

Pairing Trane & American Standard 1050 Smart Thermostats to Third-party Home Automation Controllers

Third-party Home Automation Controllers (referred to as the “Controller” in this document), incorporating a dedicated Trane or American Standard thermostat driver module, must be properly paired with the Trane/American Standard 1050 Wi-Fi Smart Thermostat before these devices can communicate with each other. The pairing process is initiated by the integrator using the thermostat menu. A thermostat and Controller communicate securely via a local API and must be connected to the same Local Area Network (LAN). The thermostat can be connected to the LAN using Ethernet or wireless connections. The steps to connect to the wireless LAN network is available in the Appendix.

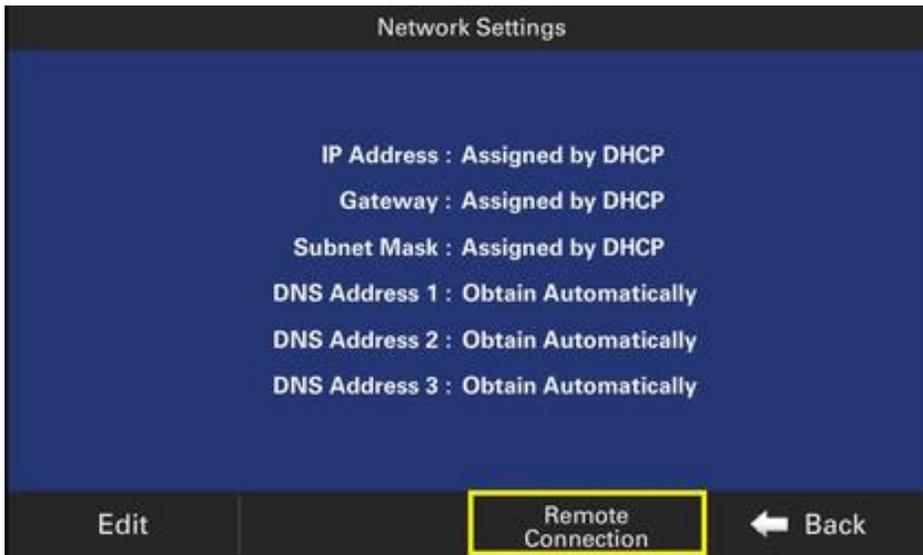
Pairing is a one-time process during which the thermostat exchanges a 'secret-key' with the Controller. This 'secret key' is expected by the thermostat for subsequent login attempts of the paired Controller. Once the integrator starts the pairing process in the thermostat, the Controller has 240 seconds to connect to the thermostat and complete the exchange of messages or the pairing process fails. In case the Controller fails to complete the message exchange within 240 seconds, the pairing process has to be started again.

Pairing Process

1. Starting from the thermostat home screen, press the "Menu" button at the bottom left-hand corner to navigate to Menu options.
2. Press the "Settings" button in the Menu Screen which will load the "Settings" Screen.
3. Press the "Network" button on the "Settings" screen, the "Network Setup" screen will be displayed.
4. The "Network Setup" screen provides options to connect the thermostat to a wireless network if it is not already connected.
5. Make sure that the thermostat is connected to the LAN.



6. Press the "Advanced Setup" button in the Network Setup screen which will navigate to "Network Settings" screen.
7. Press the "Remote Connection" button in Network Settings screen which will navigate to "Remote Connection" screen. This screen provides an option to pair a Home Automation Controller to the thermostat. The "Edit" button at the bottom of the Network Settings screen can be used to assign a static IP address to the thermostat.



Press the "Start Pairing" button (highlighted with yellow borders in the figure below) on the Remote Connection screen to start pairing. A black overlay screen loads which will display a step by step progress of the pairing process. The IP Address displayed on the screen can be entered by the integrator in the Controller user interface to begin the pairing process.

Summary of thermostat touchscreen button presses for pairing:

Menu > Settings > Network > Network Setup > Advanced Setup > Remote Connection > Start Pairing



1. Once the pairing process is started, a timer for 240 seconds is triggered in the thermostat. The thermostat then opens the port 7878 for any external connections and waits for an incoming connection request.
2. The pairing process in the Controller should be started at this point. Note that the Controller should attempt to connect to the thermostat as a TCP client.
3. The control program containing the module for the thermostat has a signal to pulse that initiates pairing from the Controller side. The pairing signal can be pulsed with a simple button press. Below are screen shots showing the location of each platform’s pairing button.

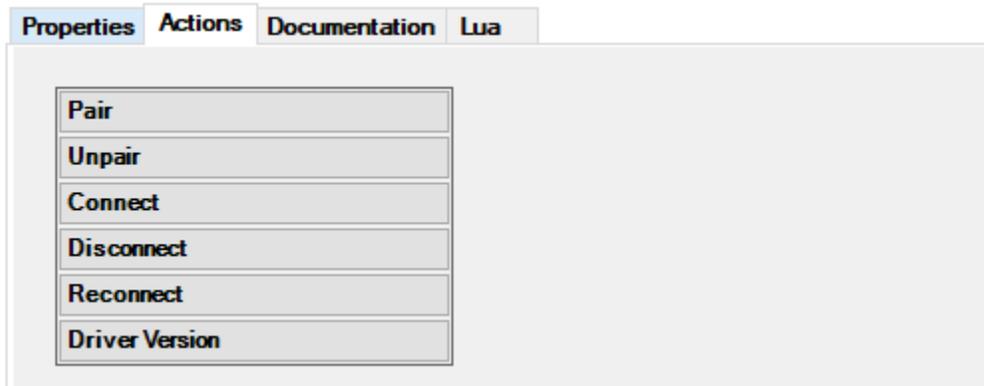
AMX Sample Program

The pairing button is in the header of the main screen.



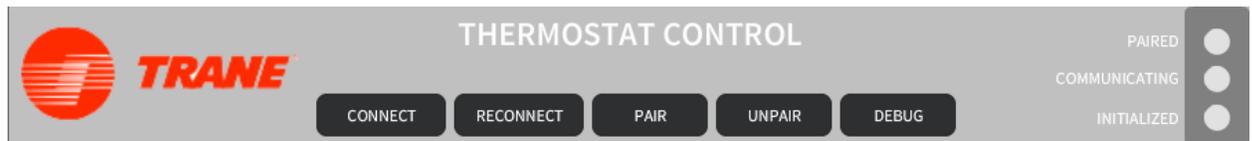
Control4 Composer Pro

The pairing button is in the “Actions” menu of the Control4 thermostat module within Composer Pro.



Crestron Sample Program

The pairing button is in the header of the main screen.



4. Once the pairing process is initiated on the thermostat, initiate pairing from the Controller by pulsing (press and release) the module's "Pair" signal. You will see the pairing progression on the thermostat screen as the process moves from "Listening", to "Connecting", to "Verifying Authentication", to "Connected Successfully".
5. After pairing is completed the thermostat closes the overlay and shows 'Connected Successfully' in the 'Remote Connection' screen.
6. The Controller disconnects from the thermostat after the pairing process is complete and must establish a new connection to communicate securely with the thermostat.
7. When the Controller reconnects with the thermostat after successful pairing, it will receive a number of messages which will allow it to display the status of the thermostat on its user interface.



UNPAIRING 1050 THERMOSTAT FROM HOME AUTOMATION CONTROLLERS

The thermostat provides an option to unpair any linked Home Automation Controller from the thermostat. The users can use this option to unpair existing devices and add new devices or add the same device in case of any errors in connection. The unpairing process removes any information about the Controller from the thermostat and closes the port 7878.

Unpairing Process

1. Load the "Network Settings" screen using the same steps listed in the Pairing process from the previous section.
2. Press the "Remote Connection" button in Network Settings screen which will navigate to "Remote Connection" screen to unpair the Controller from the thermostat.
3. Press the "Unpair" button in Remote Connection in order to unpair the thermostat.



An overlay screen is displayed briefly until the unpair activity is completed.

4. The Controller must be unpaired as a separate step from unpairing the thermostat. Pulse the "Unpair" signal on the module to delete the pairing information from the module.
5. The module can be re-paired to the thermostat once the thermostat and the module have been unpaired.

APPENDIX

Connect thermostat to wireless network

1. From the home screen, press the "Menu" button to navigate to the Menu Screen.



2. Press the "Settings" button (highlighted with yellow borders in the figure below) in the Menu Screen, the Settings screen will be displayed.



3. Press the "Network" button (highlighted with a yellow border in the figure below) on the Settings screen, the "Network Setup" screen will be displayed.
4. Make sure that the "Wireless ON/OFF" button is turned on.
5. Press the "Connect to WIFI Network" button which will navigate to screen with available networks (i.e., Wireless Network screen)

6. Select the network of the home. It will redirect to the password screen.
7. Enter the password for the selected network and press "Connect" button at the bottom of the screen.



8. The overlay for connecting network will start and end up displaying the connected network name in "Network Setup" screen.