically larger and more expensive than the alternative.

### Solution

A SureStart Soft Starter is a device to lower the inrush current by up to 70% while still allowing the compressor to start. Rather than an instantaneous load being drawn from the battery bank through the inverter, the demand rises slowly, eliminating damage that could be caused by the inrush. Installation is simple. Follow the instructions to wire the Soft Starter between the run capacitor and compressor motor.

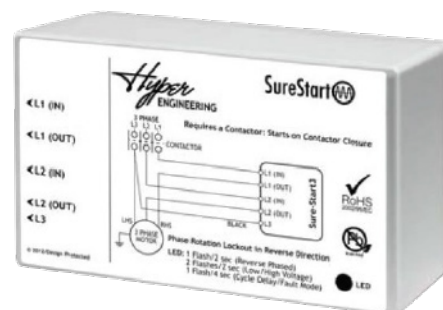
BriskHeat has single and 3-phase models available for voltages between 110 and 460 VAC. These can handle motor sizes up to 20 horsepower.



### Alternate Application

In addition to use on recreational vehicles, soft starters can be used with home solar power systems, air conditioning units, and backup power generators. Industrial applications include fan starters used in air scrubbers and dust collectors. Motors used in conveyor systems also benefit from using a soft starter during start up.

### SureStart Soft Starters



#### Industries

Construction

HVAC

Consumer/Residential