

# CELLULAR PROGRAMMABLE COMMUNICATING THERMOSTAT APRILAIRE® MODEL TBP00-8521-A



**CORPORATE SYSTEMS ENGINEERING**

*We Put You in Control When It Counts*



## Consumer Features

### Basic Thermostat

- Electronic thermostat controls heating, cooling and fan
- Compatible with virtually all types of equipment – split system, rooftop, hydronic, heat pumps (including dual fuel) – single stage or multi stage
- 7-Day programmability with 4 timed heating and cooling changes per day
- Temperature hold mode for temporary, permanent, and vacation time periods
- Menu style programming
- Celsius or Fahrenheit display
- Password lock on user display
- Non-Volatile memory (**Batteries not required**)
- IEC 61000-4-2 safety rated to class 3

### Demand Response

#### Display - Control Event Notifications:

- Countdown of the control event
- Event completion
- Return to normal

#### Opt-Out

- Consumer may cancel an event in progress or opt-out of events for one day from thermostat menu

### Remote Access

- Provides complete control of thermostat from a user password-protected web page
- Monitor temperature and modify the daily program.

## Power Provider Features

### Administration

- Define control strategies for heating, cooling
- Individualized control strategies may be stored in the device or sent over the air
- A common “activate” command can be sent to specific groups to activate the individual stored strategy for ultimate flexibility
- Control event strategies for air handler cycling or temperature setback
- Structure DR programs into groups to maximize power recovery and minimize consumer impact
- Customize event notifications and user option and information screens
- Cellular communication (other communications available)
- Definable “emergency events” which cannot be opted out by homeowner
- Receive Opt-Out notification and event participation statistics from thermostats
- Read event participation statistics from thermostats

### Control Event Dispatch

- Dispatcher selects groups of thermostats and LCR's to participate in control event
- Dispatcher selects control event strategies from pre-defined drop-down list
  - Event cycling or Temperature Set Points
- Homeowner notifications, addressed to groups, can be displayed on the thermostat

### Customer Support

- Customer call center can have total access to thermostat to provide complete customer service
- Consumer may sign up for a pay for performance participation level from the thermostat menu
- Limit consumer override
- Verify consumer participation for calculating incentives



1215 Brookville Way, Indianapolis, Indiana 46239  
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# CELLULAR PROGRAMMABLE COMMUNICATING THERMOSTAT APRILAIRE® MODEL TBP00-8521-A

## POWER REQUIREMENTS

Thermostat Voltage:	24-volts ±20% AC or DC
Total Load Current	5A
Single Output Load Current:	2A

## THERMAL

Operating Range:	32°F – 99°F (0° - 37°C)
Display Accuracy:	±1°F between 60°F and 80°F, ±2°F outside this range
Control Accuracy:	±1°F
Control Range Heat:	40°F-88°F (4°C - 30°C)
Control Range Cool:	42°F-90°F (6°C - 32°C)
Heat/Cool Deadband:	Adjustable 2° or 5° F or C
1 <sup>st</sup> Stage Differential:	Adjustable 1°F - 4° F (1°F default)
2 <sup>nd</sup> Stage Differential:	Adjustable 1°F - 4° F (1°F default)
Temperature Offset:	Adjustable 1°F - 4° F

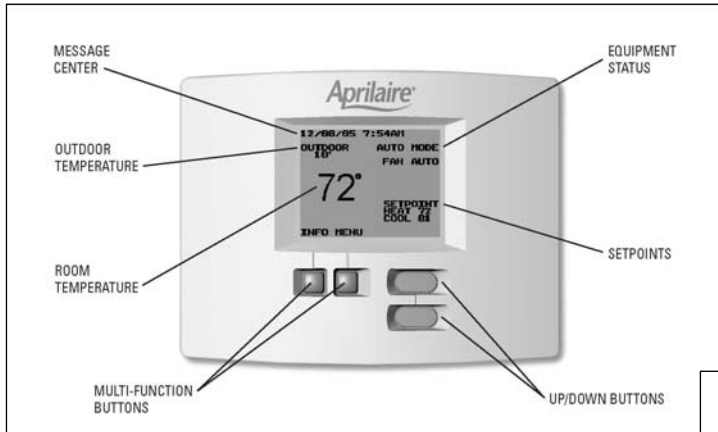
## COMMUNICATIONS

**TYPE:** Cellular

All devices are 100% Factory Tested and Inspected in accordance with Factory Acceptance Testing Procedures mutually determined with each utility.

*Specifications subject to change*

## APRILAIRE® MODEL TBP00-8521-A SPECIFICATIONS



### MESSAGE CENTER

Normally this is where you will find the current date and time and the name of the current event if running the temperature program. If the thermostat is in a Hold State, the thermostat will display when the Hold State is scheduled to end. The area is also used to give information on when you should replace your air filter or UV lamp, when you should service your humidifier and general HVAC equipment.

When installed with an Aprilaire® Automatic Digital Humidifier Control (Model 58) and Humidifier, the message center will also inform you if the humidifier is operating.

### EQUIPMENT STATUS

In this area of the display, the thermostat will show the equipment's mode and whether the equipment is active. A typical message in this area would be HEAT MODE when the equipment is not running and HEATING when the equipment is active.

### OUTDOOR TEMPERATURE

The thermostat has terminals that can be hooked up to an outdoor temperature sensor. If this is installed, outdoor temperature will be displayed in this area of the screen.

When installed with an Aprilaire® Automatic Digital Humidifier Control (Model 58) or an Aprilaire® Model 6504 Intelligent Zoned Comfort System, this information is communicated to the thermostat so there is no need for the extra outdoor temperature sensor.

### ROOM TEMPERATURE

The large temperature on the screen is the room temperature. The scale can be changed from Fahrenheit to Celsius if desired.

### SETPOINTS

The setpoints are the temperature(s) to which the thermostat is controlling.

### MULTI-FUNCTION BUTTONS

The multi-function buttons are used throughout the thermostat menu system and have many functions. The description on the screen directly above the button is what that button is used for that particular screen. In **Figure 1**, the left button would be used for INFO and the right button would be used for MENU.

### UP/DOWN BUTTONS

These buttons are used to raise and lower temperature and to navigate through the thermostat's menus.



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# CISCO PROGRAMMABLE COMMUNICATING THERMOSTAT APRILAIRE® MODEL TBZ00-8521-A



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- Control event strategies for air handler cycling or temperature setback
- Structure DR programs into groups to maximize power recovery and minimize consumer impact
- Customize event notifications and user option and information screens
- Cisco Mesh Networks communication (other communications available)
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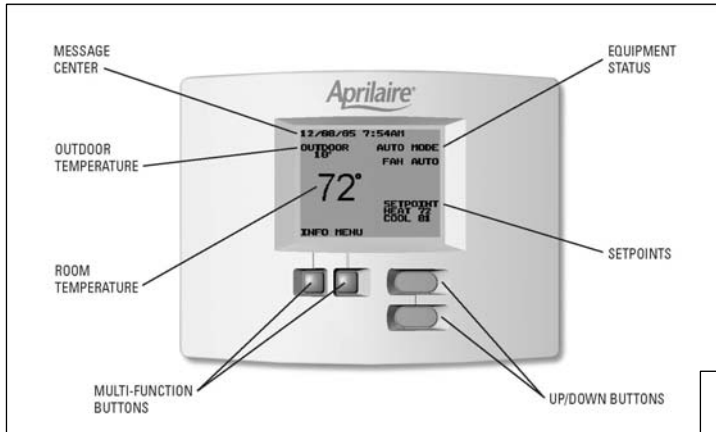
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**TYPE:** Cisco Mesh Networks

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## APRILAIRE® MODEL TBZ00-8521-A SPECIFICATIONS



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