



LYRIC THERMOSTAT PLUG-IN FOR HOMESEER HS4

VERSION 4.5

RELEASE DATE: 8/13/2023

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TERMS & CONDITIONS

Resideo has provided an API for developers and is in control of what capabilities are provided. This means that if Resideo changes their API, work will have to be done on this plug-in to make it compatible, and the type of changes and timing of those changes is outside of my control. Maintenance windows for Resideo’s servers occurs on their schedule as well, which can interrupt the plug-in’s ability to communicate with the servers and control your devices. Your purchase and use of this plug-in is as-is and at your own risk.

Excessive activity on your account may result in your account being suspended, requiring you to call Resideo and get it re-activated. While this plug-in has been designed to minimize the chances of this occurring by implementing preventative measures such as timers and minimum command, update and polling frequencies, these values can be changed by the user. Regardless of the values entered (be they the default, smaller or larger), by activating this plug-in in your Homeseer software, you acknowledge this risk and agree to indemnify and hold harmless the developer of this plug-in, Homeseer Technologies, and any other third party plug-in developers from any damages (including but not limited to financial, time spent, opportunity cost, loss of account privileges, and the inability to remotely control your thermostats or other connected devices).

Lyric™ is a trademark of Resideo Technologies, Inc.



OVERVIEW

The skWare Lyric Thermostat Plug-In for Homeseer provides you with a way to monitor and control your Lyric Thermostat devices from within Homeseer.

Thermostat First Floor			
First Floor (148) ↓		Today 2:38:20 PM	
Status (149)	Success	Today 2:40:04 PM	<input type="button" value="UPDATE"/>
Cool Setpoint (150)	74F	Today 2:34:14 PM	74F -1 +1
Heat Setpoint (151)	72F	Today 10:01:56 AM	72F -1 +1
System Mode (152)	Heat	1/15/2021 5:36:08 PM	AUTO COOL HEAT <input type="button" value="OFF"/>
Operating Status (153)	Heating	Today 2:39:05 PM	
Operating Mode (154)	Heat	1/15/2021 5:36:08 PM	
Fan Mode (155)	Auto	1/15/2021 5:36:08 PM	<input type="button" value="ON"/> <input type="button" value="AUTO"/> <input type="button" value="CIRCULATE"/>
Fan Status (156)	Off	1/15/2021 5:36:08 PM	
Indoor Temp (157)	72°F	Today 10:01:56 AM	
Outdoor Temp (158)	42°F	Today 2:39:05 PM	
Outdoor Humidity (159)	43%	Today 2:09:11 PM	
Hold Type (160)	None	Today 10:01:56 AM	<input type="button" value="NONE"/> <input type="button" value="TEMPORARY"/> <input type="button" value="PERMANENT"/>

INSTALLATION

This Plug-In is installed using the built-in updater capability of Homeseer. New installations include the binaries and supporting files needed to run the Plug-In, and updates will replace any of those items that have changed.

Before you set it up, you must have a working account and a functioning Lyric device. If you are running this plug-in from a Linux platform (including the Zee), you may need to update certain dependencies manually, per the instructions posted on the plug-in's support forum.

SYSTEM REQUIREMENTS

The skWare Lyric Thermostat Plug-In for Homeseer runs on both Windows and Linux installations of HS3 and has been tested with version 3.0.0.148+. Earlier versions of HS3 should work but have not been specifically checked.

On Linux, this plug-in requires Mono 4.8.1 or higher. For Windows servers, it must be Vista or newer.

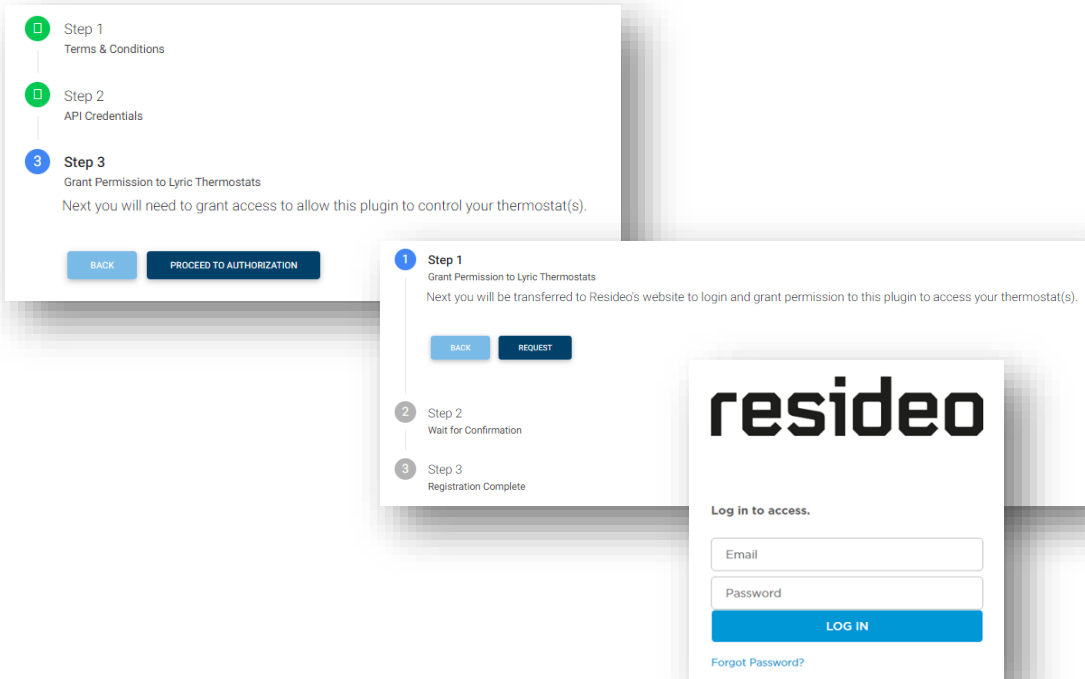
This plug-in has been developed and tested with both T5 and T10 models (with special thanks to [CPTKIRK](#) for access to, and feedback on, the latter), but any Lyric device supported by the Honeywell Connected Home API should work. Please report back via the Homeseer forums if you have success or problems with any specific model.

CONFIGURATION

After installing the plug-in, a new “Lyric Thermostat” menu item can be found under “Plug-Ins” menu in the Homeseer browser interface. The “Configuration” item will take you to the configuration page, where you are able to define your devices and setup additional options for the plug-in.

The first step is to accept the plug-in Terms & Conditions (see above) and connect to your account. The plug-in has a built-in API Key and Secret, but some users have reported “429 Too Many Requests” errors from Resideo, which may be linked to the number of plug-in users on that key without Resideo increasing the limits. Unfortunately, they are unresponsive to requests to increase it. To avoid those errors, optional fields to use your own API account have been provided (see [Appendix 2](#) for instructions on how to set this up). For those who have already connected their accounts, a reconnect will be required if this approach is used, but no devices or events will be affected.

After completing the initial setup, the authorization process begins by redirecting you to the Honeywell Home service. Once you login and select the thermostats plugin will be allowed to choose from, you will be redirected back to Homeseer to complete the process.



Once your account is connected, you will have the option to reset your connection from the Settings page. Performing this action will disconnect the plug-in from your Lyric account until you complete the steps again, but it will not remove any related HS devices. Reauthorizing your account may be necessary from time to time.

The “Config” page also provides the control over plug-in behavior and logging output.

Account Options

This plugin uses a shared API key, which may be subject to rate limits by Resideo. To use the built-in account, leave these fields blank. To create your own account (recommended), please see the documentation and provide the Key and Secret here.
 Note: changing either of these values will reset your authorization and you will need to reconnect your plugin below.

API Key (Optional) _____

API Secret (Optional) _____

Authorization Status: [RESET MY CONNECTION TO THE LYRIC SERVICES](#)

Thermostat Options

Poll Interval
 300 _____ seconds (min: 300)

Update Frequency
 15 _____ seconds (min: 15)

Simulate Auto mode for thermostats without native support

Logging Options

Debug Logging (not for prolonged use) [DOWNLOAD LOG FILE](#) [CLEAR LOG FILE](#)

[CANCEL](#) [SAVE](#)

The polling interval (in seconds) specifies how often HS should login to the website and check the current settings. A value of 300 seconds (5 minutes) or higher is required.

The “Update Frequency” controls how much time must pass between update requests. These are specific requests outside of the polling window requested manually (via the “Update” button or script commands). A value of 15 seconds or higher is required. Requests made within less time than this will result in a “Waiting for update...” status temporarily, until the 15 seconds have passed.

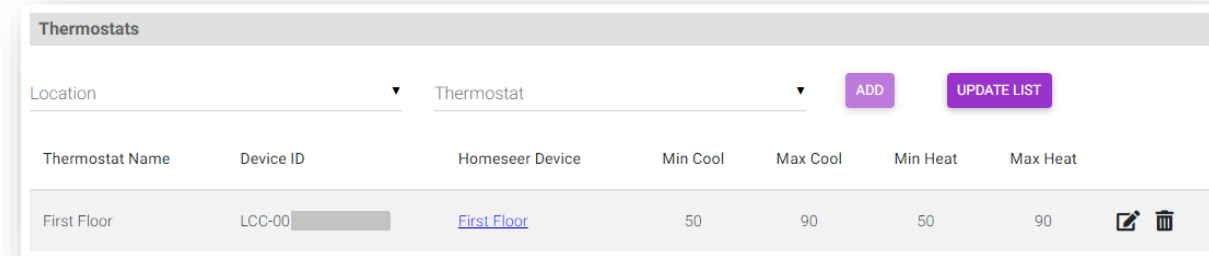
For thermostats that do not support “Auto” mode, the Plug-in can simulate this capability if you enable it. If the Indoor Temperature is greater than the Cool Setpoint or lower than the Heat Setpoint, the operating mode will be changed automatically. You must maintain a 3 degree difference between Cool and Heat Setpoints.

Optional log data can be recorded in a stand-alone Plugin log (which can be found in the “Logs” directory of your HomeSeer installation). Please note that this logging level should only be used when troubleshooting or sending in for support as it can have a significant impact on performance. This option also enables a special “Debug” menu item that may be helpful in diagnosing issues.

The “Download Log File” and “Clear Log File” buttons on this page make it easier to manage the plugin log files on your server, as you are no longer required to access the file system to get them when requested for support.

THERMOSTAT CONFIGURATION

Once your account is connected, the “Thermostat List” Page will be added to the plug-in menu, where you can add one or more thermostats to be controlled by Homeseer by selecting the location and device you wish to add.



You can edit the minimum and maximum allowed cool or heat settings for each device – these do not replace the settings on the thermostat, but rather are specific to Homeseer. Attempting to go above or below these values is not allowed in Homeseer events, and if a change beyond these limits is detected on a status update, it will be adjusted up/down to the limit accordingly.

When you’ve added your device to the list, the initial parent device will be created. After the first polling of the status occurs, a series of child devices will be created based on the capabilities of your Lyric device, including:

- Root Device
- Update Status
- Fan Mode
- System Mode
- Operating Mode
- Operating Status
- Cool Setpoint
- Heat Setpoint
- Hold Type
- Indoor Temperature
- Indoor Humidity
- Outdoor Temperature
- Outdoor Humidity
- Emergency Heat

You can also highlight a thermostat in the list and click “Remove”, which will delete the associated devices.

THERMOSTAT DEVICES

Once your thermostats are configured, your devices will show the current values on the Home screen.

Thermostat First Floor			
First Floor (148) ↓		Today 2:38:20 PM	
Status (149)	Success	Today 2:40:04 PM	UPDATE
Cool Setpoint (150)	74F	Today 2:34:14 PM	74F -1 +1
Heat Setpoint (151)	72F	Today 10:01:56 AM	72F -1 +1
System Mode (152)	Heat	1/15/2021 5:36:08 PM	AUTO COOL HEAT OFF
Operating Status (153)	Heating	Today 2:39:05 PM	
Operating Mode (154)	Heat	1/15/2021 5:36:08 PM	
Fan Mode (155)	Auto	1/15/2021 5:36:08 PM	ON AUTO CIRCULATE
Fan Status (156)	Off	1/15/2021 5:36:08 PM	
Indoor Temp (157)	72°F	Today 10:01:56 AM	
Outdoor Temp (158)	42°F	Today 2:39:05 PM	
Outdoor Humidity (159)	43%	Today 2:09:11 PM	
Hold Type (160)	None	Today 10:01:56 AM	NONE TEMPORARY PERMANENT

The “Status” device shows the status of the last request or command and tracks the last data refresh date/time.

The “Indoor Temp”, “Indoor Humidity”, “Outdoor Temp”, and “Outdoor Humidity” devices are status-only displays of the data last reported at the thermostat’s location and are included based on your thermostat’s capabilities.

The “Fan Mode” shows what the setting is (“On” or “Auto”) and provides control buttons to change the mode.²

The “Fan Status” device indicates whether the fan is actually running at this time or not (“On”, “Off”).¹

The “Cool Setpoint” and “Heat Setpoint” devices shows what the current setpoint is. It provides a dropdown of valid values to adjust the setpoint for the current mode, as well as +1/-1 adjustments (or +0.5/-0.5 for Celsius). If the device is currently in a Permanent Hold, that hold will be maintained, otherwise a temporary hold will be issued if your thermostat supports such a capability.²

The “Hold Type” device shows whether the thermostat is following the schedule (“None”), in a Temporary Hold (“Until HH:MM”) or a “Permanent” hold, depending on capabilities. Buttons are provided to change the type of hold in place.²

The “System Mode” shows what the setting is (“Cool”, “Heat”, “Auto” or “Off”, as appropriate to your thermostat model) and provides control buttons to change the mode². If you have enabled the “Simulate Auto” option, an “Auto” mode button will be added even if your thermostat doesn’t support it natively, and switching will be handled by the plug-in if the temperature exceeds the cool setpoint or drops below the heat setpoint.

The “Operating Status” is an indication of whether the system is currently running or not (“Idle”, “Heating”, “Cooling”), and the “Operating Mode” device that shows the mode the unit is currently working in when Auto (or Simulated Auto) is used.

The “Emergency Heat” device is turned on when emergency heat is activated on your thermostat.

ACTIONS

This plugin provides the following Actions that can be included in Events:

- Change Setpoint

While setpoints can be changed directly on the devices, this action allows multiple coordinated changes to the Setpoint, System Mode, and Hold Status all in a single command.

The choices of setpoint type and hold will depend on the capabilities of the selected Thermostat.

PLUG-IN FUNCTIONS

The following functions are available for use via scripts and the Homeseer “hs.PluginFunction” method.

- `ChangeMode(deviceID, mode, update)`
 - `deviceID` = string ID of the device, found on the Thermostat List page
 - `mode` = desired mode
 - Off = 0
 - Heat = 1
 - Cool = 2
 - Auto = 3
 - `update` = request a full refresh of the data after sending command
- `ChangeFanMode(deviceID, mode, update)`
 - `deviceID` = string ID of the device, found on the Thermostat List page
 - `mode` = desired mode
 - Auto = 0
 - On = 1
 - Circulate = 2
 - `update` = request a full refresh of the data after sending command
- `ChangeHold(deviceID, type, update)`
 - `deviceID` = string ID of the device, found on the Thermostat List page
 - `type` = type of hold
 - None = 0
 - Temporary = 1
 - Permanent = 2
 - `update` = request a full refresh of the data after sending command

- `ChangeSetpoint(deviceID, setpoint, holdType, mode, update)`
 - `deviceID` = string ID of the device, found on the Thermostat List page
 - `setpoint` = double
 - `type` = hold type (see above)
 - `mode` = which setpoint to change (see above)
 - `update` = request a full refresh of the data after sending command
- `ChangeAll(deviceID, heatSetpoint, coolSetpoint, mode, holdType)`
 - `deviceID` = string ID of the device, found on the Thermostat List page
 - `heatSetpoint/coolSetpoint` = double
 - `mode` = which setpoint to change (see above)
 - `type` = hold type (see above)

COMMAND PROCESSING

In an effort to prevent excessive commands from being sent, when an update is requested, the plug-in checks the timestamp of the last requested update for that thermostat and if it's too soon (based on "Update Frequency"), it sets a timer to wait until the "Update Frequency" has passed, then requests the update. Any polling timers are stopped and restarted each time an update occurs, so if you change the setpoint (which also requests an update), the next polling won't occur for the specified number of seconds ("Polling Interval") regardless of how long ago the last poll occurred.

KNOWN ISSUES

1. The Lyric API doesn't properly report Fan Status, so it currently shows as "Off" at all times. I'm awaiting a response from Honeywell on this issue.
2. Attempts to initiate changes from the plug-in to the thermostat using the Lyric API will fail with a "400 (Bad Request) Device Not Found" error if you have created your own Resideo Developer account and your application was created using spaces or other punctuation.

SUPPORT

Support for the skWare Lyric Thermostat Plug-In for Homeseer is provided through the standard Homeseer channels. The primary mechanism is via the [Lyric Thermostat Plug-in forum](#) on the Homeseer website. The author can be contacted directly at steve@skware.net.

APPENDIX 1: FILES

The following files are used by the Plug-In. Directories in bold are part of the standard Homeseer installation. Files marked with * are created by the software during usage; all other files are included in the installation.

<Homeseer Installation Directory>

```

HSPI_SKWARE_HW_LYRIC.exe
HSPI_SKWARE_HW_LYRIC.exe.config
\Bin
  \skWare
    \LyricThermostat
      log4net.dll
      Newtonsoft.Json.dll
      skWare.Common.dll
      skWare.Common.HS4.dll
      skWare.Common.HS4.dll.config
      skWare.Homeseer.LyricThermostat.Core.dll
      skWare.Homeseer.LyricThermostat.Core.dll.config
  \Config
    HSPI_SKWARE_HW_LYRIC.ini*
  \html
    \LyricThermostat
      Authorize.html
      Debug.html
      debug_list.html
      Help.html
      Settings.html
      Setup.html
      skWare Lyric Thermostat Plug-In User Guide.pdf
      skware_common.js
      thermostat_list.html
      Thermostats.html
    \images
      auto.png
      auxheat.png
      cool.png
      failed.png
      fan-auto.png
      fan-circulate.png
      fan-off.png
      fan-on.png
      heat.png
      humidity.png
      nostatus.png
      off.png
      permanent.png
      schedule.png
      success.png
      temporary.png
      thermometer-cool-0.png
      thermometer-cool-1.png
      thermometer-cool-2.png
      thermometer-cool-3.png
      thermometer-cool-4.png
      thermometer-cool-5.png
      thermometer-generic-0.png
      thermometer-generic-1.png
      thermometer-generic-2.png
      thermometer-generic-3.png
      thermometer-generic-4.png
      thermometer-generic-5.png
      thermometer-heat-0.png
      thermometer-heat-1.png
      thermometer-heat-2.png
      thermometer-heat-3.png
      thermometer-heat-4.png
      thermometer-heat-5.png
      unknown.png
      waiting.png

```

LYRIC THERMOSTAT PLUG-IN FOR HOMESEER HS4

\Logs

HSPI_SKWARE_HW_LYRIC.log*

APPENDIX 2: CREATING A RESIDEO DEVELOPER ACCOUNT

In order to leverage your own API key and secret to avoid the “429 Too Many Requests” errors, you must establish your own **Developer Account**. This is separate from your **Thermostat Account**, which is used to login and authorize the plug-in.

Step 1: Create an Account

Sign up for an account on the Resideo developer site: <https://developer.honeywellhome.com/user/register>

Step 2: Register an App

User the “Create New App” button to define a new App that will use the Honeywell Connected Home API. The App Name must be unique, so I suggest adding your own name to the end or something similar. **In order to avoid a potential issue with control requests, make sure your app name uses alphanumeric characters only – no spaces or punctuation.**

The screenshot shows a web browser window with the URL `developer.honeywellhome.com/user/me/apps/add`. The page features the Resideo logo and a navigation menu with options like GUIDES, APIS, EVENTS, FAQs, MY ACCOUNT, MY APPS, and LOG OUT. The main form contains the following fields:

- App Name ***: lyricpluginshill
- Internal name:** lyricpluginshill (with an Edit link)
- Callback URL ***: https://skware-oauth-hs.azurewebsites.net/api/OAuthCallback

A blue button labeled "Save Changes" is located at the bottom left of the form.

The “Callback URL” must be: <https://skware-oauth-hs.azurewebsites.net/api/OAuthCallback>

Step 3: Get the Key & Secret

The screenshot shows the 'Keys' section for the application 'lyricpluginshill'. The page has a 'new' badge and an 'Approved' status. There are buttons for 'Keys', 'Analytics', and a red 'X' icon. The section is titled 'lyricpluginshill's Keys' and contains the following text:

Below are keys you can use to access the API products associated with this application (*lyricpluginshill*). The actual keys need to be approved *and* approved for an API product to be capable of accessing any of the URIs defined in the API product.

The 'Consumer Key' and 'Consumer Secret' fields are redacted with grey bars and circled in red.

Step 4: Add Key & Secret to lug-in


Account Options

This plugin uses a shared API key, which may be subject to rate limits by Honeywell. To use the built-in account, leave these fields blank. To create your own account (recommended), please see the documentation and provide the Key and Secret here.

Note: changing either of these values will reset your authorization and you will need to reconnect your plugin below.

API Key (Optional)

API Secret (Optional)

Authorization Status:  [RESET MY CONNECTION TO THE LYRIC SERVICES](#)

After you change the Key and Secret, you will be disconnected from your Lyric account. Follow the normal steps to authorize your new Resideo App to connect to your thermostat (on the Resideo page you'll now see your App name from step 2). Be sure and use your **Thermostat Account** for this step.

Once you get the code and provide it to the plug-in, your thermostat should successfully update without the 429 errors.