

Intesis WMP Plugin for HomeSeer 4

Description

The Intesis WMP plugin for HomeSeer 4 implements the WMP protocol from Intesis. This protocol is used by a wide range of products from Intesis that connect directly to numerous manufacturer's air conditioning units (for example "minisplit" units that are popular in tropical climates) and allow home automation management of them. This plugin creates HomeSeer devices to provide monitoring and control of your air conditioner power, mode, fan speed and numerous other parameters.

Compatibility With Intesis Devices

Intesis manufactures a line of WMP-compatible Wi-Fi interfaces for a wide range of air conditioner manufacturer models. These typically connect directly to the air conditioner and interact with its onboard controller. Intesis also offers a Universal Wi-Fi IR model that emulates the unit's infrared (IR) remote control to control the functions of the unit (it supports a huge database of different IR codes for hundred of air conditioner models). This is useful for portable AC units and other models that don't have an option for direct connectivity. All of these Intesis devices connect to your local Wi-Fi network and communicate locally to home automation software. In this case, with the use of the plugin, HomeSeer 4. There is no cloud access or connection for WMP devices except via HomeSeer. They solely communicate on the local network. Collectively, many refer to this as the "IntesisBox" system.

Intesis also offers a cloud-based service and corresponding devices to connect to and manage your air conditioners. These units are similar to the WMP-based units but do not support the WMP protocol at this time and therefore work only with the IntesisHome service and apps. If your air conditioners are manageable via the "AC Cloud" app (as it is known on Apple iOS devices), they are using IntesisHome Wi-Fi adapters and will NOT work with this plugin.

If you still aren't sure which Intesis units you have, you can always download the plugin for a free trial and see if it discovers your Intesis units on your network.

If You Need Intesis Hardware...

Not only did we create this plugin but we have been working directly with Intesis to get the right support and information. As part of that, we've also become distributors for Intesis hardware that works with the plugin (e.g., any device that supports the WMP protocol). If you have AC units but don't know which WMP device to buy for your air conditioner, we can help you select the correct WMP-capable Wi-Fi adapter from Intesis and sell it to you if you like. In any case, we'll help you identify the right hardware to work with the plugin.

In general, if you have minisplit units (those with a fan head unit inside the house and a separate compressor unit outside) there will be an Intesis Wi-Fi module that connects directly to it (wired) to enable Wi-Fi connectivity and act as an WMP-enabled device. For portable air conditioners and other models that don't have a hardwired interface and only can be controlled by infrared (IR) remote, Intesis offers a WMP-enabled Universal IR device that will work with virtually any IR-capable unit.

Keep in mind that minisplit units usually are controlled with an IR remote unless thermostat controls have been installed. Because they have IR doesn't mean they are not capable of having hardwired controllers. Usually both methods will work at the same time for controlling AC units. Intesis supports virtually every manufacturer out there with hardwired WMP-enabled controllers. Generally it is only portable and other smaller units that don't have a way to connect a hardwired Intesis controller and will need to use the Universal IR unit.

If available, you will want to get a hardwired model as it will provide the greatest level of information and control but the Universal IR unit is quite good and provides nearly the same level of capabilities where no hardwired option is possible.

Think of the Intesis unit as an alternative for the Wi-Fi modules many manufacturers sell for their AC units. You don't need both. While those manufacturer-supplied units will give you Wi-Fi connectivity, they usually don't expose a local management interface like WMP and require you to go through their cloud service (which may not be supported for use by HomeSeer and other home automation platforms).

Please contact us by Private Message on the HomeSeer forums if you need to know which Intesis model to use for your air conditioner(s). We'll be happy to help find the right Intesis products whether you want to buy them through us or elsewhere.

Platform support

Windows, Linux and Pi configurations are all supported. .NET Framework 4.6.2 or equivalent is required.

Initial Setup

Once installed from the HomeSeer store, the plugin will install automatically on your system. Once activated on the Plugins->Installed page, the plugin will automatically start searching for WMP-compatible devices on your network.

NOTE: It is recommended that all your WMP-compatible Wi-Fi devices are powered up and connected to your Wi-Fi network before starting the plugin to aid in discovering all your devices.

We also suggest using your Internet router's ability to reserve the IP address for each Intesis adapter so that it always gets set to the same IP address when your network is restarted. Most modern routers support this function. The plugin does scan the network at startup to find all the Intesis adapters and will update IP addresses if it finds any changed in the network but this only happens at startup. If a device changes addresses while the plugin is running, it will be marked offline as the plugin doesn't

know why it can't reach the device, just that it is no longer responding on the address it was assigned. At the next startup of the plugin, it will rediscover the missing node and fix the address it has stored as needed but it is better in general to just have your Intesis modules stay on the same address all the time using the router address reservation function. The plugin also runs a task periodically every few hours to scan for new devices which will also repair IP address assignments for previously-discovered adapters that may have been changed by the router or Wi-Fi adapter being rebooted. When a unit is marked offline, this process is accelerated to more quickly restore units that just had an IP address change

If no devices are discovered, a message in the HomeSeer log will be generated indicating so and the plugin will begin periodically search for new WMP-compatible devices until some are found or the plugin is deactivated. Currently the plugin only adds devices by discovering them on the network automatically.

Once devices are discovered, the plugin will store them in the plugin INI file for later use and will create the appropriate HomeSeer devices and features to represent what is found. The WMP protocol reports what capabilities each device supports (for example, some HVAC devices don't have a Heat mode or only support a certain set of fan speeds) and the plugin will use these to build the correct HomeSeer objects for your device(s). This includes entire HomeSeer feature objects that will or won't be created depending on the capabilities of both the Intesis Wi-Fi adapter being used (e.g., the Universal Wi-Fi IR unit does not report **Error Code** or **Error Status** data and therefore the HomeSeer features for those are not created for those specific units. Since the Intesis WMP protocol is pretty intelligent about reporting what is supported, the plugin does its best to build only the objects that will provide actual functionality.

Once all the HomeSeer devices are created, the plug-in will start monitoring each Intesis device discovered, watching for any changes. The WMP protocol is also smart enough to report changes that occur on the device, whether caused by the plugin or a user with an IR remote control or thermostat. As such, polling is not required so network traffic is general should be light. The plugin leverages these change updates and periodically polls the state of each device to make sure no messages were missed or lost on the network.

HomeSeer Devices and Features

The HomeSeer devices and features created by the plugin can include the following.

NOTE: Not all of the these objects may be created depending on what capabilities each Intesis WMPcompatible device supports.

Unit-specific Devices and Features

Each Intesis WMP-compatible device can have some or all of these objects, depending on its capabilities. Where noted, objects that will *always* be present and those that depend on the device's capabilities are noted.

Main Unit Device

Required

Each Intesis device has a root object that is created with the name of the Intesis device it is associated with. These names usually start with "WMP_" and have a portion of the device's network MAC address

at the end. These names are expected to be unique. This name is also used for the "Room" setting on all HomeSeer Feature objects associated with this specific Intesis unit.

NOTE: As expected, you can change the name of the device in HomeSeer to make it more memorable and familiar (e.g., Master Bedroom) but this will not change the actual unit name on the Intesis device.

Connection Status *Required*

Each Intesis unit is connected to the plugin with a network connection that is always connected so that the plugin will receive any updates that occur. This is normal and expected operation for the Intesis modules. If all is working as expected, this field will be shown as "Online" for all units that are online and connected. Any marked "Offline" indicate a problem talking to the device that needs to be addressed. The device may be powered off or for some other reason not communicating on the network.

The plugin is designed to automatically attempt to reconnect to any units that are offline once they become accessible again. There should be no reason to have to restart the plugin to reconnect to such devices.

NOTE: When offline, no features for that unit will be updated obviously as there is no data to process. The previous values are left as they are (other than the Connection Status feature) and not updated until the unit is available again.

Current Temperature *Required*

This is the current (ambient) temperature being reporting by the Intesis unit, shown in the selected <u>Temperature Units</u> (see <u>Settings Options</u>). The value is reported in HomeSeer as both a numerical value as well as a formatted string in the form "nnn°U" where *n* represents the numerical digits of the ambient temperature and *U* represents the <u>Temperature Units</u> selected, 'F' or 'C'.

Temperature Setting

Required

This is the current setpoint for the <u>Mode</u> the unit is set to. In other words, the temperature you want the room to be. The value is reported in HomeSeer as both a numerical value as well as a formatted string in the form "nnn°U" where n represents the numerical digits of the setpoint temperature and U represents the <u>Temperature Units</u> selected, 'F' or 'C'.

It is possible that there is more than one setpoint temperature for the unit, based on the <u>Mode</u> (Cool, Heat, ...). If you change the unit's <u>Mode</u> setting, you may notice the setpoint value changing with it. The plugin will simply report whatever the unit tells it is the setpoint for the given <u>Mode</u> to preserve the information stored in the unit.

The range of temperatures that can be set are determined based on limits reported by the Intesis WMP device. The control buttons available are generated using this range. As most HVAC units are built in Asia these days, most of them use Celsius internally to set the temperature. For a number of reasons around the conversion and control of these values, we have limited the temperature increments

available to be 1 degree increments in Celsius mode and 2 degree increments in Fahrenheit mode. So, for example if the supported temperature setting range was 60-88°F, the available temperature settings would be 60, 62, 64, ...88°F. And if the supported temperature setting range was 16-32°C, the available temperature settings would be 16, 17, 18, ...32°C.

There are also +/- buttons supplied to increment/decrement the temperature setting through the available temperature setting options. For Fahrenheit mode, the +/- buttons will increment/decrement the temperature setting by 2°F and in Celsius mode by 1°C.

NOTE: During testing it has been observed that the Intesis unit will report a Temperature Setting of 32768 when the <u>Mode</u> is set to a temperature-independent setting such as Dehumidify/Dry or Fan to indicate the Temperature Setting isn't used in those modes. Once a mode like Cool or Heat is selected, a normal value will be reported again. The plug-in will display "--" (two dashes) as the string value of the property (you can configure it to something else if you like using the standard HomeSeer user interface) when a unit is in one of these modes. In charts, the Temperature Setting during this time will be reported as 0.

Fan Speed

Required

Reports the current fan speed setting on the HVAC unit. Both a numerical value and a string format label are reported based on the capabilities reported by the device. Each option supported is added as a button and state for the fan speed. There are a number of different fan speed possibilities (e.g., Auto, Quiet, High, ...) and combinations of them.

If you see different options on different models of HVAC units, this is expected.

Mode

Required

Reports the operating mode setting on the HVAC unit. Both a numerical value and a string format label are reported based on the capabilities reported by the device. Each option supported is added as a button and state for the operating mode. There are a number of different mode possibilities (e.g., Auto, Cool, Dry, Heat, ...) and combinations of them.

If you see different options on different models of HVAC units, this is expected.

Power

Required

Reports the power setting on the HVAC unit. Both a numerical value and a string format label are reported. Generally the states reported are "On" and "Off" but if a unit supports other power modes, they will be listed and available to use as buttons as well.

Horizontal Air Flow Direction *Optional*

If supported, reports the state of the horizontal (left/right) air flow vanes and provides corresponding control buttons for them. Not all HVAC units support this kind of control or state. They will only be created for HVAC units that report having the capability to control and monitor these vanes.

There are a number of different vane control possibilities (e.g., Auto, Swing, ...) and combinations of them, depending upon the HVAC unit capabilities¹. If you see different options on different models of HVAC units, this is expected.

Vertical Air Flow Direction

Optional

If supported, reports the state of the vertical (up/down) air flow vanes and provides corresponding control buttons for them. Not all HVAC units support this kind of control or state. They will only be created for HVAC units that report having the capability to control and monitor these vanes.

There are a number of different vane control possibilities (e.g., Auto, Swing, ...) and combinations of them, depending upon the HVAC unit capabilities. If you see different options on different models of HVAC units, this is expected.

Error Status

Optional

If supported, reports a high-level error status string for the unit. If all is operating as expected it should report "OK". Otherwise there will be a string reporting a problem. As this is very device-dependent set of information, there is no preset list of the possible error strings that may be reported. The plugin simply passes through what it is given by the WMP device.

Error Code

Optional

If supported, reports the error code, if any, being reported by the unit. If all is operating as expected it should report zero (0) as a string. As this is very device-dependent set of information, there is no preset list of the possible error strings that may be reported. The plugin simply passes through what it is given by the WMP device. It is reported as a string to avoid issues with HVAC units that report error "numbers" that include letters (e.g., "E05").

Total AC Units Device

Required

This root device represents information about all the HVAC units that have been discovered. Underneath this object are additional HomeSeer feature objects that report useful information about the Intesis-managed HVAC units that have been discovered by the plugin as a group.

These computed values allow you to use scripts and other code to watch for any of your HVAC units being offline, having an error code and so on rather than having to check each device individually.

¹ It is very possible that your HVAC unit may support only horizontal or vertical vane control but not both. The plugin will create only those features that are reported as supported by the device.

Total AC Units Discovered *Required*

Reports the total number of HVAC units managed by an Intesis device the plugin has discovered and saved.

Total AC Units On

Required

Reports the total number of HVAC units managed by an Intesis device that are currently in the "On" power state. Can have any value from 0 to the total number of HVAC units discovered, depending on the power states of the units on your network.

Total AC Units Reporting Error

Required

Reports the total number of HVAC units reporting an <u>Error Code</u> or <u>Error Status</u> value that isn't "0" or "OK", respectively.

If no HVAC units support reporting error codes and error status values (the <u>Error Code</u> and <u>Error Status</u> features are not present on any of the objects in HomeSeer representing your HVAC units), this value will always be 0.

Total AC Units Offline

Required

Reports the number of HVAC units that have been marked offline by the plugin. The plugin will mark a unit offline if the connection between the plugin and the unit is broken for whatever reason (power loss, network issue, ...). When a unit comes back online, the plugin will automatically reconnect to it after a few minutes and this count will be updated.

Settings Options

The options currently supported by the plugin are under Plugins->IntesisWMP->Settings.

Temperature Units

The **Temperature Units** option allows you to switch between Fahrenheit (°F) or Celsius (°C) units. When the option is changed and the **Save** button on the Settings page is pressed, the plugin will switch all its temperature related HomeSeer objects to the temperature units selected. This includes <u>Charts</u>, **Current Temperature, Temperature Setting** and the buttons for setting the temperature.

Default: °F

NOTE: Because all temperature data is stored in Celsius form in the plugin, switching the Temperature Units while running the plugin will cause no issues for <u>Charts</u>. When they are generated, if Fahrenheit values are needed, temperatures are converted on the fly by the plugin and sent to the chart. In this way the data can be charted without big jumps between the values from different temperature scales. All data will either be shown as Celsius or Fahrenheit on the charting page, controlled by the Temperature Units setting.

Enable Debug Logging

Turns on the debug logging output for the plugin. This is output that will aid su in tracking down problems if you have one with the plugin. Generally there is no reason to turn this on during normal operation as it will fill your HomeSeer Log with a lot of unneeded data.

Default: Off

Offline Devices

When HVAC units go offline or are inaccessible on the network while the plugin is running, the plugin will recognize this and mark the <u>Connection Status</u> feature as "Offline". Once offline units are available again, the plugin will detect this and reconnect to the unit and resume collecting data and allowing changes to its operation. This may take a few minutes as the plugin verifies that the unit is really online again before it attempts reconnecting.

If a unit that has already been saved to the plugin's database is offline when the plugin starts up, that unit's <u>Connection Status</u> will be marked as "Offline" and the plugin will periodically check to see if the unit has become available and then reconnect.

Charts

Each HVAC unit being monitored has a set of charts available that are tracking the current day's data regarding the unit's operation. The charts monitor useful information such as:

- > Power
- ➢ Mode
- Fan Speed
- Ambient Temperature
- Setpoint Temperature
- Connection Status

The page automatically refreshes the data and charts every 30 seconds when the page is open in a browser. There is a dropdown selection list populated with the names of all the discovered Intesis devices on your network. You may choose any device from the list and the page will update to display the charts for that device.

If you change the name of one of the <u>Main Unit Device</u> for an HVAC unit in HomeSeer, that name will be shown instead of the "WMP_nnnnnn" name each unit has built in. This way your charts will have a more familiar name for you to recognize like "Kitchen" or "Living Room" as part of the title. The selection list at the top of the page will show this name as well to make choosing the right charts easier. After renaming a <u>Main Unit Device</u> HomeSeer device, you will need to refresh the Charts page for the selection list to update have the new name.

It can take a minute or more for the page to load, depending on your HomeSeer server and network performance. There can be a <u>lot</u> of data to chart if you get a lot of temperature changes over the day. Be patient.

NOTE: If the plugin is disabled or for some reason not running, data cannot be recovered for the time it was not running. The plugin will use any data it has stored that is within the last 24 hour window along with any new data collected to draw the charts.

NOTE: If the <u>Temperature Units</u> are changed during plugin operation, the charts will adjust and show all previous and future data points in the selected units. All temperatures are stored internally as Celsius values and only converted to Fahrenheit (if those units are selected) when chart data is requested. You may need to refresh the Charts page after switching temperature units although it should refresh itself periodically.

Raw Data

The <u>Charts</u> are useful to check how your AC units are operating but the raw data these charts are based on are available for download as well from your HomeSeer server. Along with the data you see in the <u>Charts</u> there are many more data points collected including:

- > Timestamp
- > Power
- > Mode
- Fan Speed
- Temperature Setting
- Temperature Units (0: Fahrenheit, 1: Celsius)
- Current Temperature
- Connection Status
- Horizontal Air Flow mode
- Vertical Air Flow mode
- Error Code
- Error Status
- Total Units Discovered
- Total Units On
- > Total Units Reporting Error
- Total Units Offline

For each record, all values are recorded. Generally data points are recorded whenever something changes (e.g., Current Temperature or Fan Speed), whether changed via the plugin or otherwise. Typically each record will only have one item that changed but all data is captured so that you will have complete data across the entire window of time.

The data is stored as a JSON array in a text file with each piece of data being a name/value pair representing the data listed above. This format can be imported into a number of tools for more sophisticated analysis and charting.

An example of what one of the JSON records would look like in the data file is shown below. Each daily file will contain the records for all units being managed by the plugin in a single array. To distinguish between units, simply use the UserDeviceName property which will contain either the unique name of the device or the name you've assigned the device in the HomeSeer user interface, if one has been set.

```
"TimeStamp": "2021-07-10T17:09:52.446862-10:00",
"UserDeviceName": "WMP 123456",
"OperationMode": 4.0,
"FanSpeed": 3.0,
"Power": 0.0,
"SetPTemp": 22.0,
"CurrentTemp": 29.2,
"TemperatureUnits": 1.0,
"TemperatureUnitsString": "C",
"VaneLR": 0.0,
"VaneUD": 0.0,
"ErrorCode": "0"
"ErrorStatus": "OK",
"ConnectionStatus": 1.0,
"TotalUnitsDetected": 3.0,
"TotalUnitsOn": 2.0,
"TotalUnitsReportingError": 0.0,
"TotalUnitsOffline": 0.0
```

}

The number of points that will be stored for your AC units each day will depend entirely on the usage. If there are a lot of settings changes during the day, there will be more points. Most changes will be from the Current Temperature changing during the day.

While the Wi-Fi signal strength (also referred to as RSSI) is monitored and reported on the <u>Discovered</u> <u>Intesis Devices</u> page by the plugin, it is not stored in the data due to the sheer number of small changes that occur over time. Keeping these changes would create a flood of low-value data.

The Timestamp field is stored in standard ISO 8601 format that can be used directly by charting software.

The state values for Power, Fan Speed, ... all use exactly the same numerical values as are shown in HomeSeer. ConnectionStatus = 0 is "Offline" just as it is in the <u>Connection Status</u> feature object in the HomeSeer user interface. In some cases, like Connection Status, there are consistent mappings between numerical and string values. In other cases, as the capabilities vary across HVAC units, the mappings may not always be the same between these values across different devices. For example, Fan Speed options vary among different HVAC units. Some have a "Quiet" fan speed, others do not, but they may use the same numerical value for different Fan Speed labels. The mappings shown in the HomeSeer user interface will be correct and the same numerical values will be in the data records. Use the labels from the HomeSeer user interface to identify each value's appropriate text label. Conversely, the <u>Mode</u> feature may have more or less options available depending on what the HVAC unit supports but will never use different numerical values for the mode labels. Cool will always be value 4.0 in the data records and HomeSeer user interface for the <u>Mode</u> feature.

When a new day begins, the JSON data file for the previous day's records is written to the directory (HOMESEER)/html/IntesisWMP in the format MMddyyyy.json, where MM = month, 01-12, dd = day 01-31, yyyy = year the data is collected for. To retrieve this data, simply download it with a Web browser using a URL like the following:

http://YourHomeSeerServerAddressOrName/IntesisWMP/12012020.json

This should retrieve the data for December 1, 2020 from your HomeSeer server, assuming the data is present on your system. Simply save it to your computer when prompted by your Web browser.

There are also convenient download links at the bottom of the <u>Charts</u> page for the files that are currently available.

Keep in mind that this data won't be recorded until the end of the day so it won't be there right after you start the plugin. The file will typically be written around midnight each day. Currently, the last 10 days' worth of data files are preserved on the HomeSeer server. After this, files older than 10 days are purged to avoid consuming too much disk space. If you wish to preserve this data for later use, please make a copy of the files in a separate location.

Deleting AC Units No Longer In Service

While it seems that an AC unit would need to be deleted very rarely, it is still conceivable that it would be necessary if the Intesis Wi-Fi unit needed to be replaced due to a failure or an upgrade. To delete an AC unit completely from the plugin, including its own internal database of discovered devices and any HomeSeer devices and features associated with the unit, simply go to the Device Configuration page for the <u>Main Unit Device</u> for that unit. For example, if unit WMP_1A242B has been removed or replaced in your system and won't be returning, go to the Device Configuration page for WMP_1A242B on the HomeSeer Devices page. On that page is a toggle control to delete the device entirely from the plugin and HomeSeer.

Once on the Device Configuration page for WMP_1A242B, enable the toggle control and press the **Save** button.

NOTE: Once the **Save** button is pressed, there is no further confirmation or way to stop the deletion process. Please make sure it is what you would like to do before pressing **Save**. If you do delete the device accidentally, as long as it is still on the network, it will be rediscovered the next time the plugin starts and the object for it recreated. Only any customizations you've made to the deleted objects and any historical data saved for the last day will be lost.

If a new unit is replacing the one being deleted, you may delete the old device as described above and then restart the plugin to detect the new unit.

Discovered Intesis Units page

The Discovered Intesis Units page is a single place to see more detailed information about the Intesis units discovered on your network. Information includes:

- Device Name
- > IP Address
- MAC Address
- Model
- Software Version
- Wi-Fi Strength
- Connection Status

You can reach this page by selecting the Plugins->IntesisWMP->Discovered Intesis Units menu item.

Repair Intesis Adapter IP Address Page

There are times when an Intesis Wi-Fi adapter might connect well to the plugin but doesn't always receive/respond to the periodic network discovery broadcasts the plugin uses to detect IP address changes on Intesis adapters. If you have locked your adapters using address reservation on your router (see <u>Recommended Best Practices</u>), the addresses should never change and there will be no need to use this page. In cases where address reservation can't be used or if an adapter changes its IP address but doesn't respond to the discovery messages, you may have to manually update the IP address to restore the connection.

For example, when you first set up your adapters, the one in your kitchen might have started with address 10.0.0.15. Sometime later the adapter has gotten a new IP address (e.g., 10.0.0.22) and the plugin marks it as Offline. Normally the periodic discovery mechanism would see this change and automatically correct it by updating the adapter's address in the plugin settings. This would happen automatically with no intervention from you. As noted, however, there are cases where an Intesis adapter might not always receive the discovery broadcasts and therefore it will stay offline. We've seen this where Wi-Fi strength/reliability at the edge of your network may be weak. In this situation it may take a while for the unit to get update or it may not happen at all if the discovery messages are consistently lost.

To solve this situation, we've provided the Repair Intesis Adapter IP Address page. This is a guided process that will give you a list of all offline adapters to choose from, if any. Adapters showing as online and connected will not appear in the list so that they can't accidentally be changed. Select the adapter you wish to repair and when prompted, supply the new IP address you wish to use for the adapter. This should be in standard IP address format (nnn.nnn.nnn, where nnn is any number from 0-255). The plugin will do basic validation on the new address and, if it is a valid IP address, will apply this address to the adapter and attempt to connect to it. If the change is successful, the adapter will come back online within 1-2 minutes after the plugin verifies it is working and a valid Intesis adapter. No action is required for this to happen. The plugin is smart enough to recover the connection without having to be restarted.

If the unit doesn't come back online, chances are it is either powered off, disconnected from your Wi-Fi network or the new IP address isn't correct. Use your router's list of connected devices to verify the adapter is connected and that you have the correct address for it before trying again.

Recommended Best Practices

In using the plugin for several home automation installations, we have found a few best practices that help make things run smoother. We recommend you follow these practices as best as possible to get the best results.

• Use your router's address reservation function to lock the network IP addresses your Intesis Wi-Fi adapters use. It is best to do this after joining all the adapters to your Wi-Fi network but *before* letting the plugin discover them. The plugin is capable of detecting changes to IP addresses after discovery and correcting them but it is easiest to have everything locked first.

- Avoid using the Intesis Config Tool for WMP devices (IBOX-WMP-CONFIG) while the plugin is running. The tool will connect to the management port for the adapters and block the plugin from connecting. To resolve the issue, simply exit the Intesis Config Tool for WMP devices and restart the plugin as needed. This is a useful tool to use at times but you simply need to avoid using it at the same time the plugin is running.
- Only have one Wi-Fi path between the HomeSeer server and the Intesis Wi-Fi adapters. In other words, since the Intesis adapters are by definition connected to Wi-Fi, make sure the HomeSeer server has a hardwired Ethernet connection to the main router (not a satellite unit on mesh networks if possible). While we've found the Intesis adapters are pretty good at staying connected, even at the edge of your network signal, the discovery packets used to find the adapters and update plugin settings when an adapter's IP address has changed (assuming it isn't locked using address reservation) can get lost in low signal situations. With two Wi-Fi segments to traverse, it is very easy to lose the discovery message or a response to it. We've found things are far more robust if the only Wi-Fi link involved is between the Intesis adapter and the router. Remember, the all Wi-Fi adapters, including those made by Intesis, are small and have small antennas to transmit with.

HomeSeer 4 Category

In order to leverage the full capabilities of HS4 and make the plugin as useful as possible, all of the HomeSeer objects created by the plugin are marked with the "Climate" category. To see only climate-related objects on your system, simply go to the main HS4 Devices page and select the "Category" button near the top and select the "Climate" option. This will limit the Devices page to only show items in your system that are climate related.