



Pentair IntelliCenter v2.5.0 Crestron Home™ Driver Application Guide

Description

This Crestron Home driver controls a Pentair IntelliCenter and supports 2 bodies of water and their filter circuits, 30 Circuits, 30 Feature Circuits, and 30 Circuit Groups. Support for IntelliChem, and IntelliChlor will be in a future release.

This Crestron Home driver uses an Instance License that can be obtained at store.controlworks.com. Each combination of Crestron Home processor and IntelliCenter controller requires a separate license in order to function. See below for [detailed instructions on license ordering and activation](#).

To use a Pentair IntelliCenter in SIMPL Windows see our module at <http://www.store.controlworks.com/Modules/Product.aspx?pid=3118>.

Supported Processors

This driver is supported in a Crestron Home processor running Crestron Home OS version 3.014.0087 or later.

Table of Contents

Description	1
Supported Processors	1
Adding the Driver to a Crestron Home System	3
Steps for Purchasing a License	6
User Interface Overview.....	9
Home Tile	9
Trial Mode	9
Pool and Spa Controls	10
Circuits	11
Auxiliary Circuits	11
Circuit Groups and Feature Circuits.....	12
Service Mode	12
Driver License Overview.....	13
License Changes.....	13
Trial Period	13
Integration Notes	14
Sequences.....	14
Determining the IP address of the IntelliCenter	14
Reading the IntelliCenter Configuration and Unsolicited Responses	14
Future Release Features	14
Knowledge Base	15
Support	16
Distribution Package Contents	16
Revision History	16
Development Environment	17
ControlWorks Consulting, LLC License Agreement	18

Adding the Driver to a Crestron Home System

Note: These instructions and screenshots have been prepared with CP4-R version v3.009.0107 for Crestron Home. Future updates to Crestron Home may result in changes to the appearance or the steps required to implement the Driver.

1. This Driver requires an [Instance License](#) for permanent activation. If no license has been purchased the Driver will enable in [Trial Mode](#) for 30 minutes. Ensure the Crestron Home Processor has been configured to have Internet access for the driver to successfully reach ControlWorks Activation Servers. More information on configuring Crestron Home Ethernet Settings can be found at <https://docs.crestron.com/en-us/8525/Content/CP4R/Installer%20Settings/Sys-Config/Ethernet-Settings.htm>
2. Using the Crestron Home Setup App, navigate to the driver by pressing Menu > Settings > Configure System > Pair Devices > Drivers. Crestron Home will automatically update the list with any drivers that have been Side Loaded to the Crestron Home Processor.

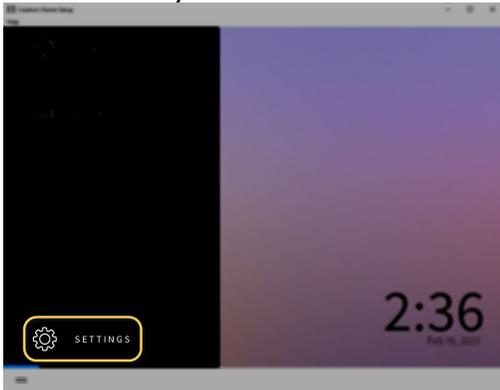


Figure 1 – Configure System

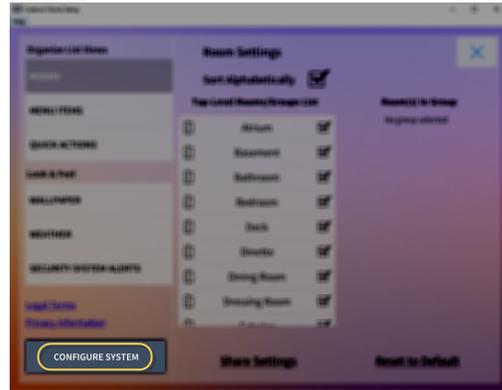


Figure 2 - Settings Menu

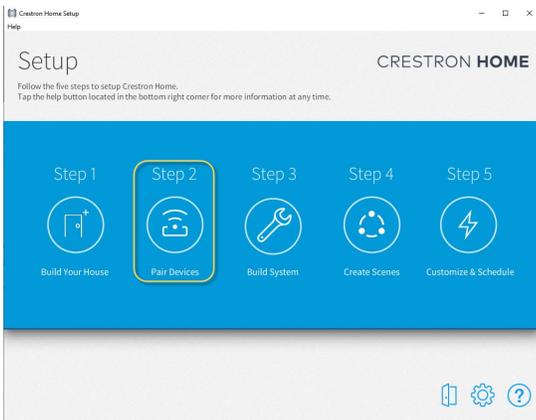


Figure 3 - Pair Devices

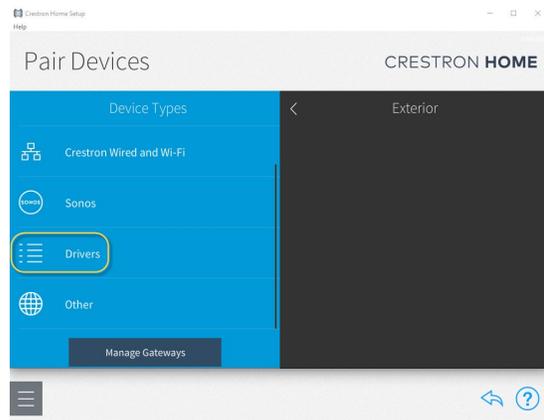


Figure 4 - Drivers Selection

3. After Crestron Home refreshes the Driver list, scroll the list of Drivers to locate and select the Pool Controller category, then select Pentair.

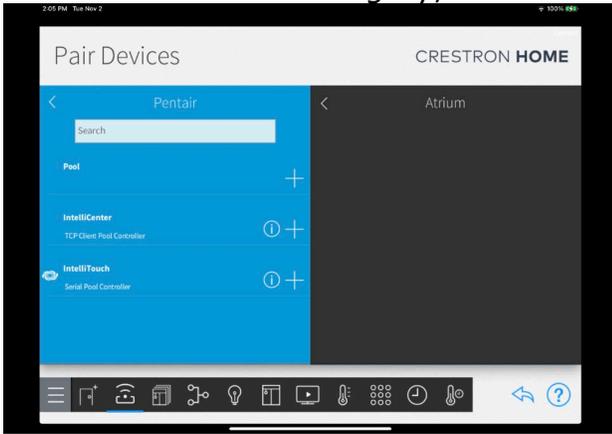


Figure 5 - Locating ControlWorks

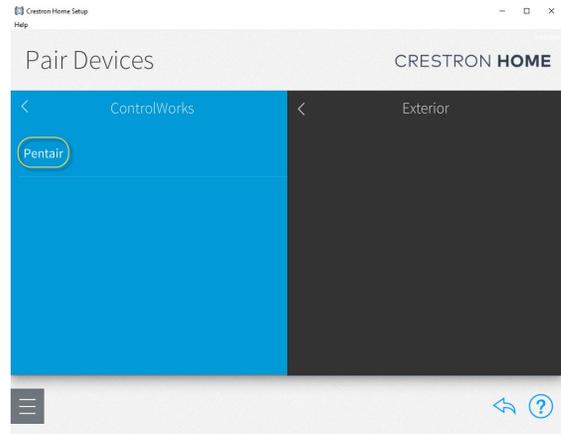


Figure 6 - Select Pentair

4. Choose a Room from the "Select a Room" list that the IntelliCenter is to be added to, then select the + button next to the IntelliCenter driver to add the driver to the room.

Note: No room controls are added with the IntelliCenter Driver, all controls are accessed via the Home Page.

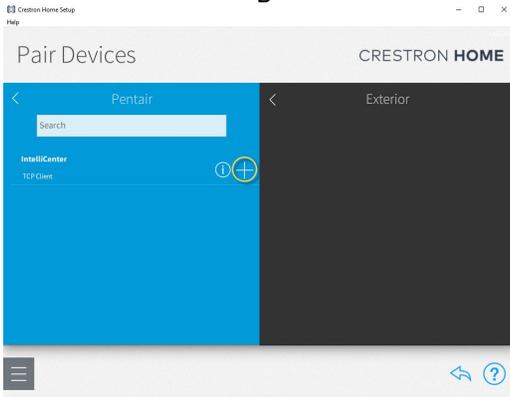


Figure 7 - + Button to Add

5. Enter a name of your choosing for the driver then enter the IP Address of the IntelliCenter. The Name is displayed on the Crestron Home tile. See [Locating device on your LAN](#) if you are unsure of your IntelliCenter's IP address. The port number will be prepopulated with the default information, and in most cases should not be changed. Do not check "Requires Authentication".

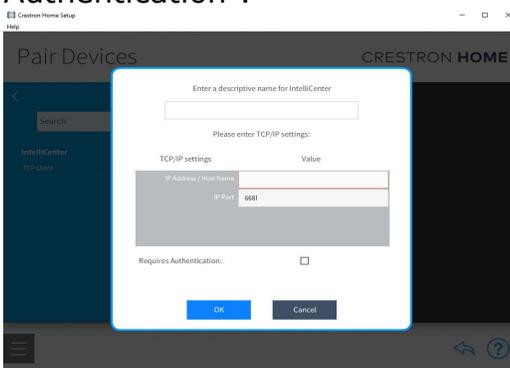


Figure 8 - Adding Description and IP Address

6. Press OK, and the driver will be added to the system. If no license has been found by the ControlWorks Activation server, the Trial Mode will start. The module will be fully functional during the trial period.



Figure 9 – Trial Mode Active On Home Tile

Steps for Purchasing a License

Licenses are unique to the specific Crestron Processor and IntelliCenter combination. The steps below outline how to purchase a license and activate your driver.

1. Ensure the Crestron Home Processor has been configured to have Internet access **including** DNS Servers defined
 - For more information on configuring Crestron Home Ethernet Settings, please visit <https://docs.crestron.com/en-us/8525/Content/CP4R/Installer-Settings/Sys-Config/Ethernet-Settings.htm>
2. Ensure the IntelliCenter Driver has been added to the Crestron Home system, and is connected. The IntelliCenter Tile on the Crestron Home or Room Page should say "TRIAL MODE ACTIVE" and not "Offline". Additionally, when navigating to the DoorBird page, the UI will display "License Required" with an option to view the license details.
 - If the Tile indicates "Offline", either the trial period has expired, or the processor cannot connect to the IntelliCenter. If the IntelliCenter is offline because Trial Mode has expired, you may simply reboot the Crestron Home processor and the Trial Period will restart.
 - If you have rebooted the processor and the Tile still indicates "Offline", please check the Crestron processor's Error Log for more information. The processor's error log retrieved using Crestron Toolbox will include information needed to diagnose reasons why the Driver cannot connect to the IntelliCenter.
3. Retrieve the Activation Key using one of the following options:
 - Touch the IntelliCenter Tile on the Home or Room page. At the top of the page, if the Driver is in Trial Mode, "License Required" will be displayed. Touching the "Details" button will display the License information page, which includes a field for the Activation Key. Make note of the Activation Key.

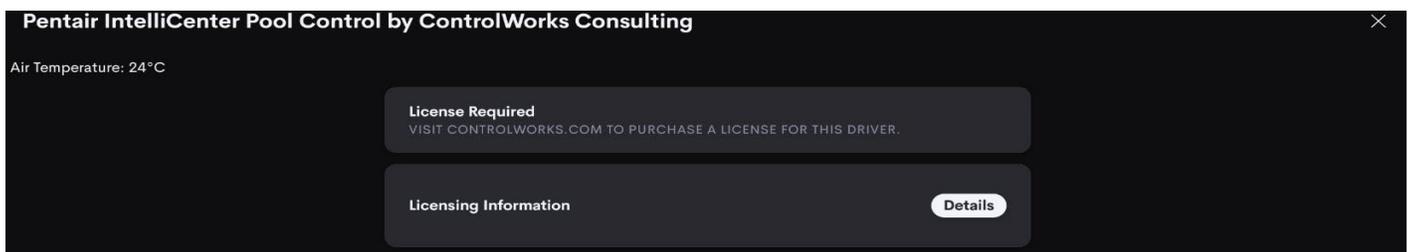


Figure 11 - Licensing Information

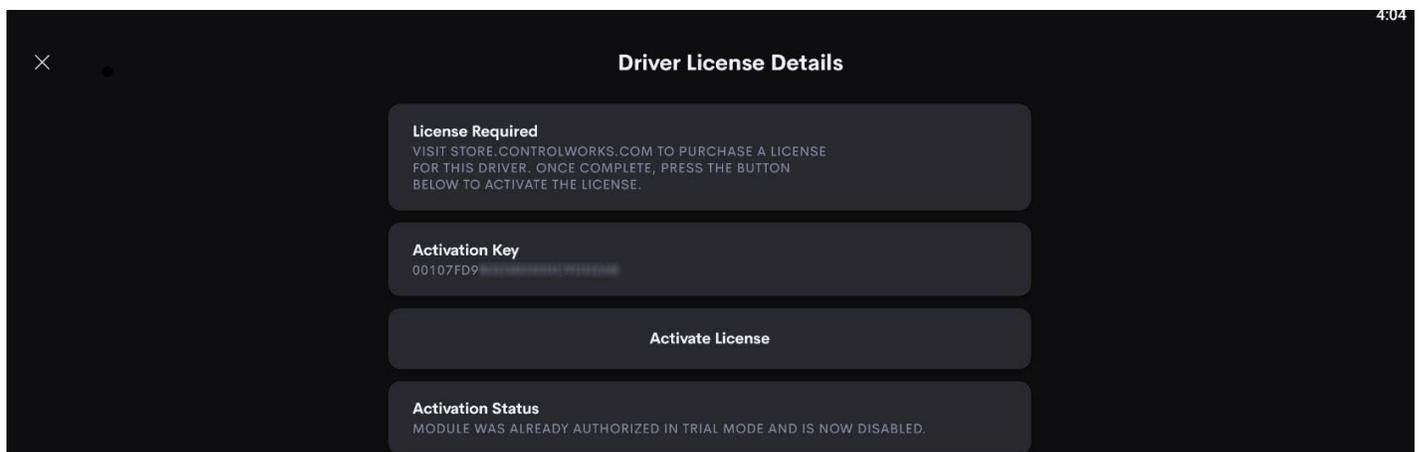
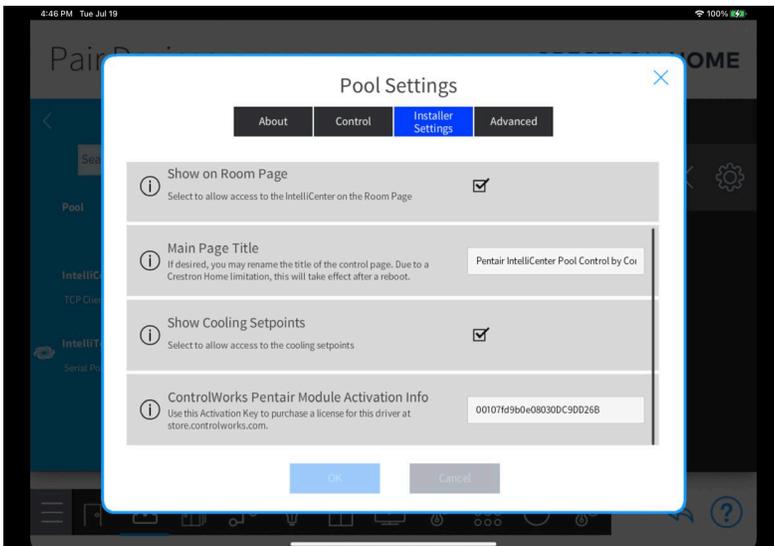


Figure 10

- Using the Crestron Home Setup App, navigate to the Driver by pressing Menu > Settings > Configure System > Pair Devices > Select the Room the IntelliCenter was added to, then select the gear icon to access the driver settings. Select Installer settings and copy the Activation Info.



4. Purchase the License

- In a web browser, navigate to <http://www.store.controlworks.com/Modules/Product.aspx?pid=3119>. Enter the Activation Key copied from the previous step and enter the Site Name where prompted. The Site Name may be any descriptive text you wish. The Site Name is not part of the license but is used for to aid in future support and for your reference. Finally, click the "Order Online to Activate License" button.
- Your License will be added to the Shopping Cart. Complete the checkout process. When checkout has been completed the License will be immediately generated by ControlWorks' activation servers and will available for retrieval by the Crestron Home Processor.

5. Finally, for the Driver to retrieve the newly purchased License, the driver must check in with our Activation Servers. This can be done several ways:

- Touch the IntelliCenter Tile on the Home or Room page. At the top of the page, if the Driver is in Trial Mode, "License Required" will appear. Touching the "Details" button will display the License Information page, Touch the "Activate License" button and the Driver will connect to our Activation Servers to validate the purchase; or,
- If the Home Tile indicates "TRIAL MODE ACTIVE", the Driver will automatically check the Activation Servers for a license when the trial mode expires. If a license is found, the Driver will be activated automatically; or,
- Restart the Crestron Home processor. If the Driver has not previously received a license, the driver will reach out to the Activation Server to check for a License when the Crestron Home processor restarts; or,

- Open Crestron Toolbox and connect to the Crestron Home processor using Text Console in Crestron Toolbox. Issue the command [`CWCOMMAND RETRYAUTH`], and the Driver will check for a license.

Once the Driver has retrieved its License, the License information is cached on the Processor and the Driver will not need to contact ControlWorks Activation servers in the future. Certain Crestron recovery or troubleshooting procedures may clear the license information; if this occurs the Driver will automatically check for a license with ControlWorks Activation Servers to check for the License. If this becomes necessary, the process will occur automatically and transparently as long as the processor has Internet access. (Refer to [step 1](#) for additional information).

User Interface Overview

This section describes the general operation of the customer facing user interface, however the exact configuration and display of the driver is dependent on a number of factors such as the user interface being used and the configuration of your pool controller.

Home Tile

Crestron Home displays the Driver on the home page as a tile which is created automatically when the Driver is added to a system. The name of the driver as configured during [Step 6 of Adding the Driver to a Crestron Home System](#), will be displayed in the tile. To access the driver controls, select the home tile.

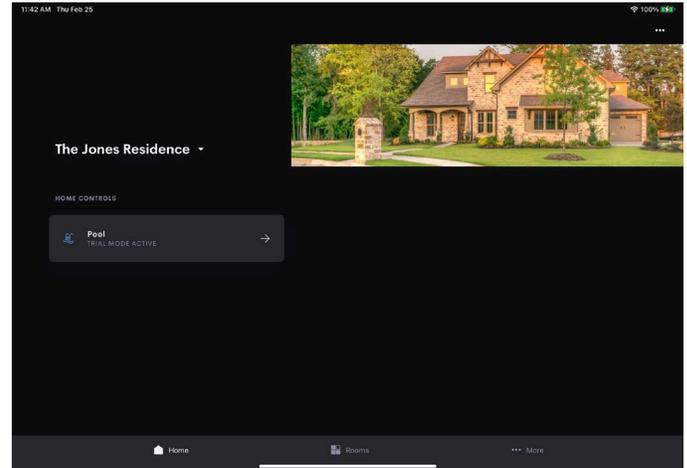


Figure 12 - Home Tile

Trial Mode

If the driver is currently running in trial mode, the trial mode indicator will be displayed on the driver controls page.

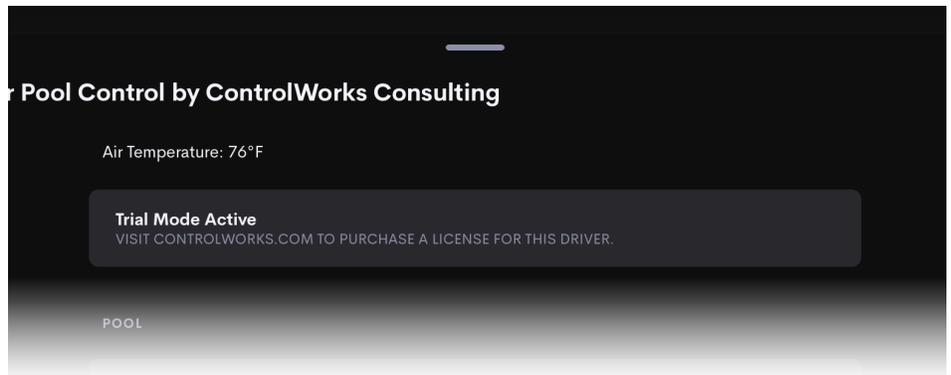


Figure 13 - Trial Mode

Pool and Spa Controls

This section of the Driver contains controls for the Pool, Spa, or both (each a "body of water" or "body") depending on the configuration of the pool controller.

The name of the control group, as well as the name of the body is populated with the name of the body as configured on the IntelliCenter.

If the body is off, the temperature is not reported, and the text for the body temperature changes from "Current Temperature" to "Last Temperature".

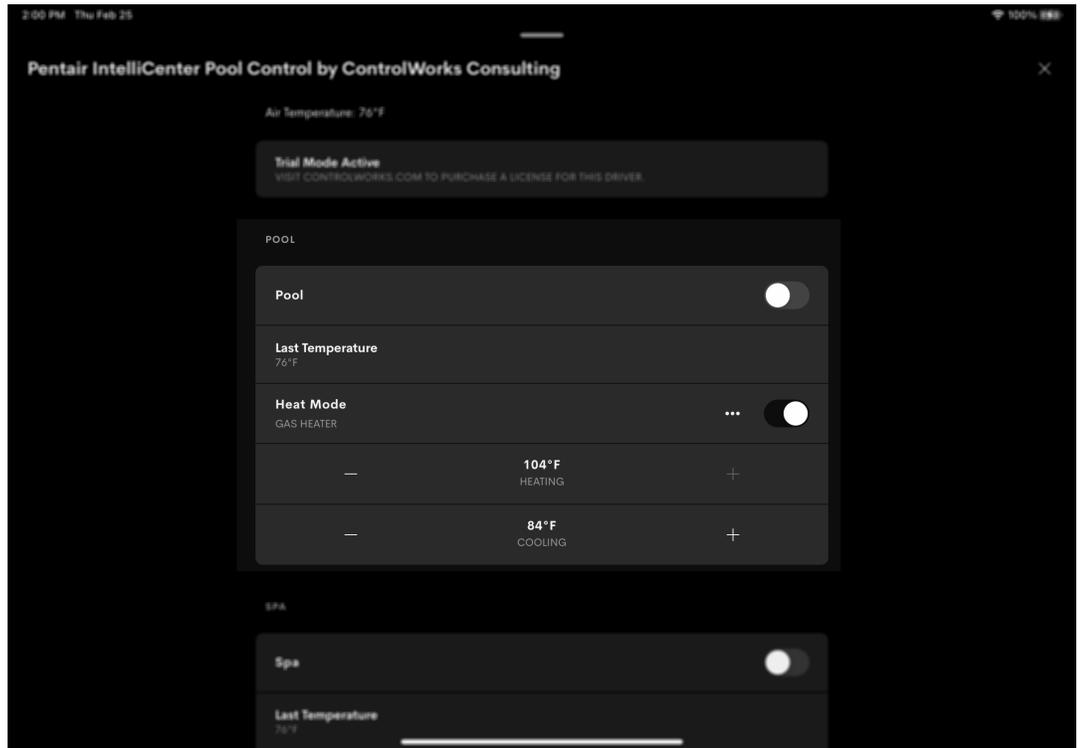


Figure 14 - Body Controls

The heater toggle control, toggles between the last selected heater, and off. Additional heaters can be selected by touching the ellipses, and then selecting a heater. Available heaters depend on the configuration of the IntelliCenter controller.

Heating and cooling controls are only available if a heater has been selected. If no heater is selected, the temperature controls are not visible.

If the heater does not support cooling, the cooling controls will not have any effect.

Circuits

If the Pentair IntelliCenter contains an Auxiliary Circuit, Circuit Group, or Feature Circuit, the corresponding group buttons become visible. These buttons are always located under the body controls.

Selecting a one of the three options will take the user to the corresponding control page where a list of available circuits will be presented.

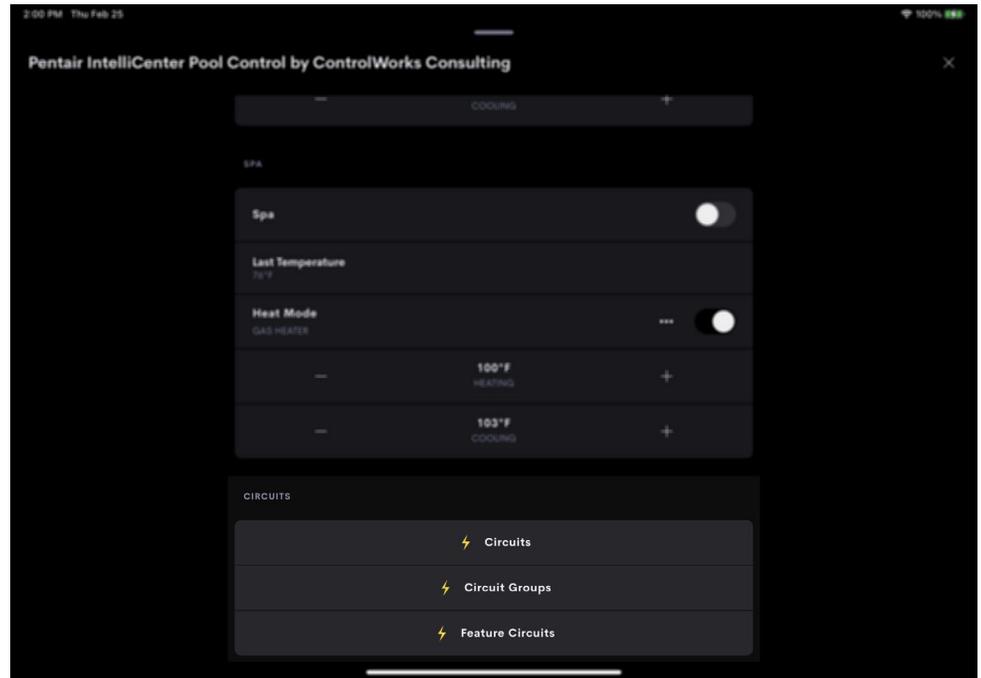


Figure 15 - Circuits Top Level

Auxiliary Circuits

Selecting Circuits from the main Driver control page will take the user to a Circuit control page that displays any available Auxiliary Circuit. Touching the toggle button, will toggle the state of the Circuit. If the Auxiliary Circuit is a type that supports additional controls, an ellipsis will appear, and when touched displays a list of available controls for the Auxiliary Circuit type. The name of each Auxiliary Circuit is defined in the Pentair IntelliCenter.

If an Auxiliary circuit name is changed, to have Crestron Home reflect the updated name, simply restart the Crestron Home processor.

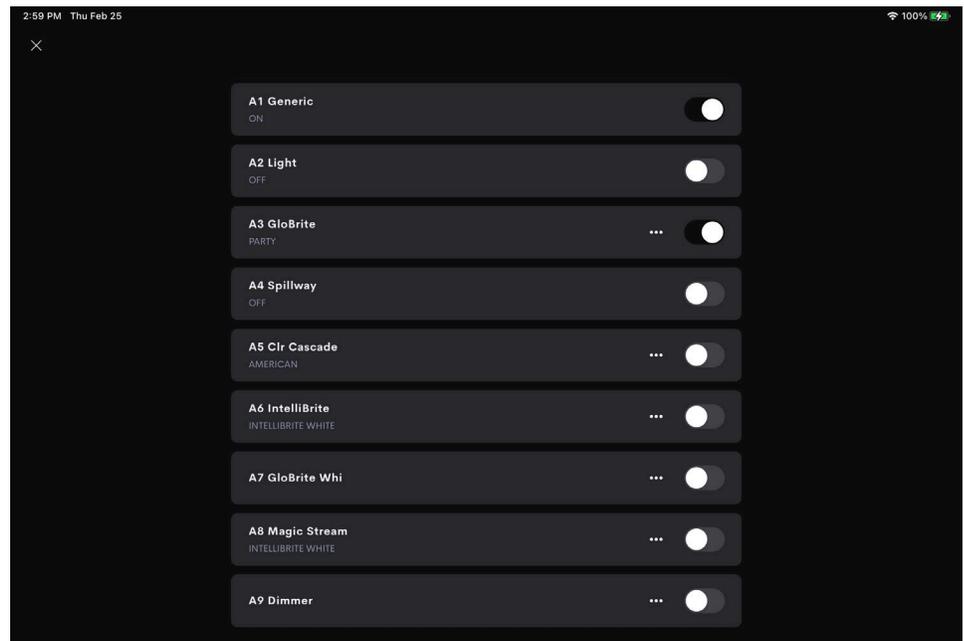


Figure 16 - Auxiliary Circuits

Circuit Groups and Feature Circuits

Selecting Circuit Groups or Feature Circuits from the main control screen will take the user to a Circuit control screen that displays all available Circuit Groups or Feature Circuits. Touching the toggle button, will toggle the corresponding circuit's state. Unlike some types of Auxiliary Circuits, Circuit Groups and Feature Circuits only support on and off, so do not have additional controls available. The name of each Circuit Groups or Feature Circuits is defined in the Pentair IntelliCenter.

If a circuit name is changed, to have Crestron Home reflect the updated name, simply restart the Crestron Home processor.

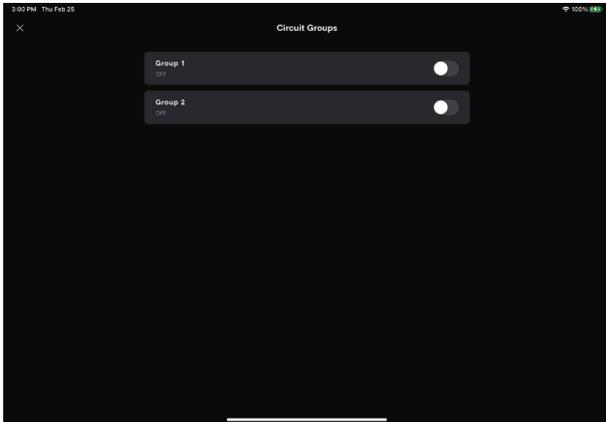


Figure 17 – Home Tile Offline

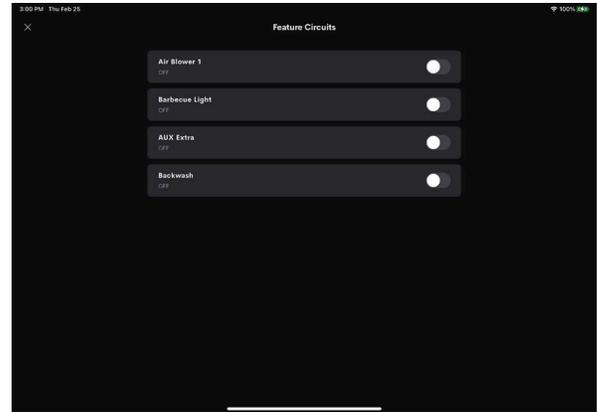


Figure 18 – Trial Mode Active on Home Tile

Service Mode

If the IntelliCenter is placed into service mode, the home tile will display service mode active, and an alert icon is displayed inside the tile. Additionally, if a user is on the IntelliCenter controls page, a message is displayed indicating that controls are temporarily disabled. NOTE: Service mode can only be engaged and disengaged from the IntelliCenter control panel.

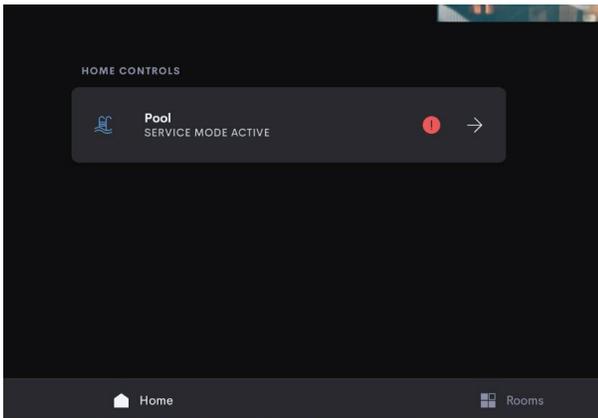


Figure 20 – Service Mode Home Tile

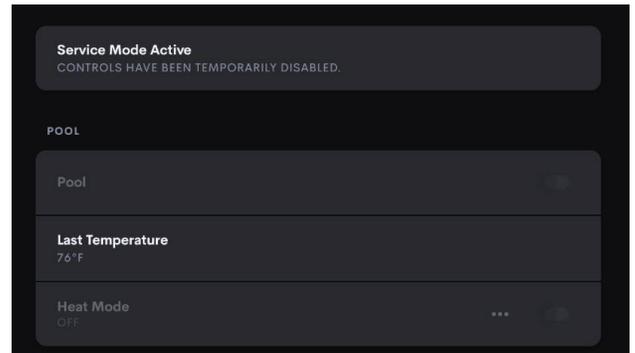


Figure 21 – Service Mode Active on Main Controls Page

Driver License Overview

This driver requires an Instance License that can be purchased from <http://www.controlworks.com/Modules/Product.aspx?pid=3119>. Each Driver instance in Crestron Home requires a separate license in order to function. Licenses are tied to the specific combination of a Crestron Home processor and an IntelliCenter controller.

License Changes

If a device fails and is replaced (IntelliCenter Control Panel or Crestron Processor) the license will need to be updated. ControlWorks offers one complimentary transfer of the license as described in the [ControlWorks Consulting, LLC License Agreement](#). Subsequent changes to either device (IntelliCenter or Crestron Processor) a handling fee will be assessed to transfer the license. We encourage the use of our 30-minute [trial period](#) prior to purchasing a license to allow for testing and evaluation.

Trial Period

To aid testing, the Driver includes a complimentary trial period of 30 minutes; during this time the Driver is fully functional. Trial functionality only works for systems that have an active Internet connection and are able to reach ControlWorks' Activation servers.

When Crestron Home starts, or the Driver is added to a Crestron Home system, the Driver automatically attempts activation. If the Driver has not been previously activated and doesn't retrieve a valid license when checking the Activation server, the 30-minute trial period will be enabled. After 30 minutes, the Driver will automatically attempt reactivation. If a license has been purchased, the Driver will retain full functionality; if a license has not been purchased the Driver will be disabled and will display "OFFLINE" in the Crestron Home tile. If you require additional trial time, simply restart the Crestron Home processor to reset the trial period.

To prevent abuse of this service, the total number of trial activations for any individual IntelliCenter or Crestron Processor may be limited in ControlWorks sole discretion.

Integration Notes

Sequences

The full steps to create Quick Actions in Crestron Home can be found here:

<https://docs.crestron.com/en-us/8525/Content/CP4R/Installer-Config/Configure-Quick-Actions.htm>.

The Pentair IntelliCenter Driver supports a variety of sequence types, however since each Pool system is unique, the available sequences are based on the actual hardware configuration. Below is a list of sequence types supported at this time:

- Body On
- Body Off
- Circuit On
- Circuit Off
- Circuit Group On
- Circuit Group Off
- Feature Circuit On
- Feature Circuit Off
- Setpoints

Note that updating or removing the IntelliCenter Driver will break the link to the IntelliCenter Driver in any Quick Actions, and will have to be manually readded.

Determining the IP address of the IntelliCenter

From the IntelliCenter controller touchscreen, select Settings -> Advanced System Configuration -> Network and WiFi setup. On that page, the IP address will be displayed.

Reading the IntelliCenter Configuration and Unsolicited Responses

The Pentair IntelliCenter provides unsolicited responses after the Driver has subscribed to requested values. After the Driver validates its license or trial status and is connected to the IntelliCenter, the Driver will read the configuration, and setup subscriptions to receive change of state messages. If your configuration changes on the pool controller, restarting the Crestron Home processor will acquire all new data points from the IntelliCenter and the updated configuration will be reflected on the User Interface.

Additionally, if the TCP/IP connection between the Crestron Home processor is lost and reconnects for any reason such as removing and restoring Ethernet link or rebooting a network switch, the driver will automatically rebuild the configuration and update the User Interfaces when connectivity is restored.

Future Release Features

The below items that are not currently supported in the Crestron Home implementation of the Driver, but are expected to be added at a later time:

- IntelliChem
- IntelliChlor

If you find a specific feature missing, or want to request specific functionality, please [contact us](#) with your suggestions.

Knowledge Base

Please be sure to visit our Knowledge Base for additional information that can assist in deploying your Crestron Home solution using ControlWorks drivers at <http://controlworks.com/ResourceLibrary/KnowledgeBase.aspx>.

Support

This Driver is supported by ControlWorks Consulting, LLC. Should you need support for this Driver please email support@controlworks.com or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have the Driver loaded into the Crestron Home system, and have reviewed the error log.

Updates, when available, are automatically distributed via Email notification to the address entered when the Driver was purchased. In addition, updates may be obtained using your username and password at <https://www.controlworks.com/Customers/Login.aspx>.

Distribution Package Contents

The distribution package for this module should include:

Distribution Contents	
PentairIntelliCenter.pkg	Crestron Home Driver
Pentair_IntelliCenter_Crestron-Home_V2.5.0_Help_(ControlWorks).pdf	This Help file

Revision History

V2.5.0 caleb@controlworks.com 2022.07.19

- Added the ability to display the Tile on the home page, room page, neither or both.
- Added the ability to rename the Title on the home page.
- Added the ability to hide the cooling setpoints.
- Added a workaround to still have temperature controls if IntelliCenter reported incorrect heater for body of water.
- Added Celsius support.
- Updated quick actions to have heating and cooling setpoints in Fahrenheit and Celsius
- Updated SAM colors as there were colors in the list that were not supported.
- Added quick actions for body heat type and state.

V2.3.0 caleb@controlworks.com 2022.02.16

- Heaters and temperature controls were not visible due to Pentair Firmware changes. Driver now requires version 1.060 or higher.

V2.2.0 caleb@controlworks.com 2020.11.2

- Minor tweaks to for drivers.crestron.io

V2.1.0 caleb@controlworks.com 2020.06.29

- Fix for negative temperature values.
- Added Programmable Actions for Sequences and Quick Actions.

- Added Service Mode

V2.0.0 caleb@controlworks.com 2020.02.16

- Initial Release for Crestron Home OS

Development Environment

This Driver version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Testing Environment	
Manufacturer Hardware	Software Version
Pentair IntelliCenter i5P	1.064
Crestron Hardware	Firmware Version
CP4-R Processor	3.014.0087
SDK Version	V6.00.000.0025
TSW-1070	v1.002.0040.001
TSW-1060	v3.000.0014

ControlWorks Consulting, LLC License Agreement

Definitions:

ControlWorks, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 8228 Mayfield Road, Suite 6B Rear Chesterland, Ohio 44026. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. Instance License refers to a module license that is granted to a specific combination of a Crestron Processor and a single Controlled Device (for example, based on the respective serial numbers or other uniquely identifying information); a separate Instance License must be purchased for each such combination. *Module* refers to files required to implement the functionality provided by the Module and may include source files with extensions such as UMC, USP, SMW and VTP. *Driver* refers to the files required to implement the functionality in the Crestron Home environment. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

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Provision of Support

We provide limited levels of technical support only for the most recent version of the Module and Driver as determined by Us. We do not provide support for previous version of the Module or Driver, modifications to the Module or Driver not made by Us, to persons who have not purchased the Module, Driver, or corresponding license(s) from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a Module, Driver, or corresponding license(s) from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module or Driver is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a Module or Driver.

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Indemnification/Hold Harmless

ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module or Driver in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result from the operation of a program containing a ControlWorks Consulting, LLC Module or any component thereof.

License Grant

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