We’re Green All Over.  
Conserving Energy With 

ENERGYCONTROLSYSTEM

Hotel Guest Room 
Energy Control Systems
Entergize™ Family of Component Parts

- Slave Wall Switch
- Digital Thermostat
- PTAC Control Unit
- Master Entry Wall Control Switch
- Sliding Door Sensor
- Slave Wall Plug
**Entergize™ Guest Room Energy Management System**

- Reduce Guest Room energy usage by 25%-45%
- Payback on investment from 1 to 2 years
- Only Guest Room Energy Management System on the market that completely controls both guest room HVAC energy costs as well as Lighting and Sliding Door electrical loads
- Wireless - using microchip control RF (radio frequency) communication - no need to connect parts with hard wires
- Average room installed in less than 30 minutes
- No “dead spots” in the room as with motion and IR sensors - Ideal for multi-room suites - 75 foot through wall range
- Specifically designed to control both guest room HVAC operating temperatures and room lighting
- Extends the useful life of HVAC systems, lights and TVs
- Allows the Guest to participate in the energy saving process, they become proactive partners in reducing energy consumption and creating a healthier environment
- Enables the Guest to turn on lights in selected areas of the room from the entry wall switch; providing an improved sense of security and a pleasant ambiance
- Significantly reduces guest room lockout caused by key cards left in the room
- Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion sensors systems
- Works with all types of guest room HVAC systems and voltages
- Easily maintained by hotel personnel - a repairs is as simple as changing out a wall switch or receptacle
- 18 Month 100% parts warranty
- System is “Positive” and always knows if the room is occupied or vacant
- System maybe overridden, room by room, at guest request – other systems cannot be easily overridden on a per room basis
- Our company is a proud member of the US Governments Energy Star program
- We provide a NO COST property specific energy analysis that identifies current energy costs and calculates the savings that will be obtained by the installation of the Entergize™ System

**The Entergize™ Energy Control System is the most complete, cost effective and value added hotel guest room energy management systems on the market.**

**Why Entergize™ - Guest Room Energy Control Systems**

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**HOW IT SAVES YOU $$**

The Entergize™ Master Entry Wall Control Switch is the main control device for the Entergize™ Energy Control System. As the guest enters the room he inserts his room keycard into the illuminated Entergize™ Master Entry Wall Control Switch (MCS). This triggers an RF transmitter that sets the entire system to the “occupied” mode. The Entergize™ System eliminates the need for intrusive wall or ceiling mounted motion sensors to detect occupancy. The guest now has normal control of the room’s electrical and HVAC systems.

When the guest leaves the room he takes his keycard from the MCS. After a 30 second delay, another RF transmission is sent setting the System to the “unoccupied” mode. In this mode the room’s HVAC systems operating temperature ranges are set back and the power to the Entergize™ Switches and Plugs is turned off reducing energy consumption.

The Master Entry Wall Control Switch works in conjunction with the other Entergize™ Component Parts including Thermostats, Wall Switches, Plugs, PTAC Control Unit, Thermostat Control Unit and Sliding Door Sensor.

**INSTALLATION**

The Master Entry Wall Control Switch is simply installed by removing the existing entry wall switch and reinstalling the MCS in the same manner as the switch that was removed.

**TOTAL SYSTEMS FEATURES**

- Reduces guest room energy usage by 25% - 45%
- Quick pay back on investment
- Master Entry Wall Control Switch available in 2-Way or 3-Way Switch Models
- Individual component architecture enabling the ability to only
- Extends useful life of HVAC systems, lights and TVs
- Fast wireless installation - less than 30 minutes per typical guest room (Includes MCU and TCU)
- Ideal for multi-room suites - no dead spots - 75 foot through wall range
- Enables guest to turn on multiple lights in guest room from entry switch
- Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion occupancy sensor systems
- Works with or without wall thermostat controlled HVAC systems
- Works on all US and Canadian voltages
- ETL and FCC approved
- 18 Month 100% parts warranty
- Rugged construction
**Entergize™ 4000 / 4500 Digital Thermostat**

**For 2 & 4 Pipe Systems / Heat Pump and PTAC Applications**

**HOW IT SAVES YOU $$$$**

The **Entergize™ NP-4000/4500** Digital Thermostat is a microchip controlled thermostat designed to efficiently manage the temperature/operating cycles of a hotel room’s HVAC system. The use of microchip based digital technology enables the guest to accurately set the room to their desired temperature and at the same time eliminate large temperature drifts associated with bimetal thermostats. The DT-RC500 has adjustable Hi/Lo temperature set points and can automatically switch from heating to cooling mode. These features allow the thermostat to maintain a comfortable and accurate guest room temperature and at the same time restrict the guests ability to set temperatures to inefficient levels. By tightly controlling the room’s temperature and limiting the operating cycle of the HVAC system, a hotel can save thousands of dollars per year in guest room energy costs.

The **NP-4000/4500** seamlessly interfaces with the **Entergize Energy Control System** to set back the rooms’s HVAC systems operating temperature range when the room is unoccupied or it can shut off the HVAC system when a balcony door is left open. In the unoccupied mode the **NP-4000/4500** defaults to managements preset heating and cooling set points allowing the HVAC system to operate at a more energy efficient level. The ASHRA standard for annual energy savings achieved by setting back the operating temperature of an HVAC system is a 3%-5% reduction in energy costs for every degree of set back.

**APPLICATIONS**

- 2 Pipe/ 4 Pipe Fan Coil Units
- Through The Wall AC/heating units (PTAC)
- Central Air Conditioners
- Heat Pump HVAC systems
- Pneumatic controlled systems when used in conjunction with EP relays
- ADA Compliant Locations
- Voltage 24 Volts to 277 Volts

**MAJOR FEATURES**

- **Precision Control** - accuracy of ± 1°F, intelligent heat/cool change-over with set point control.
- **Staged Fan Configuration** - factory configuration is available for automatic selection of fan speed to insure occupant comfort while using the most efficient fan speed.
- **Selectable Fan Speeds** - depending on mode, fan speed can be placed in continuous or High/Med/Low.
- **Fan Purge** - fan runs an extra 0-255 seconds, after system turns off. Field programmable.
- **Occupied Comfort Limits** - the thermostat can be field adjusted (between 50°F and 90°F) to insure that the guest does not set the room temperature at energy wasting extremes. Example: 78 maximum heating and 67 minimum cooling temperature.
- **Unoccupied Set Points** - the thermostat interfaces with the **Entergize Energy Control System** to wirelessly set it into the Unoccupied Mode. In the Unoccupied Mode the thermostat will operate at field adjustable (between Actual or Set Point Display - can be selected to read room temperature or display set point only.
- **Backlit display** - display lights for 10 seconds when button is pressed.
- **°F/°C Temperature Scale** - display of temperature can be changed from Fahrenheit or Celsius by the user or from the Service Menu.
- **Sliding Door Sensor** - thermostat will shut off if it is connected to a wireless **Entergize Sliding Door Sensor**, when a balcony door or window is opened.
- **Humidity Sensor Interface** - the thermostat can interface with a remote humidity sensor which will activate the HVAC system if the room’s humidity exceed preset limits.
- **Remote Temperature Probe** - an optional temperature sensing probe can be used for remote temperature sensing.
- **Other Functions** - Refer to Installation Instructions for other functions.
**SPECIFICATIONS**

**Typical Wiring Diagram**


<table>
<thead>
<tr>
<th>Specifications:</th>
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</thead>
<tbody>
<tr>
<td>Input Voltage: 24, 120, 240, or 277 VAC</td>
</tr>
<tr>
<td>Load Rating: 24 VAC: 1.5 amps/circuit</td>
</tr>
<tr>
<td>Range: 60°F to 85°F</td>
</tr>
<tr>
<td>Accuracy: ±1°F</td>
</tr>
</tbody>
</table>

| Case: Flame retardant, high impact plastic, white or tan |
| Temp. Setting: Push button |
| Fan Selection: Push button |
| Cycle Rate: Default 8 cycle/hr. (field programmable 1 to 24 may be turned off when set to 0) |
| Dimensions: 3.5”W x 5.0”H x 1.5”D |

**Model Selection:**

Build your part number using the drop-down matrix below. For each underlined segment of the generic part number at the top, select from the options indicated in the corresponding box below.

```
NP K - 4VVV O # R A S # T
```

<table>
<thead>
<tr>
<th>Optional Add-ons:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R - Add Remote Sensing</td>
</tr>
<tr>
<td>A - Add Aquastat Mounting Hardware Kit (only available on remote sensing models)</td>
</tr>
<tr>
<td>S - Add Entergize™ Setback Control</td>
</tr>
<tr>
<td>3 - Add Door Sensor Control (#)</td>
</tr>
<tr>
<td>T - Change case color to Tan Indicate Fan Operation</td>
</tr>
</tbody>
</table>

| Example - NP-4024US3T = 24 VAC model with user selectable fan, Entergize™ setback control and door sensor control in tan color |

Add a ‘K’ for Conformal Coating

Indicate Voltage: 024, 120, 240, or 277 or 500 for Heat Pump/PTAC Model - 24 Voltage

Indicate Fan Operation:

K - Continuous fan; programmable for Auto function
U - User selectable High/Low/Auto

4500 Series - Number of Fan Speeds 1 or 2
**HOW IT SAVES YOU $$$$**

The *Entergize Thermostat Control Unit* is specifically designed to automatically control the temperature operating ranges of Hotel Guest Room - HVAC systems. The *TCU* acts as a controllable thermostat when the room is occupied or unoccupied. By limiting the operating cycle of a guest room’s HVAC systems, a hotel can save thousands of dollars in energy costs per year. The *TCU* will also extend the operating life of the hotel’s HVAC systems and at the same time have a significant positive impact on the environment.

The *TCU* works in conjunction with the *Entergize Master Entry Wall Control Switch (MCS)*. As the guest enters the room he inserts his room keycard into the illuminated *Master Entry Wall Control Switch*. This triggers an RF transmission which sets the *TCU* into the “occupied” mode. In this mode the *TCU*’s electronic relays are closed and the room’s thermostat will operate in a normal manner. In the occupied mode the *Entergize TCU* can also act as a controllable thermostat. For example, if management wants to control the high/low temperature ranges of an occupied room, the *TCU* can be programmed to turn off the HVAC system when these predetermined limits have been met in either heating or cooling mode.

When the guest leaves the room he takes his keycard from the *MCS*. After a 30 second delay, another RF transmission is sent. This puts the *TCU* in the “unoccupied” mode, opening it’s relay and turning over control of the HVAC system to the *TCU*’s temperature sensors. The *TCU* automatically senses the unoccupied room’s temperature. When this temperature exceeds the predetermined setback ranges (example 60° for heating and 80° for cooling) the system will automatically cause the appropriate relays to close, enabling the HVAC systems fan and heating or cooling cycles as may be required. The HVAC system will now cycle normally until such time that the room has again reached the setback temperature ranges and then again automatically shut off.

**INSTALLATION**

The *TCU* is installed by wiring it in series with the hotel rooms thermostat or directly in line with the heating and cooling valves and fan motor. The *TCU* can be installed behind the rooms existing thermostat, inside a PTAC unit or in a separate utility box located in the same area as a fan coil unit. The controller works with 24v to 277v systems.

**FEATURES**

- ♦ Reduces guest room energy usage by 25% - 45%
- ♦ Extends the useful life of the HVAC systems by up to 50%
- ♦ Controls HVAC operating temperatures in both occupied and unoccupied rooms
- ♦ Time Delay - There is a 3 minute time delay that is activated after the heating and cooling turns off. This prevents the equipment’s components from being short cycled.
- ♦ Creates positive guest feedback on environmental impact
- ♦ Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion occupancy sensor systems
- ♦ Fast wireless installation - less than 15 minutes per controlled thermostat
- ♦ Ideal for multi-room suites - no dead spots - 75 foot through wall range
- ♦ Easily adjustable temperature set back ranges
- ♦ Quick pay back on investment
- ♦ Works on all US and Canadian voltages
- ♦ ETL and FCC approved
- ♦ 18 Month 100% parts warranty
- ♦ Rugged construction
HOW IT SAVES YOU $$

The Entergize™ Slave Wall Plug automatically shuts off the electrical power to lighting fixtures, TVs and other electrical appliances which are plugged into it. By guaranteeing that the lights and TVs are always turned off in unoccupied guest rooms, the hotel operator will save thousands of dollars in energy costs per year, extend the life of light bulbs and TVs and at the same time have a significant positive impact on the environment.

The Slave Wall Plug works in conjunction with the Entergize™ Master Entry Wall Control Switch (MCS). As the guest enters the room he inserts his room keycard into the illuminated Master Entry Wall Control Switch. This triggers an RF transmission which sets the SWP into the “occupied” mode. In this mode the plug’s electronic relay is closed. The guest now has normal control of the electrical fixture connected to the SWP. When the guest leaves the room he takes his keycard from the MCS. After a 30 second delay, another RF transmission is sent. This puts the SWP in the “unoccupied” mode, opening its relay and turning off the power to either one or both of the plug’s outlets. This shuts off the power to the electrical fixtures controlled by the SWP.

INSTALLATION

The SWP is simply installed by removing the existing wall plug and reinstalling the SWP in the same manner as the plug that was removed.

FEATURES

- Reduces room lighting costs by as much as 33%
- Extends the useful life of bulbs and TVs
- Single or dual outlet control models
- Creates positive guest feedback on environmental impact
- Fast wireless installation - less than 8 minutes
- Ideal for multi-room suites - no dead spots - 75 foot through wall range
- Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion occupancy sensor systems
- Quick pay back on investment
- Works on all US and Canadian voltages
- ETL and FCC approved
- 18 Month 100% parts warranty
- Rugged construction
- Easy system override capability
HOW IT SAVES YOU $$$

The Entergize™ Slave Wall Switch automatically shuts off the electrical power to lighting fixtures and plugs which it controls when the guest vacates the guest room. By guaranteeing that the lights are always turned off in unoccupied rooms the hotel operator will save thousands of dollars in energy costs per year, extend the life of light bulbs and at the same time have a significant positive impact on the environment.

The Slave Wall Switch works in conjunction with the Entergize™ Master Entry Wall Control Switch. As the guest enters the room he inserts his room keycard into the illuminated Master Entry Wall Control Switch (MCS). This triggers an RF transmission which sets the SWS into the “occupied” mode. In this mode the switch’s electronic relay is closed. The guest now has normal control of the electrical fixture controlled by the SWS. When the guest leaves the room he takes his key card from the MCS. After a 30 second delay, another RF transmission is sent. This puts the SWS in the “unoccupied” mode opening the relay turning off the power to the electrical fixture controlled by the SWS.

INSTALLATION

The SWS is simply installed by removing the existing wall switch and reinstalling the SWS in the same manner as the old switch that was removed.

FEATURES

♦ Reduces room lighting costs by as much as 33%
♦ Extends the useful life of bulbs
♦ Model available that will automatically set the switch to the on position when the guest inserts their keycard in the Entergize™ Master Entry Wall Control Switch - Ideal for automatically illuminating back bed rooms
♦ Creates positive guest feedback on environmental impact
♦ Fast wireless installation - less than 8 minutes
♦ Ideal for multi-room suites - no dead spots - 75 foot through wall range
♦ Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion occupancy sensor systems
♦ Quick pay back on investment
♦ Works on all US and Canadian voltages
♦ ETL and FCC approved
♦ 3 year 100% parts warranty
♦ Rugged construction
♦ Easy system override capability
**Sliding Door Sensor (SDS)**

**HOW IT SAVES YOU $$$$**

The *Entergize™ Sliding Door Sensor* automatically shuts off the hotel guest room HVAC system, 30 seconds after the guest opens a monitored balcony door or room window. This guarantees that the room HVAC system will not be fighting the losing battle of trying to cool or heat the outside air when balcony doors or windows are left open by the guest. This results in obvious energy savings and unnecessary operating run time on the HVAC system. When the guest closes the controlled balcony door or window the *SDS* automatically causes the room’s HVAC system to return to its normal operating position.

Like the other *Entergize™* system component parts, the *SDS* is completely wireless, uses coded RF transmissions to communicate and works with both types of *Entergize™* HVAC Control Units. The *SDS* is only 2” by 1.5” in size and is easily concealed behind the windows drapes. It uses a miniature reed magnetic relay, much like in a window electronic security systems, to determine if a balcony door or window is open or closed. Opening a monitored balcony door or window causes an RF transmission to be sent notifying the HVAC’s *Entergize™* Control Unit to turn the system off. When the door or window is closed another RF transmission is sent turning the HVAC system back on. The *SDS* is powered by 2 Swiss lithium batteries that have an expected useful life of up to 8 years.

**INSTALLATION**

The *SDS* is simply installed by adhering it to the wall adjacent to the monitored door or window’s wall casement frame. A magnetic relay is plugged into the *SDS* and then affixed to the door or window casement frame. A second magnet is then attached to the frame encasing the movable glass of the door or window. As noted in the picture above, both the reed switch and the magnet should be aligned along their longest face.

**FEATURES**

- Reduces room heating and cooling costs
- Extends the useful life of HVAC systems
- Creates positive guest feedback on environmental impact
- Fast wireless installation - less than 5 minutes
- Ideal for multi-room suites - no dead spots - 75 foot through wall range
- Eliminates the possibility of the guest feeling monitored as can happen with wall or ceiling mounted motion occupancy sensor systems
- Quick pay back on investment
- Works on all US and Canadian voltages
- ETL and FCC approved
- 3 year 100% parts warranty
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- Easy system override capability