



ADD THIS DOCUMENT TO YOUR OMNILT OWNER'S MANUAL

Description

The OmniLT Version 3.1 firmware adds the following new features:

- Added HAI Trigger messages for simple integration with remote serial devices
- Added Z-Wave Status Request Command
- Added automatic polling for Z-Wave Thermostats

The OmniLT Version 3.0 firmware adds the following new features:

- Enhanced Programming
- Real-Time operation status of thermostats
- Support for Omnistat2 Thermostats
- OmniTouch support for real-time cool/heat/humidify/dehumidify status
- Automatic cycling of switched power when the system is disarmed
- Third-Party Protocol Enhancements

Note: Loading new screens into each OmniTouch touchscreen may be necessary to support new features in Version 3.0 Firmware. Ensure that each OmniTouch is running “Screens Version “9”. To check, press the “Setup” icon from the Home page. Next press the “Screen Setup” icon, followed by the “Next” button. The “Screens Version” should be displayed on the bottom left of the display. If the “Screens Version” is lower than “9” or if the text “Screens Version” is not displayed, the screens must be updated.

See www.homeauto.com for comprehensive list of firmware updates and descriptions.

HAI Triggers

The Pro-Link serial protocol has been enhanced by the inclusion of predefined ASCII serial messages called HAI Triggers. HAI Triggers can be used to activate or “trigger” programs in the OmniLT controller when the specified ASCII serial message is received over a Pro-Link serial port. This is an easy way to interface with other serial devices (such as touchscreens, remote controls with a serial expander, etc.) that have a programmable ASCII protocol or that have HAI Trigger messages predefined in the device.

There are 127 HAI Triggers. Each HAI Trigger consists of ASCII characters starting with the characters “HAI” and ending with the number (1-127) of the trigger; hence, the triggers are HAI1 – HAI127.

Version 3.0 Controller Features

Enhanced Programming

Note: To take advantage of the Enhanced Programming features, programs must be written with HAI PC Access Version 3.0 or later.

Enhanced Programming consists of several new features and structures that allow you to take full advantage of the powerful programming capabilities of your OmniLT controller. Enhanced Programming includes:

- Program block that may have multiple triggers, multiple conditions, and multiple actions
- Program block that can be triggered every so many minutes, seconds, or hours.
- Conditions can be created that utilize and/or/not logic and that utilize relational operators
- Conditions can reference properties of zones, units, thermostats, temperature/humidity sensors, messages, security status, time/date, audio, access control, as well as constants and user settings.
- Most information known by the controller can now be used in automation programming.

Program Blocks

In previous version of the controller firmware, each automation program was constructed of a single line that consisted of a trigger, one optional condition, and a command. Enhanced automation programs are now constructed in blocks to create a simpler, yet more flexible programming environment. Each program block may contain multiple triggers, multiple conditions, and multiple commands.

“Every” Program Trigger

A new program trigger has been added which allows a program block to be activated every so many seconds, minutes, or hours. This trigger is specified with an associated timer; when the timer expires, the program block is processed, and then the timer is reset.

This program trigger is used to evaluate conditions on an ongoing basis, by the length of the specified time. For example:

```
EVERY 5 SECONDS  
AND IF THERMOSTAT 1 IS GREATER THAN 75  
THEN BEDROOM FAN ON
```

Relational Operators in Conditions

For each condition, you have the ability to utilize relational operators. Each condition includes an operator and one or two values to check. Relational operators include equal to, not equal to, less than, greater than, is even, is odd, is a multiple of, and set membership checks. Greater than and less than operators allow for an extra value to be specified to check if a certain item is greater than or less than another item by more than the specified amount. For example:

```
WHEN ARM AWAY  
AND IF WINDOW FLAG CURRENT VALUE IS LESS THAN 10  
THEN THERMOSTAT 1 OFF
```

“And/Or” Logic Operators in Conditions

A program statement with “And” specifies a conditional expression that must be true for the remainder of the program block to be processed. A program statement with “Or” combines two or more groups of “And” statements, such that as long as all the “And” statements in one of the groups are true, the commands in the “Then” group is processed.

For example:

```
WHEN ARM AWAY
  AND IF LIVING ROOM ON
  AND IF DINING ROOM ON
  OR
  AND IF DARK
  THEN ALL HOUSE LIGHTS OFF
```

Enhanced Conditions

Conditions can reference properties of units, security status, zones, thermostats, temperature and humidity sensors, time, date, audio, access control, messages, as well as constants and user settings. The condition can be evaluated by just about anything the HAI controller knows about.

- a. Units: current state, previous state, timer, and level.
- b. Security: security mode, current mode including exit delay, arming code, entry timer, exit timer, alarm status, horn (sounder) status, and digital communicator status for each security area.
- c. Zones: loop reading, current state, arming state, and alarm state.
- d. Thermostats: current temperature, heat setpoint, cool setpoint, heater currently running, air conditioning currently running, system mode, fan mode, hold mode, freeze alarm, communications error, current humidity, humidify setpoint, dehumidify setpoint, currently humidifying, currently dehumidifying, and outdoor temperature.
- e. Temperature Sensors: current temperature, low setpoint, high setpoint, freeze alarm, and output state.
- f. Humidity Sensors: current humidity, low setpoint, and high setpoint.
- g. Time: time (hour and minute), hour, minute, daylight saving time status, and time of sunrise and sunset.
- h. Date: date (month and day), year, month, day, and day of week.
- i. Audio: power state, source, volume, and mute status for each audio zone.
- j. Messages: currently displayed message and if it has been acknowledged.
- k. System: current energy cost, phone line status, battery reading, ok to arm status, armed status, and outdoor temperature.

Real-Time Operation Status of Thermostats

The current real-time heating and cooling status on an Omnistat or Omnistat2 is indicated on the Temperature Page on an OmniTouch Touchscreen. When the HVAC system is currently heating, a yellow block will appear around “Heat”. When the HVAC system is currently cooling, a yellow block will appear around “Cool”

The current real-time humidifying and dehumidifying status of an Omnistat2 is indicated on the Humidity Page, for the respective Omnistat2, on the OmniTouch Touchscreen. When the thermostat is calling for humidification, a yellow block will appear around “Hmfy”. When the thermostat is calling for dehumidification, a yellow block will appear around “Dfhy”.

The current real-time status for heating, cooling, humidifying, and dehumidifying can also be used in automation programming logic.

Omnistat2 Features

There are several features on Omnistat2 thermostats that are supported by the OmniLT controller. These features include:

- Fan Cycle Mode
- Vacation Hold
- Humidity Display
- Humidity Setpoints
- Outdoor Temperature
- Occupancy Status
- Time and Date
- Energy Status

Fan Cycle Mode

In *Fan Cycle* mode on an Omnistat2 thermostat, the fan is cycled on and off in 20 minute cycles to circulate the air.

The fan control may be switched between auto, on, and cycle by selecting 4 (FAN) from the temperature menu of the selected Omnistat2 thermostat:

```
Upstairs FAN  
0=AUTO 1=ON 2=CYCLE
```

Vacation Hold

In *Vacation Hold* mode, the thermostat ignores program schedule and remote system temperature setting changes for the duration of your scheduled time away. *Vacation Hold* can only be initiated at the Omnistat2 thermostat.

When an Omnistat2 thermostat is in *Vacation Hold*, the temperature display on the console or touchscreen for the selected Omnistat2 thermostat will display “Vacation” in the place it would normally display the status of Hold. You can not initiate a *Vacation Hold* command from the controller, but you are able to switch from *Vacation Hold* to *Hold On* or *Hold Off*.

Humidity Display

If your Omnistat2 is equipped with a humidity sensor, from a console or touchscreen, you can view the current relative humidity.

Humidity Setpoints

Humidity Setpoints are used to control connected equipment used for humidification and dehumidification.

The Humidify setting is used to control a stand alone humidifier.

The Dehumidify setting is used to control: a) the Fan Speed of an HVAC system with a variable speed fan, used to augment the dehumidification process, or b) a stand alone dehumidifier.

These humidify and dehumidify settings can be modified from a console, touchscreen, or automation program. The humidify setting may be adjusted at a console by selecting 6 (HMFY) from the temperature menu of the selected Omnistat2 thermostat:

```
Upstairs HUMIDIFY  
ENTER HUMIDITY:
```

Enter the desired humidity level, and then press ' #' to save setting. If the humidity level falls below this setting, the output connected to the humidifier (if applicable) is activated.

The dehumidify setting may be adjusted at a console by selecting the 7 (DFHY) from the temperature menu of the selected Omnistat2 thermostat:

```
Upstairs DEHUMIDIFY  
ENTER HUMIDITY:
```

Enter the desired humidity level, and then press ' #' to save setting. If the humidity rises above this setting, the output connected to the HVAC fan control or dehumidifier (if applicable) is activated.

Outdoor Temperature

If your Omnistat2 is equipped with an external outdoor temperature sensor, you can view the outdoor temperature from a console or touchscreen. The outdoor temperature can also be used as a condition in an automation program.

Occupancy Status

When the Program Mode of your Omnistat2 is configured for “Occupancy”, the program setpoints are based on the occupancy status of OmniLT controller. Whenever the security mode changes on the OmniLT, it will send the current occupancy mode (Day, Night, Away, or Vacation) to Omnistat2 thermostat. When configured in the manner, you can easily adjust the heat and cool settings for each occupancy mode on the Omnistat2 without ever having to create or edit automation programs stored in the controller.

Time and Date

The OmniLT now sends the current time of day and the date to the Omnistat2. As long as the time and date is correct on the OmniLT, there is no need to set the time or date on the Omnistat2.

Energy Status

When OmniLT sends the time and date to the Omnistat2, it also sends the current Energy Level. When the Energy Level changes, the Omnistat2 will display the current “Energy Level” in the Message Bar and will change the backlight color on the Omnistat2 display so that you will know the current energy status at a glance.

Automatic Cycling of Switched Power when the System is Disarmed

Whenever the OmniLT security system is disarmed, the controller will cycle power to the SWITCH 12V or a Switched Power Output to reset smoke detectors and other latching devices. In previous versions of controller firmware, the SWITCH 12V or Switched Power Outputs were only cycled with the security system was armed.

This feature allows smoke detectors to be silenced and reset without having to arm the security system.

Third-Party Protocol Enhancements

Numerous enhancements have been made to the Omni-Link protocol to increase functionality and ease third-party integration with HAI controllers. To access the protocols, please join our Developer Support Program at:

<http://www.homeauto.com/Support/Developers/Developers.asp>.