

# Starts Home A/Cs and Heat Pumps with Less Power, Protects Compressors



## High-Performance Soft Starter For Residential/Commercial Air Conditioners and Heat Pumps



Get maximum comfort and performance from virtually any central air conditioning system – **in more ways than previously possible** – by upgrading HVAC systems with a SoftStart Home soft starter.

SoftStart Home reduces the power usually required to start an air conditioner by up to 70%! By dramatically reducing the startup amperage draw, using a SoftStart Home results in many important advantages:

- Quiet comfort day and night – no jarring thump or flickering lights when the A/C starts.
- Low-amperage startup extends compressor life due to less heat buildup in the motor windings.
- Works with backup generator to eliminate A/C start-up problems during blackouts and emergencies.
- Starts home A/C with solar energy system without straining battery power supply to other appliances.
- Compatible with 115VAC-230VAC air conditioners worldwide; up to 6-ton/72,000 BTUs.
- Meets CE requirements

### A/C POWER INNOVATION BREAKTHROUGH

#### SOFTSTART HOME FEATURES & ADVANTAGES

- Works with single-phase 110/220 VAC air conditioners
- Module housing is sealed with epoxy resin to withstand extreme environments
- Fastens securely to A/C interior surface with fasteners and/or commercial-strength adhesive backing
- Soft start circuitry delivers up to 70% inrush current reduction during A/C or heat pump start-ups
- Greatly reduces heat-induced stress on compressor windings to prolong compressor life
- LEDs indicate proper operation and other startup conditions
- Easy installation (less than 15 minutes)
- Allows A/C or heat pump startup even when using lower power backup source (portable generator, solar-energized batteries, etc.). Keeps A/C running during blackouts, brown-outs or other electrical power emergencies
- Includes easy crimp-on wire connectors, fastening hardware and zip-ties to secure wiring
- Rated for 50-amp power connection



#### BONUS INSTALLATION KIT



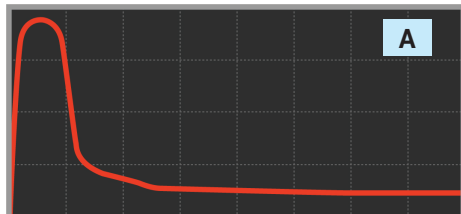
A complete installation kit provides all the connectors and fasteners needed to meet virtually any air conditioner or heat pump wiring requirements.



## PERFORMANCE DETAILS

### SOFT START CAPABILITIES

Sharply reduces start-up power demand of appliances that require a high inductive load at startup (such as air conditioners and heat pumps). SoftStart Home reduces the startup power demand by up to 70%.



Graph A indicates startup power use of a typical air conditioner. The high spike at STARTUP means the A/C is pulling 7-8 times the power normally needed to RUN the A/C. This can overheat compressor windings and cause premature failure.



Graph B indicates startup of a typical RV air conditioner receiving power through a SoftStart Home module. The power spike is quickly reduced to eliminate noise, vibrations, premature compressor failure, and other problems associated with A/C startup.

- Standard central A/C uses 7-8 times the normal running amperage during startup.
- SoftStart Home startup uses only 2-3 times the normal running amperage during startup.

### TECHNICAL SPECIFICATIONS – SOFTSTART HOME A/C STARTER

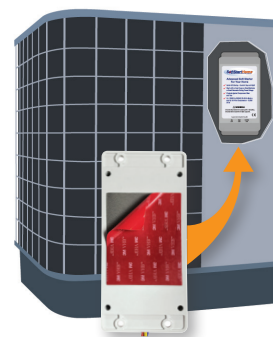
Model number:	SSHM6T
Nominal working voltage:	110VAC (90~135VAC) & 220VAC (187~266VAC), 1 phase
Power consumption:	Less than 3W
Maximum continuous working voltage:	135VAC/266VAC
Maximum continuous working current:	42A
Over current limit:	50A/1 minute
Maximum non-repetitive inrush current:	200A (<20 ms)
Maximum surge current:	130A (<350 ms)
Soft start-up time:	1±0.5s
Current consumption:	48mA (capacitive 110VAC, 220VAC)
Operation hours:	More than 45,000 hours (rated working temperature)
Effective soft start on/off service:	>100,000 times (soft-start interval not less than 3 minutes)
Insulation resistance between housing and chassis:	> 300 MΩ
Withstand voltage between housing and chassis:	>3000VAC in 1 minute
Shock resistance:	More than 200m/s <sup>2</sup> and 11ms
Anti-vibration:	10~55mm (double amplitude, 1.5mm)
Protection restart time interval:	3 minutes
Working temperature:	-40°F to 185°F (-40°C to 85°C)
Working humidity:	0~95% RH
Dimensions:	7.72 x 3.54 x 2.60 in. (196 mm × 90 mm × 66 mm)
Weight:	1 lb.13 oz. (0.82 kg)
Warranty:	One-year limited warranty (standard); Two-year limited warranty (when registered)

Specifications are subject to change without notice.

## INSTALLATION / OPERATION

### DETERMINE A LOCATION

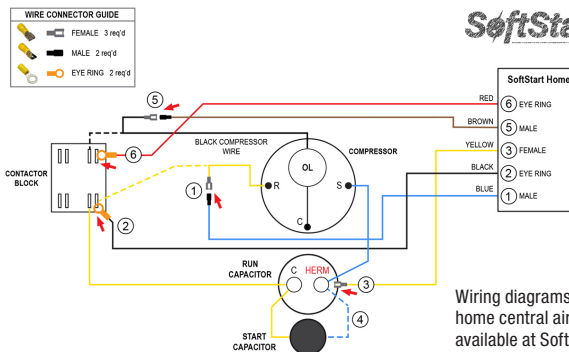
1. A SoftStart Home unit easily attaches under the central A/C cover to a vertical surface near the compressor and other components. Secure with provided fasteners and/or adhesive pad on back of unit.



Size and location not shown to scale.

### CONNECT WIRING

2. Turn off electric power to A/C or heat pump, then make wiring connections based on diagrams provided at SoftStartHome.com. All wiring connectors are provided with each unit.



SoftStartHome

Wiring diagrams for most popular home central air conditioners are available at SoftStartHome.com.

### RUN A/C or HEAT PUMP

3. Turn on electric power to A/C or heat pump, then run for 30 minutes at ambient temperature to calibrate SoftStart Home unit (set thermostat to near-outdoor temperature). Then run A/C or heat pump normally.

### LED INDICATORS

#### Run LED1

- Green light indicates normal operation.
- Red light indicates "protect" mode from over-heat or other temporary condition. Auto resets in 3 minutes.

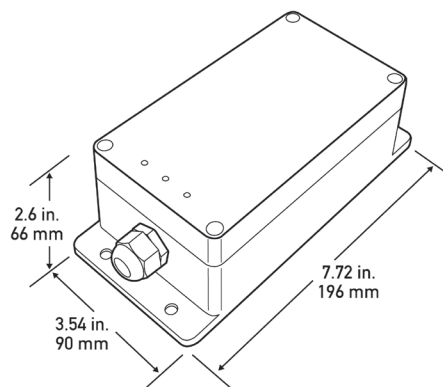
#### Start LED2

- Red light indicates beginning of soft start process. Turns off when startup is complete.

#### Self-Test LED3

- Red light indicates beginning of self-test at every startup. Turns off when self-test is complete.

### DIMENSIONS



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By SoftStartUSA

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