



ZigBee® SuperStat® Thermostat

Programmable Communicating Thermostat



Key Features

- Proven SuperStat thermostat design with +/- 1 degree accuracy
- ZigBee Smart Energy Profile certified for full compatibility with Smart Energy meter or Energy Service Portal
- Flexible control strategies, including cycling with Adaptive Algorithm, ComforTemp and temperature setback
- Price-Response Operations (PRO) to automate customer's response in Time of Use (TOU) and Critical Peak Pricing (CPP) programs
- 120 days profiling of room temperature, setpoint and compressor run time and event logging that can be retrieved locally or through AMI system (PRO)
- Compatible with Smart Meters to show energy usage, current price, etc. (PRO)
- Configurable local override option
- Web programmability

Standard Features

- 5-1-1 (Basic) or 7 day programmable (PRO)
- "Universal" HVAC compatibility with single-/dual-stage fossil fuel or heat pump systems
- Hardwire (24VAC)
- Large backlit LCD display
- Auto-changeover
- Non-volatile memory
- Energy management recovery
- Keypad lockout
- Intuitive alerts and messaging
- Cold Load Pickup & watchdog functionality
- Meets Energy Star® requirements

Benefits

- ZigBee certified product
- Direct load control
- Price-responsive demand
- Critical peak pricing
- Smart energy profile certified
- Advanced digital programmable thermostat design

ZigBee SuperStat Thermostat Features

Innovative Design

The SuperStat is a one-piece leading digital thermostat and load management communications console. It provides the consumer with the capability to reduce kWh usage by user-defined time and temperature setbacks and/or price signal responses. Flexible control strategies allow the utility to deploy the thermostat initially using traditional load control strategies and migrate to Price-Responsive programs at a later time.

Adaptive Algorithm

The SuperStat monitors HVAC operation and control cycles using percentage-based commands. This helps to eliminate "free-riders" and enables greater control of over-sized systems and more equitable load reduction across customers.

ComforTemp

The SuperStat monitors the room temperature rise during a cycling control event and reduces the cycling percentage once the room temperature reaches the setback value. This helps to reduce customer discomfort during long control periods or in poorly insulated homes.

Flexible Control Strategies

The SuperStat can be configured for a variety of control strategies – cycling, cycling with Adaptive Algorithm, temperature setback, temperature setpoint, Price-Response Operation based on tier, or Price-Response Operation based on price level.

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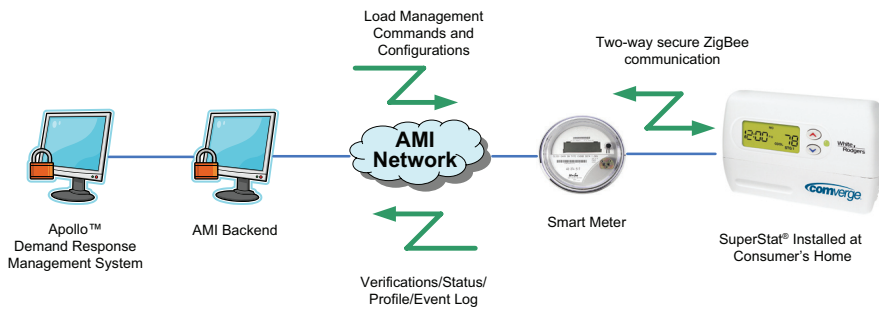
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ZigBee Compatibility

SuperStat supports the following ZigBee Smart Energy Profile Clusters:

- Basic
- Identity
- Time
- Key establishment
- Demand response and load control
- Cycling
- Setback
- Setpoint

Simple Metering (PRO)

- Current delivering (sum plus tiers)
- Instantaneous demand

Price (PRO)

- Publish price
- Get current price
- Get scheduled prices

SuperStat supports the following ZigBee Private Profile Clusters (prelim):

- Web programming
- Profile and event logging (PRO)
- Test port
- Configuration

Technical Specifications

Environmental

- Temperature: 7 to 31°C
- Humidity: 0% to 90% (non-condensing)

Electrical

- 24 VAC hardwire

Communication

- 2.4 GHz ZigBee
- 100 mW (+20dBm) output power
- -96 dBm receiver sensitivity
- Indoor/Urban range: Up to 400 ft (120 m)
- Outdoor/RF line-of-sight range: Up to 1 mile (1.6 km) RF LOS
- Secure two-way communication with Energy Service Portal or Smart Meter

Regulatory

- FCC part 15



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