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9700i 9701i 9715i 9720i

DELUXE PROGRAMMABLE THERMOSTATS



User's Manual

Menu Driven Display

Fully Programmable

24 VAC with Worry-Free Memory Storage

English, Spanish or French Display Option



110-1023E

Two Year Warranty

IMPORTANT SAFETY INFORMATION

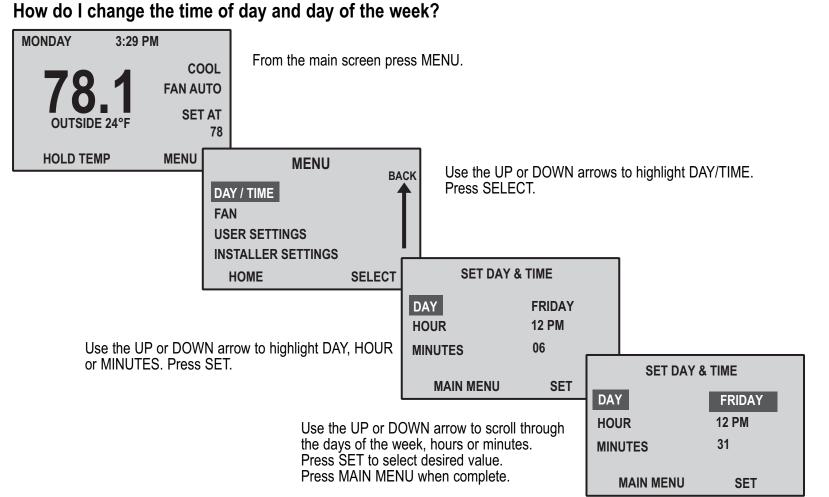
WARNING:

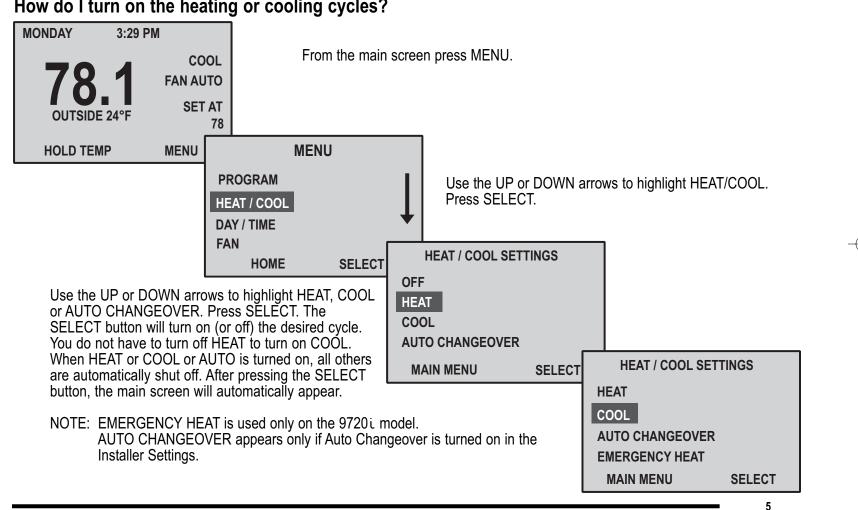
Always turn off power at the main power source by unscrewing fuse or switching circuit breaker to the off position before installing, removing, or cleaning this thermostat.

- Read all of the information in this manual before programming this thermostat.
- This is a 24V AC low-voltage thermostat. Do not install on voltages higher than 30V AC.
- All wiring must conform to local and national building and electrical codes and ordinances.
- Do not short (jumper) across terminals on the gas valve or at the system control to test installation. This will damage the thermostat and void the warranty.
- Do not connect ground to any terminal in this unit.
- This thermostat is equipped with automatic compressor protection to prevent potential damage due to short cycling or extended power outages. The short cycle protection provides a 5-minute delay between heating or cooling cycles to prevent the compressor from being damaged.
- Do not switch system to cool if the temperature is below 50°F (10°C). This can damage the cooling system and may cause personal injury.
- Use this thermostat only as described in this manual.

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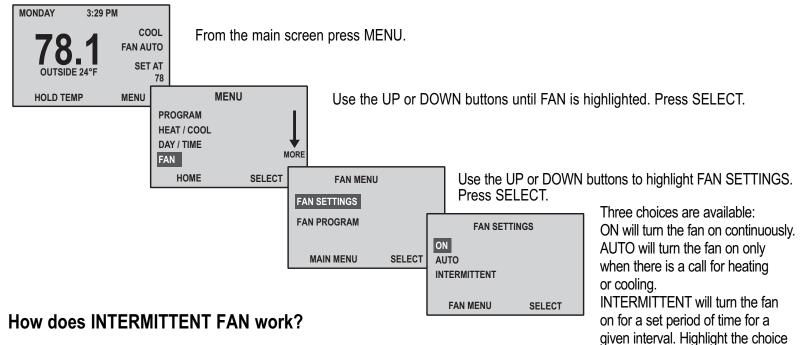
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How do I turn on the heating or cooling cycles?

How do I cycle the fan?



| INTERMITTENT FAN | | |
|------------------|--------|--------|
| ON | TIME | 5 MIN |
| OFF | TIME | 20 MIN |
| FAN | N MENU | SELECT |

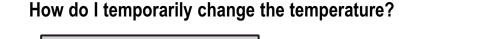
INTERMITTENT will turn the fan on for a set period of time for a given interval.

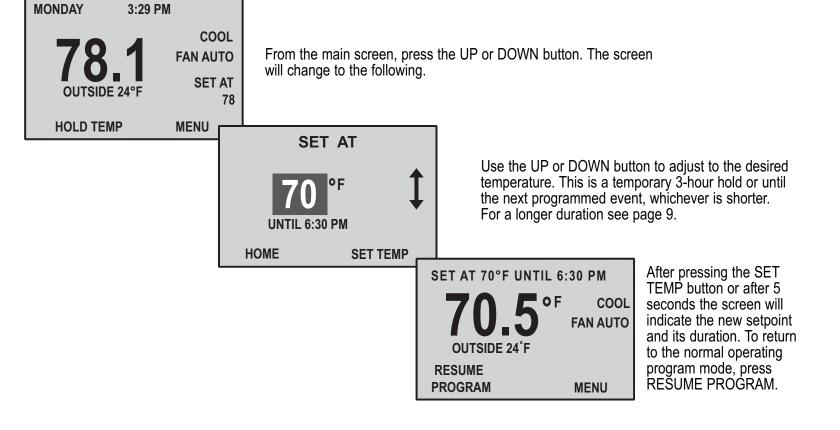
The thermostat will cycle the fan on for the set ON cycle. The fan will remain off for the set OFF cycle.

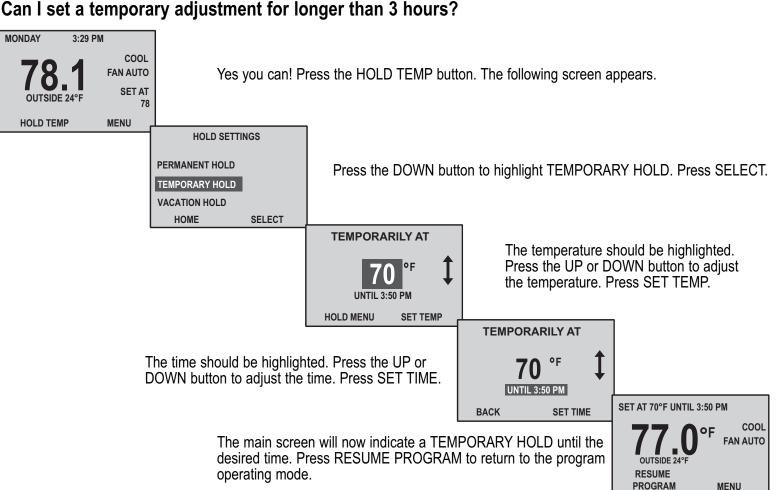
If the HVAC system runs for a longer period than the ON cycle, the OFF cycle will start counting over again when the system shuts off.

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you desire and press SELECT.

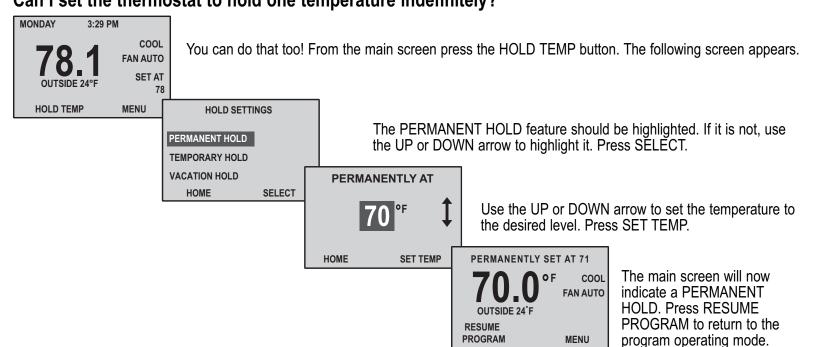






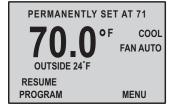
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Can I set a temporary adjustment for longer than 3 hours?



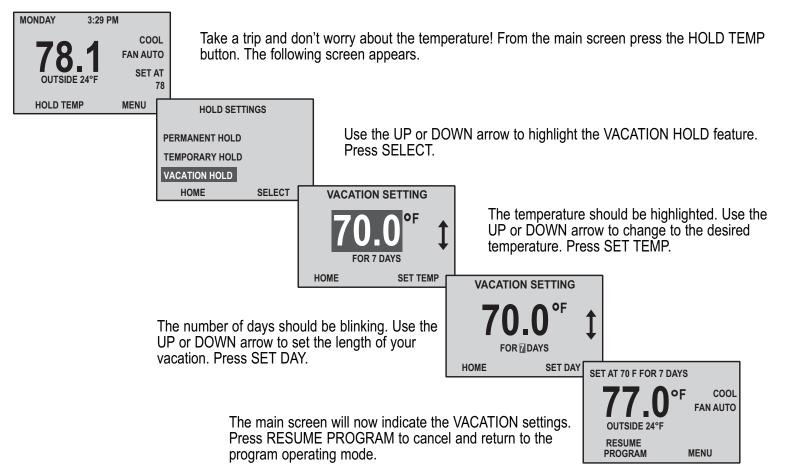
Can I set the thermostat to hold one temperature indefinitely?

How do I return to the Program Mode after being in HOLD?

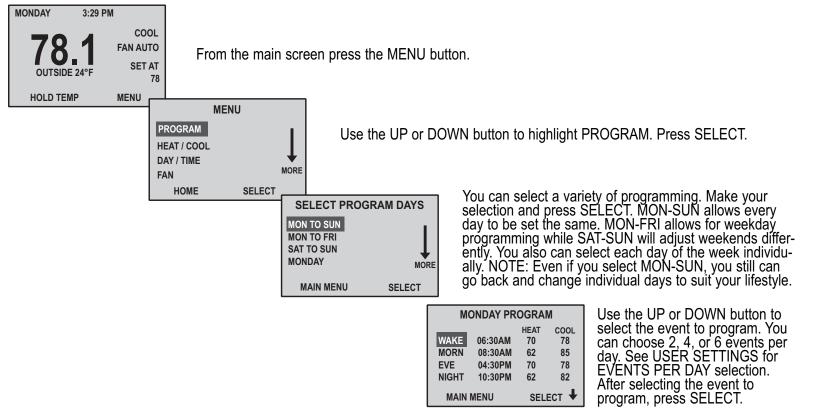


Simply press the RESUME PROGRAM button. This works from all HOLD screens.

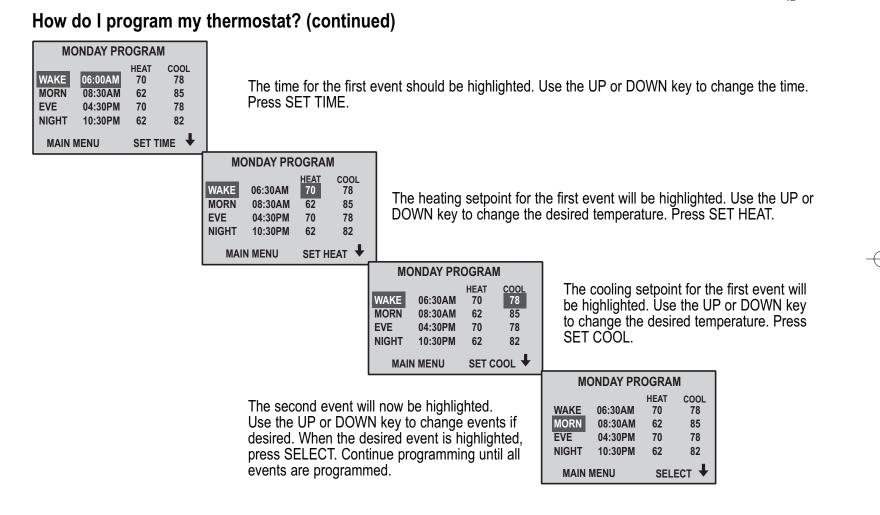
How do I set the Vacation Mode?



How do I program my thermostat?



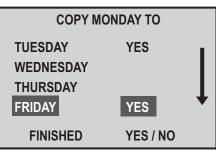
Please go to the next page for a continued discussion on "How to program your thermostat."



| MO | MONDAY PROGRAM | | | | |
|---------------|----------------|------------|------------|--|--|
| MORN | 08:30AM | HEAT 62 | COOL 85 | | |
| EVE | 04:30PM | 70 | 78 | | |
| NIGHT COPY | 10:30PM | 62 | 82 | | |
| MAIN MENU | | SELE | СТ | | |

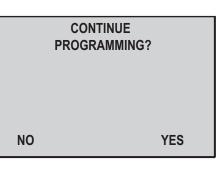
How do I copy one day's program to another day?

In the program screen, press the DOWN button until COPY is highlighted.



Use the UP or DOWN button to highlight the day to copy to. Press YES / NO. A YES will appear next to the day. Do this for each day to which that program is to be copied. Press FINISHED when complete.

After pressing FINISHED, you can choose to program other days or exit. YES will take you back to the Select Program Days screen. NO will exit you to the main screen.



What is an event?

An event is a programming period. This could be the period in the morning when you are preparing for work or school. It could be the period when no one is at home. It could be the period when the household is asleep at night.

The time for an event is selected based on when you want the event to occur. For example, if you wake up at 6:30 AM, set the first event for 6:30 AM. The thermostat will automatically make sure that your home is at the desired temperature selected for that event by the time you wake.

This thermostat can be set for 2, 4, or 6 events.

Two events should be selected if someone is home all day thereby requiring a constant temperature during the day and a different temperature at night.

Four events are the most common for working households. Event 1 (WAKE) is the morning period. Event 2 (DAY) is when everybody has left for school or work. Event 3 (EVE) is the return period, coming home from school or work. Event 4 (NIGHT) is the night period when everybody is asleep.

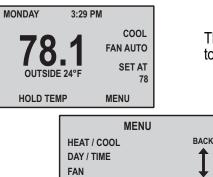
Six events can be used especially when there is activity during the day. Event 1 (WAKE) is the morning period. Event 2 (MORN) is when everybody has left for school or work. Event 3 (NOON) is the lunch period, when the kids may be home for a break. Event 4 (DAY) is the afternoon period when the house is empty. Event 5 (EVE) is the return period, coming home from school or work. Event 6 (NIGHT) is the night period when everybody is asleep.

How do I know what program is right for me?

The thermostat is factory set with the US EPA ENERGYSTAR[®] recommended times and temperatures for optimal energy savings. You can change these to suit your lifestyle.

The best rule is to examine your schedule and set the times and temperatures that best fit. This thermostat is so versatile, you can easily change temperatures or programs at a whim.

What are the USER settings?



USER SETTINGS HOME

♠

MORE

SELECT

The USER SETTINGS can change the way information is displayed on the thermostat and help to optimize comfort. It's one way to truly personalize your new thermostat.

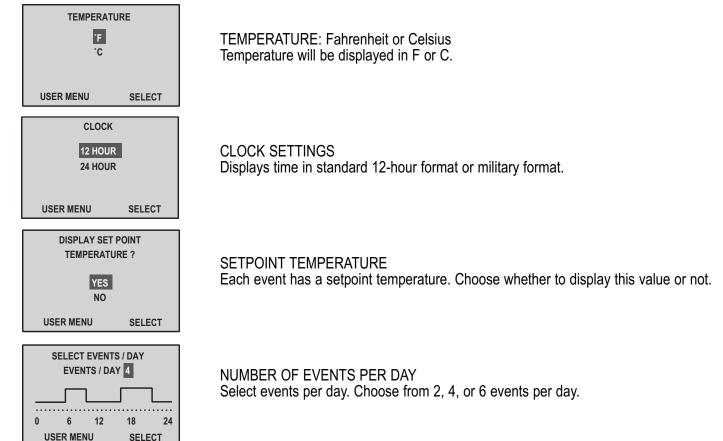
To get to the USER SETTINGS, press the MENU button from the main screen.

Use the DOWN button to scroll below the screen. Press SELECT.

Choose the setting you would like to change. When the SETTING is highlighted, press SELECT. There can be as many as 12 USER SETTINGS in all as listed below. For detailed information on each user setting, please go to the next page.

| USER SETTINGS MEN | NU | USER SETTING | S MENU 🔶 | | USER SETTING | S MENU |
|-------------------|-------|-----------------|----------|----|--------------|--------|
| °F OR °C | ۴F | 1ST STAGE DIFF | 1°F | C | OOLING LIMIT | 68°F |
| 12 OR 24hr | 12 | 2ND STAGE DIFF | 2°F | H | EATING LIMIT | 78°F |
| SHOW SET TEMP | YES | 2ND STAGE DELAY | 20 | | ANGUAGE | ENG |
| EVENTS / DAY | 4 | SENSOR SETTINGS | E L | SI | ECURITY | OFF |
| MAIN MENU SELE | ест 🕈 | MAIN MENU | SELECT 🕈 | 1 | MAIN MENU | SELECT |

Detailed Information on the USER SETTINGS (Or what do these USER SETTINGS do?) To select a USER SETTING, use the UP or DOWN button to highlight the desired setting. Press SELECT.



More Detailed Information on the USER SETTINGS

| DIFFERENTIAL SETTING | | | |
|----------------------|--------|--|--|
| 1ST DIFF | 1°F | | |
| 2ND DIFF | 2°F | | |
| 2ND DELAY | 20 MIN | | |
| | | | |
| USER MENU | SELECT | | |

DIFFERENTIAL SETTINGS

The temperature differential is your comfort level. A lower differential means your system may cycle with greater frequency but will control closer to the setpoint temperature. The second stage delay is a timed delay to indicate how much time should pass before the second stage is turned on. This is an energy saving feature. To use less energy, set this higher. For greater comfort, set it lower.

| SENSOR SETTINGS | | | |
|--|--------|--|--|
| USE LOCAL SENSOR AVG. LOCAL / REMOTE USE REMOTE SENSOR | | | |
| USER MENU | SELECT | | |

SENSOR SETTINGS

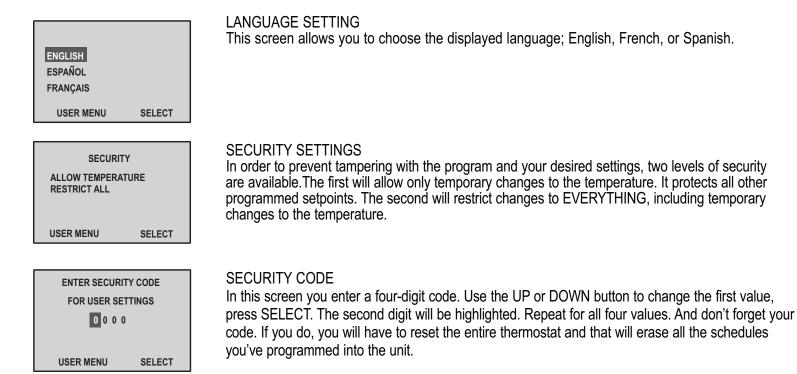
This screen will appear when a remote indoor sensor (9020i) is connected to the thermostat. USE LOCAL SENSOR will disable the remote sensor and only sense from the thermostat. AVG. LOCAL/REMOTE will take a temperature reading from both the thermostat and the remote sensor and average the two for even temperature control. USE REMOTE SENSOR will disable the sensor in the thermostat and only control from the remote location.

| SET COOLING LIMIT | | SET HEATIN | GLIMIT |
|-------------------|--------|-----------------|--------|
| SET COOLIN | GLIMIT | OLITIEATIN | |
| | | | |
| LOWEST CO | | HIGHEST HE | ATING |
| | | SETTING ALLOWED | |
| SETTING ALLOWED | | SETTING ALLOWED | |
| | | | - |
| 45 °F | | 90 ° | - |
| | | | |
| | | | |
| USER MENU | SELECT | USER MENU | SELECT |

HEATING and COOLING LIMITS

To prevent individuals (probably your kids) from adjusting the thermostat too hot or too cold, you can limit the maximum setting for the heating and cooling modes. This will help you save on energy costs.

More Detailed Information on the USER SETTINGS

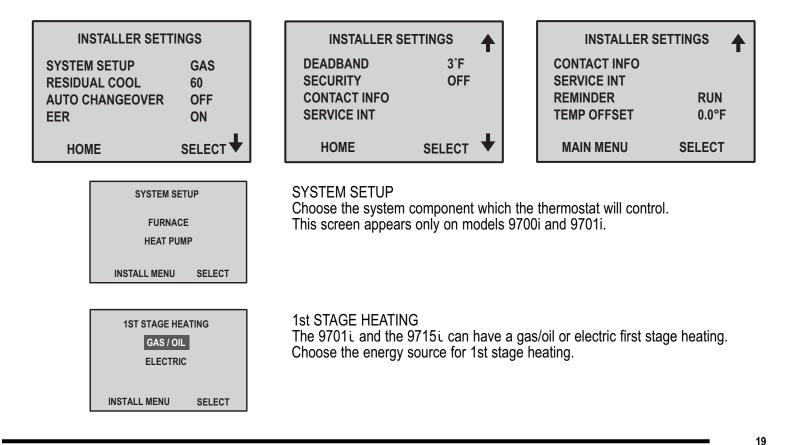


When would I need to change the USER settings?

About the only features you may need to change are the FILTER INTERVAL (in case you get a new type of high efficiency filter), the temperature differentials (if you desire additional comfort), and the security settings. All the other settings probably will not need to be changed.

What are the INSTALLER settings?

The INSTALLER SETTINGS are set up during the initial installation. They tell the thermostat how to function with your heating or cooling equipment. The following is a brief overview and discussion of these settings.



AUXILIARY HEAT

RESIDUAL COOL

SECONDS DELAY

STANDARD - COMP. =ON

ADD ON - COMP. =OFF

INSTALL MENU

INSTALL MENU

INSTALLER settings (continued)

SELECT

SELECT

AUXILIARY HEAT

The 9720i can be set to use your 2H/2C heat pump internal auxiliary heating or to use an external add-on source. The add-on feature will be used most often when a single stage heat pump uses a gas or electric furnace as its second stage of heating.

RESIDUAL COOL

In order to get greater efficiency from the cooling system, the fan can be programmed to run for 0 (OFF), 30, 60, 90, or 120 seconds after the air conditioner has shut off.

BALANCE POINTS

This screen will appear only when the optional outdoor sensor (9025i) is connected to the thermostat. When this sensor is used with the 9720i, you can set the lower and upper temperatures to disable or enable 2nd stage heat.

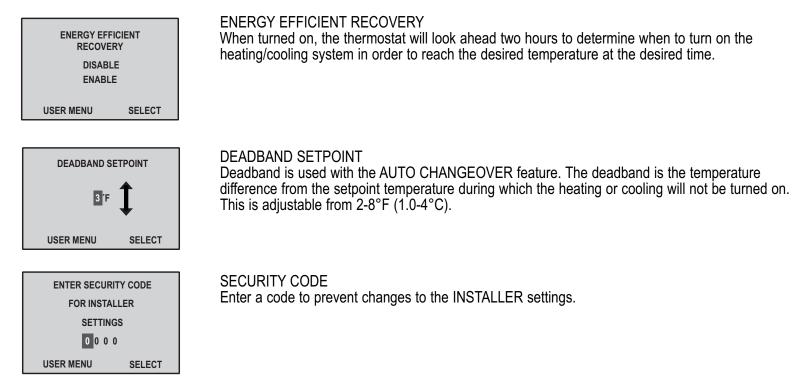
AUTO CHANGEOVER

When turned on, the thermostat will switch automatically between heating and cooling to maintain the optimal temperature in your home.

| BALANCE POINTS | | | | |
|-----------------------------|----------------|--|--|--|
| LOW BALANCE HIGH BALANCE | 45 °F 95 °F | | | |
| INSTALL MENU | SELECT | | | |

| AUTO CHANGEOVER | |
|-----------------|--------|
| DISABLE | |
| ENABLE | |
| | |
| INSTALL MENU | SELECT |

INSTALLER settings (continued)



INSTALLER settings (continued)

| CONTACT INFORMATION AIR EXPERTS 1-555-555-1212 | CONTACT INFORMATION This allows the servicing HVAC contractor to put their name and phone number into the thermostat to remind you when service may be required. |
|--|---|
| BACK EDIT | |
| SERVICE MONITOR MENU SYSTEM MONITOR 980 FILTER MONITOR 980 | SERVICE MONITOR MENU Two menus are available, the System Monitor and the Filter Monitor. Both can be set based on the HVAC system run time or calendar based. See Reminder Interval. Both the System Monitor and Filter Monitor can be set from OFF to 360 Days in 30 day increments or OFF to 980 in 20 hour increments. |
| INSTALL MENU SELECT | |
| REMINDER PERIOD RUN TIME CALENDAR TIME | REMINDER INTERVAL The Reminder Interval can be set for either HVAC system run time or based on the calendar. If Run Time is chosen, the service reminder will be set in hours. After the HVAC system has been operating for the selected number of hours, a Service Reminder will be displayed informing you that service is suggested for your system. |
| INSTALL MENU SELECT | If Calendar Time is chosen, the service reminders will be set in days. After the selected number of |

If Calendar Time is chosen, the service reminders will be set in days. After the selected number of days has passed, a Service Reminder will be displayed informing you that service is suggested for your system.

When would I need to change the INSTALLER settings?

NEVER! The INSTALLER SETTINGS are selected based on the type of equipment you have in your home. This feature should be set only by a certified HVAC technician. Changing these settings could result in higher energy costs and may even damage your equipment. There is a security lock on this feature to prevent tampering. USE IT!

How does Energy Efficient Recovery[™] (EER[™]) work?

Energy Efficient Recovery[™] is an energy saving feature. During a set back period (or set up in cooling), it allows the thermostat to look ahead two hours to determine when to turn on the heating (cooling) system. During this period, the second stage is locked out to allow the first (and most efficient stage) to bring your home to the desired temperature.

How does my remote indoor sensor work?

The remote indoor sensor (part # 9020i) can be used to improve the comfort of your home. When used in conjunction with the local sensor on the thermostat, the two sensors average the sensed temperature and control to that average temperature.

You also can use the remote sensor in a stand-alone situation when you want to control the temperature in a remote room but have the thermostat in a secure location.

When would I need a remote indoor sensor?

Large rooms are ideal for remote sensors. Installing a remote sensor across from the thermostat will provide constant comfort throughout the living space.

How does my remote outdoor sensor work?

The remote outdoor sensor (part # 9025i) can be used to aid in the comfort of your home or simply as a sensing device to inquire about outdoor conditions. In most applications, the thermostat will have a display of the temperature sensed by the remote outdoor sensor. With your heat pump system, the remote outdoor sensor can help determine when to turn on the second stage of heating for optimal comfort.

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Where should I install a remote outdoor sensor?

The remote outdoor sensor should be installed on the northern wall of your home, away from direct sunlight or other heat sources that may affect its sensitivity.

Who should I call for additional help?

For additional troubleshooting information, visit our web site at www.about-i-series.com. To talk with a service representative, give us a call at 800-445-8299.

What should I do if my power goes out?

Make sure your family is safe and don't worry about the thermostat. Your thermostat automatically retains the time of day for approximately two hours in the event of a power outage. All other programmed parameters are stored permanently in memory. So, if your power is out for more than two hours, simply reset the clock. See page 4.

How do I reset the thermostat program to factory conditions?

To reset the thermostat to factory conditions, press the UP button and the LEFT button at the same time. Hold for 3 seconds. The time of day will display 12:00 indicating a reset has occurred.

NOTE: This will erase all programming and return the thermostat to the factory conditions including the installer settings. Use this only as a last resort.

How do I know if the heating or cooling is on?

The display of the thermostat will indicate the operating mode, HEAT or COOL. When the temperature in your home decreases or increases, the HEATING or COOLING cycle will come on based on the displayed mode. When the HVAC system is ON, the LEDs along the bottom crease will turn on.

My energy bills are too high. Is there anything I can do?

While we can't do anything about the high cost of energy, we can try to use less energy and thereby lower our heating and cooling costs.

Generally, the best way to do this is to use the EPA ENERGYSTAR® recommended setpoints for heating and cooling.

| | ENERGYSTAR [®] Setpoints | | | |
|---------|-----------------------------------|-------------|--|--|
| | Winter | Summer | | |
| | (Heating) | (Cooling) | | |
| Morning | 70°F (21°C) | 78°F (25°C) | | |
| Day | 62°F (17°C) | 85°F (29°C) | | |
| Evening | 70°F (21°C) | 78°F (25°C) | | |
| Night | 62°F (17°C) | 82°F (28°C) | | |

Another way to contain costs is to cycle the heat pump or air conditioner with moderation. The thermostat controls the cycle rate based on temperature differentials. By maintaining a reasonable differential setpoint, 1°F for 1st stage and 2°F for 2nd stage, your furnace will cycle with moderation.

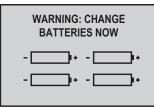
Finally, using the remote outdoor sensor coupled with the balance point feature (see INSTALLER SETTINGS, page 20) will allow your furnace to cycle to the most efficient stage for your heating or cooling needs.

When should I change the batteries?

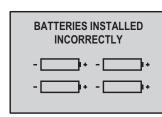
Only the model 9700i operates with batteries. The 9701i, 9715i and 9720i operate from power provided by your HVAC system.



Generally the batteries will last 18-24 months. The thermostat will tell you when to change the batteries. A battery symbol will appear just below the temperature display. The thermostat will continue to operate for a short period of time with this notification on the display. The low battery warning supercedes all other notifications including outdoor temperature and the filter monitor.



If the WARNING screen is displayed, the thermostat will shut down all operations, including heating and cooling. It's important to change the batteries promptly if this screen appears.



How do I change the batteries?

Simply slide the battery door to the right. Remove the two right most batteries first. Then remove the two left batteries. The screen to the left will appear. This screen will help you orient the new batteries. Replace with four fresh AA alkaline batteries. REPLACEMENT TIP: It's easier to replace the two left most batteries first, then the right ones.

TWO YEAR LIMITED WARRANTY

The manufacturer warrants to the original contractor installer or to the original consumer user, each new Robertshaw thermostat to be free from defects in materials and workmanship under normal use and service for a period of two (2) years from the date of purchase.

This warranty does not cover batteries (if so equipped), damage caused by batteries, damage resulting from improper installation, alteration, misuse or abuse of the thermostat occurring after the date of purchase.

The manufacturer agrees to repair or replace at its option any thermostat under warranty provided it is returned within the warranty period, postage prepaid, with proof of the date of purchase. Cost of thermostat removal or reinstallation is not the responsibility of the manufacturer.

Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. This warranty and our liability does not apply to merchandise that has been damaged caused by misuse, neglect, mishandling, alterations, improper installation, or use in a way other than in accordance with the recommendations and instructions of the manufacturer. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited to the duration of this warranty.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Instructions for return:

Pack the thermostat carefully in a well-padded carton. Be sure to include a note describing, in detail, what is wrong with the product. Return, postage prepaid, to: **Climate Controls Americas** 515 South Promenade Ave., Corona, CA 91719, Attn: Warranty Department

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Invensys.

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