User Guide

Turntide Technician App

User Guide v2.0 for
Turntide Technician App v. 2.9.10
November 24, 2025

Revision History

Document Revision Number	Description	Date
2.0	**Removed** • References and instructions for RMK • Finding incomplete jobs • Connecting without having a barcode • Deleting a job • Changing forgotten password • Templates • Site selection • Commissioning a motor with a saved configuration • Final connectivity check **Revised** • Login requirements • Basic interface user interaction • Commissioning a motor • Verify pins/dip switches in Troubleshooting Supply Air Temp Not Reading in Expected Range and Return Air Temp Not Reading in Expected Range	November 24, 2025
1.0	Initial Release of Edition 3 of this guide for Turntide Technician App version. • Shorter guide than previous edition. • New and easier ways of using the app explained	April 28, 2023

Conventions

Bold	Used in procedures for names of interface elements, such as buttons, fields, and menu items.
Italics	Used for emphasis, typically when introducing a new concept.
Note:	Indicates information that can help a customer make better use of a Turntide product.
Caution icon 	Indicates an instruction that draws attention to the risk of damage to the product, process, or surroundings.
Warning icon 	Indicates an instruction that draws attention to risk of injury or death and tells the customer how to avoid the potential problem.

Legal

Contact

support@turntide.com|11720 Amber Park Drive, Suite 160, Alpharetta, GA 30009|www.turntide.com

Contents

About the Turntide Technician App

The Turntide Technician App is essential to commission and interact with a Turntide Smart Motor system. Turntide motor controllers emit a localized Wi-Fi signal***. A smart phone with the Technician App is necessary for connecting to the motor controller.*** (A tablet may also be used.) The mobile app is required to configure the motor for operation. You cannot complete the installation without using the mobile app.

You will have access to Remote Support from **Turntide Technical Services**: **support@turntide.com.**

Download the App

The Turntide Technician App is a free download on the Google Play Store and App Store. Simply search for the Turntide Technician App. More than one app is associated with Turntide. The correct app for Turntide Smart Motor Systems is the Turntide Technician App.

Apple Devices - (iPhone) require iOS 12.0 or later

Android Devices - require Android 9 (Pie) or later

A Note on Control Wiring Methods

Turntide motor controllers are designed for Monitor Only installation.

Defined by a Motor Controller wired in parallel with the 24V signals from the thermostat. The thermostat directly controls RTU heating and cooling operation**.**

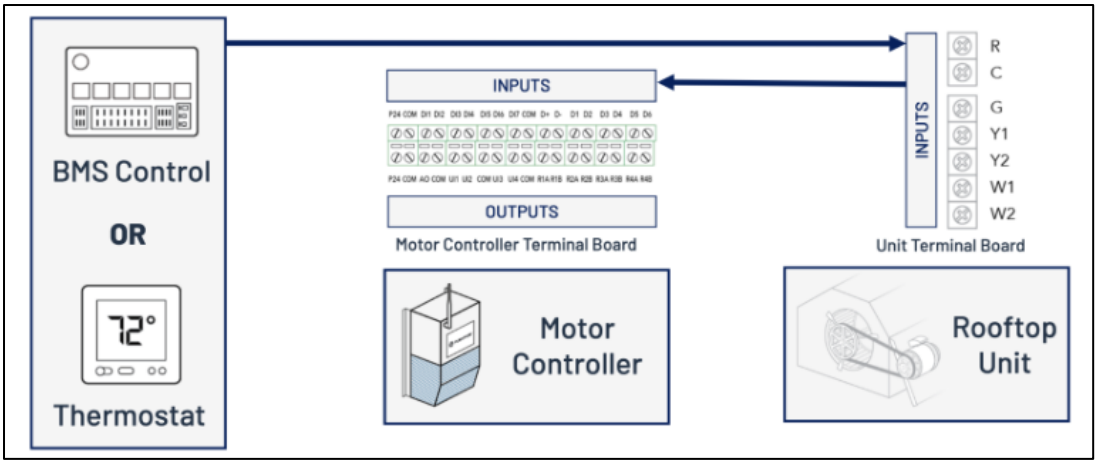


Figure 1 Monitor Only installation

Full Integration *(sometimes called "man-in-the-middle" by Turntide) is the control wiring configuration where the Motor Controller interrupts the 24V signals between the thermostat and RTU. The thermostat sends stage signals to the motor controller via the white input cable. Once the motor reaches speed, the motor controller energizes the corresponding heating or cooling stage via the black output cable to the RTU*.

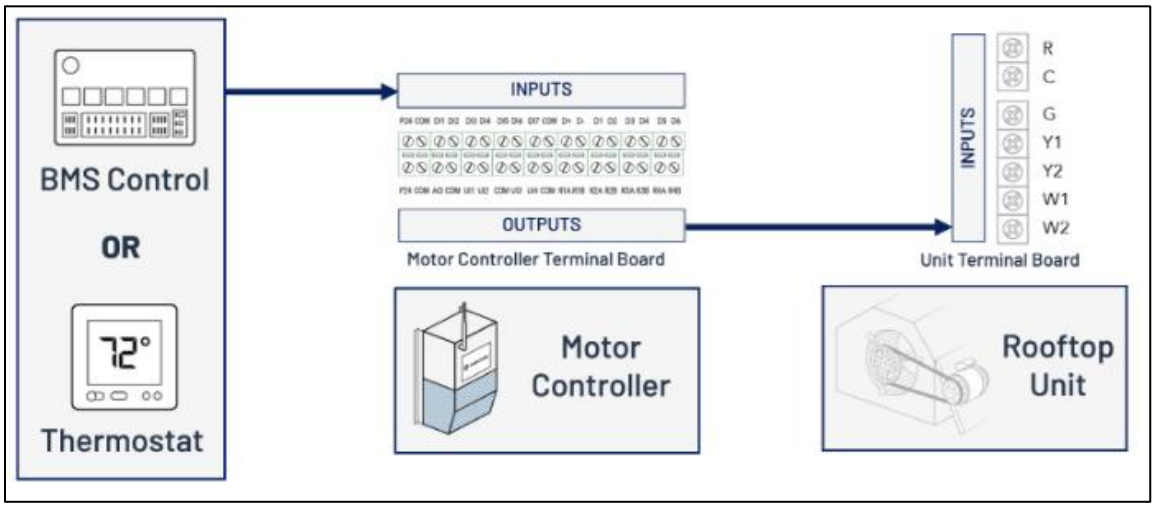
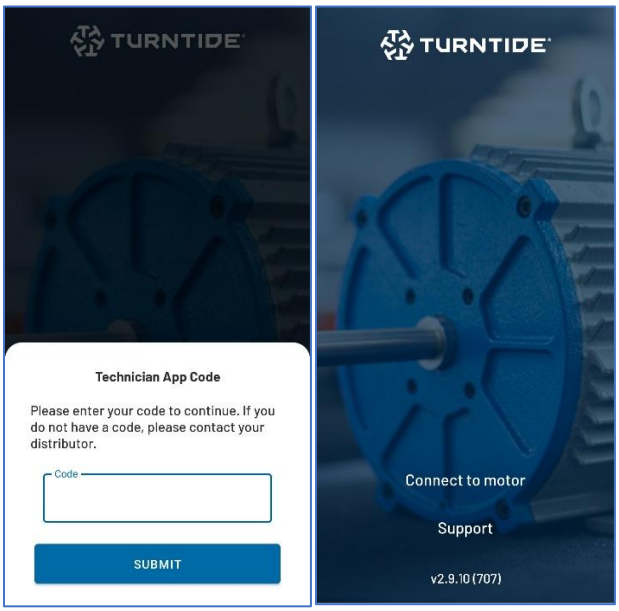


Figure 2 Full Integration installation

Full Integration is NO LONGER used as part of Turntide product installations. See Appendix - Diagnostics and Troubleshooting for Full Integration Installations ONLY.

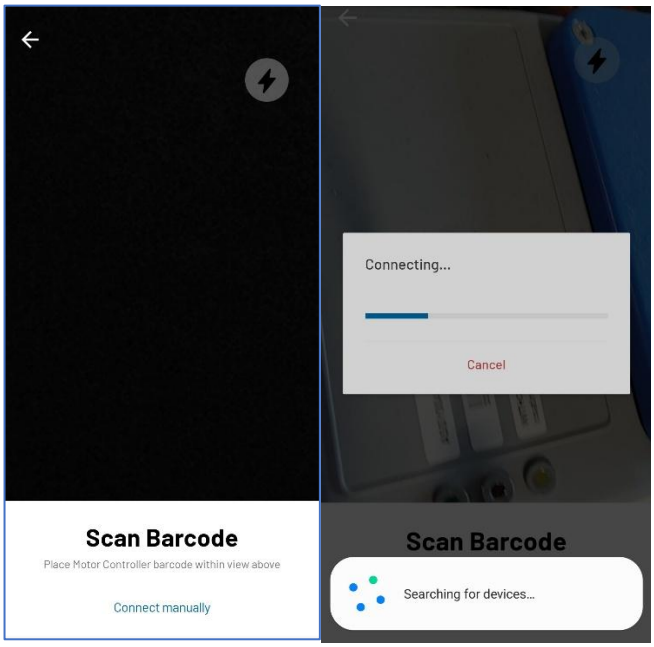
Turntide Technician App Logging In

After you install the Turntide Technician App on your phone, you are required to enter a code given to you by Turntide. Contact **Turntide Technical Services**: **support@turntide.com** for a code.



Once you are logged in, the home screen opens with links to **Connect to motor** and to **Support.**

- **Support** provides Links to **wiring diagrams/jumpers** and to the **Knowledge Base**.
- **Connect to motor -** launches **Scan Barcode** screen initially to let scan the barcode on the inverter to automatically connect to the inverter.



Operation

Once connected to the inverter, the **home screen appears** displaying the operation options at the bottom of the screen: **Manual, Off,** and **Auto** buttons.

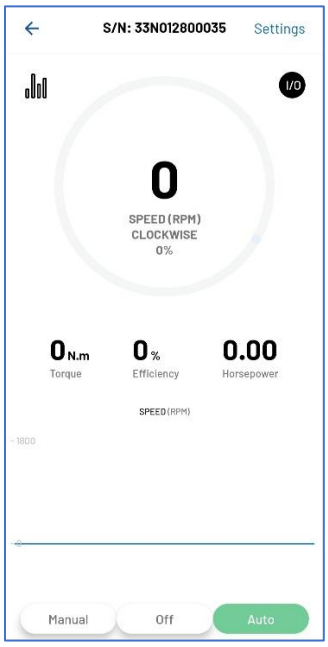


Figure 3 Home screen

- **Auto mode** allows the Turntide motor system to function based on a loaded logical flow. The app must be left in Auto mode for the Turntide Smart Motor System to function correctly.
- **Off mode** prevents all HVAC operation in the Turntide Full Integration wiring method. If it is Monitor Only, motor operation is stopped but unit stages might continue to be active, which could cause High or Low limit safety devices to trip. This is NOT a service disconnect.
- **Manual mode** is mainly used to verify correct motor rotation and that the motor is responding to commands from the Turntide Technician app. Operating the motor in Manual mode does NOT ensure that wiring is correct, or that the setup is correct. It is NOT equal to a function test. **Manual mode should be used ONLY after careful consideration.** Manual mode does not force heating or cooling operation.

Usage

Auto mode: Tap the **Auto** button. **The app must be left in Auto mode for the Turntide Smart Motor System to function correctly.**

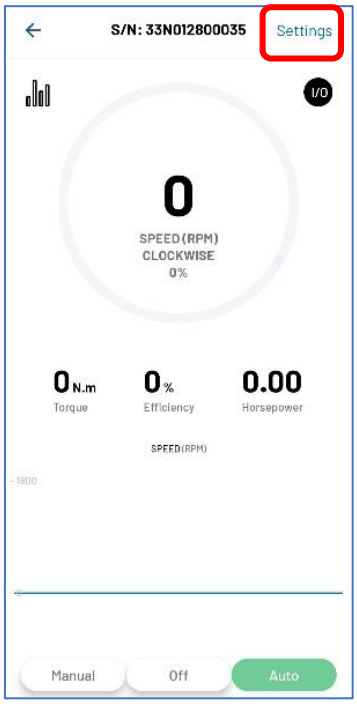
Off mode - To stop all motor operation:

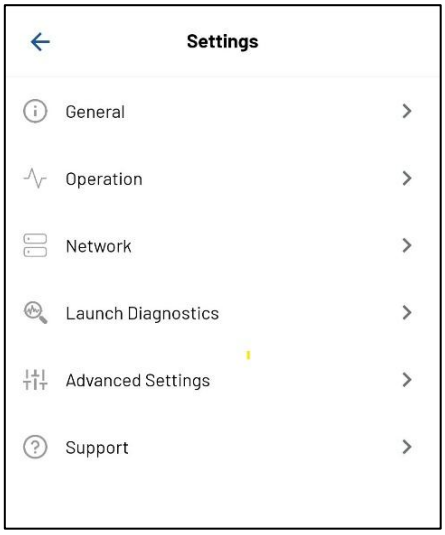
1. Tap the **Off** button. Applies ONLY to *Full Integration wiring method*—Stops all motor operation, which in turn prevents HVAC operation. In the case of *Monitor Only* wiring method, it prevents the motor from running. Unit stages could still be active in *Monitor Only* wiring method.
2. To disconnect your phone from the motor controller, tap the **back arrow icon** in the upper left corner of the screen. A prompt appears, giving you the option to:
   a. **Disconnect and stay in Off mode** – leave the system off and disconnect your phone from the motor controller
   b. **Disconnect and switch to Auto mode –** allow the system to operate the loaded logic flow and disconnect your phone from the motor controller

Manual mode:

1. Tap the **Manual** button.
2. Enter the desired motor speed in the **RPM** field.
3. Select a stop time from the **Automatic Stop After** list.
4. Tap **Run**. The motor ramps to the selected speed. Motor **Torque**, **Efficiency**, and operating **Horsepower** are displayed.
5. To disconnect your phone from the motor controller, tap the **back arrow icon** in the upper left corner of the screen. A prompt appears:
   a. **Disconnect and stay in manual mode** – Leave the motor running continually at the speed you entered manually and disconnect your phone from the motor controller. *Not recommended.*
   b. **Disconnect and switch to auto mode** – Allow motor system to function based on a loaded logical flow and disconnect your phone from the motor controller.
5. Select **Disconnect and switch to auto mode.** The app must be left in **Auto** mode for the Turntide Smart Motor System to function correctly.

Settings





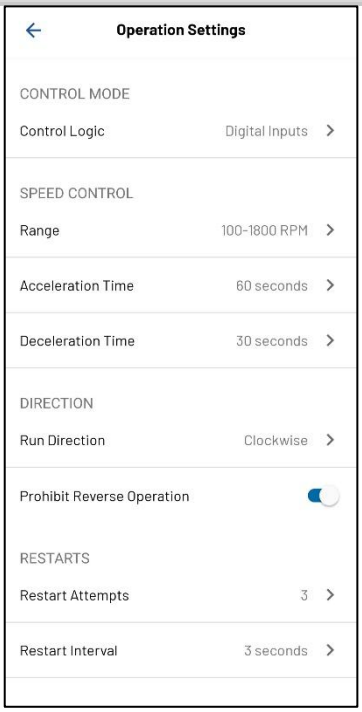
Tap the **Settings** option in the upper right corner of the screen.

The motor system **Settings** screen provides links to **General**, **Operation**, **Network**, **Launch Diagnostics**, and **Advanced Settings** information. Includes another link to **Support**

Settings Options

Option	Description/Usage
General	• **Serial number** of the motor controller • **Model** name of the motor controller. • **Input voltage** - The **Input Voltage & Motor Model: 3-phase Supply Voltage** screen appears**.** Follow on-screen instructions. • **Firmware Version** on the motor controller. Includes message with checkmark if firmware is up to date. • **Modbus Address** - Normally not changed for RTU installations. Used only in custom integrations. • **Model of motor** - Do not change unless instructed by Turntide Technical Services.

Option	Description/Usage
Operation	• **Control Logic** – Displays the name of the flow used. Tap **Control Logic**. The **Control Mode** screen opens with a checkmark beside the control mode. If a logic flow was in use, the **Select Logic Flow** screen opens with a checkmark beside the logic flow. • **Range** - Speed range should never be set below 100 or above that listed on the original induction motor. See Cautions. • **Acceleration/Deceleration Time - Motor** ramp up/down. Optimized for most applications and typically not adjusted. Do not change unless instructed by Turntide Technical Services. • **Run Direction** - To determine run direction, view the motor from the shaft end. Tap **Run Direction**. The **Run Direction** screen opens. Tap **Clockwise** or **Counter-clockwise** as necessary. See Cautions. • **Prohibit Reverse Operation** - Allowing reverse motor rotation can result in damage to the RTU's blower assembly. See Cautions. • **Restart Attempts, Restart Interval** - Do not change unless instructed by Turntide Technical Services.
Network	App uses the local Wi-Fi network at your facility. (*No longer supporting RMK*.)
Launch Diagnostics	See Appendix - Diagnostics and Troubleshooting for Full Integration Installations ONLY.
Advanced	• **Firmware -** Change the version ONLY at the direction of Turntide Technical Services. • **Network Diagnostics** - Displays Network Diagnostics for Wi-Fi connectivity and signal strength. • **Operating, User & Alert Values -** Displays values needed for advanced troubleshooting with Turntide Technical Services. • **Flow Library Info -** Displays the name, version, modified date of the logic flow configuration saved in the app. • **Commissioning Wizard -** Opens the **One-Time Setup** screen. Allows you to recommission the motor controller using on-screen guidance. • **Restart Motor Controller -** Allows you to reset the Turntide Motor Controller. • **Gain File –** Commutation Gains, Speed Loop Gains (apply and reboot required). **Warning**: Gain values can vary between motors, models, and operational environments. Adjusting values without the assistance of Turntide Technical Services can result in unexpected motor behavior, including damage to person or property.



Cautions

When configuring the speed range of the motor, exercise the following cautions.

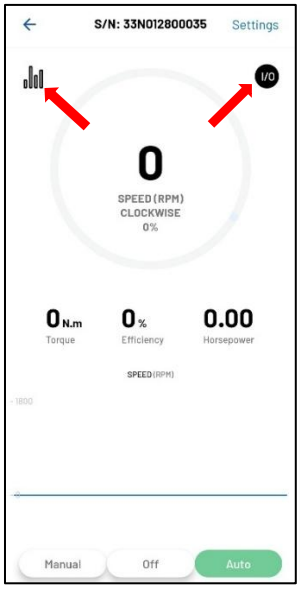
- Ensure you enter a **Maximum Speed** from the induction motor nameplate. (**Max speed is set at the induction motor speed.)**
- Do **NOT** change minimum speed unless directed by a Turntide representative.
- **Speed Range** should never be set below 100 or above that listed on the original induction motor.
- When the **Configure Direction** instruction appears in the **Run Direction** screen, note that by default, the direction is **Clockwise** and **Prohibit Reverse Operation** is set to **ON**.
- Do **NOT** change the **Prohibit Reverse Operation** to OFF. Allowing the RTU blower to run backwards can result in damage.

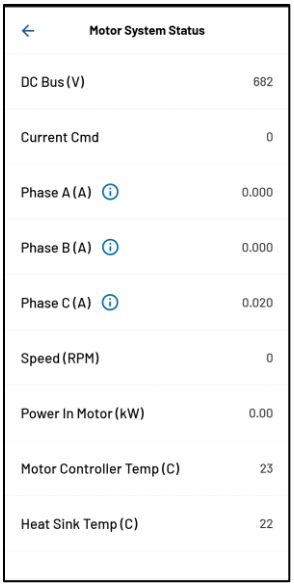
Motor System Status

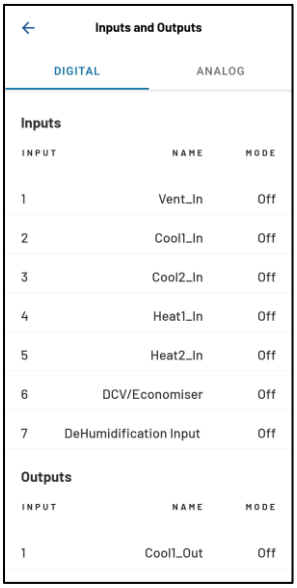
This feature is available only for motor controllers with 2.5.1 firmware or higher.

For motor performance information, you need to access the **Motor System Status** screen.

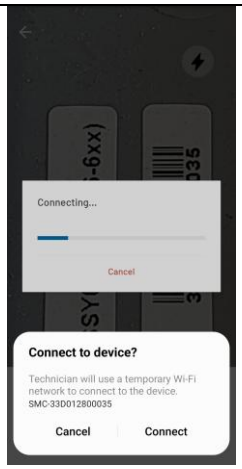
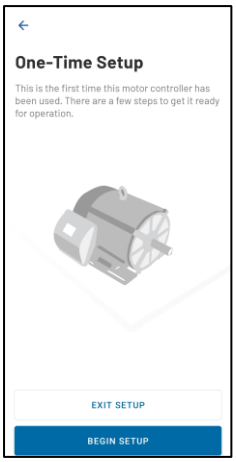
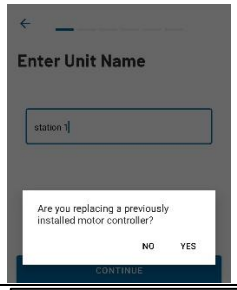
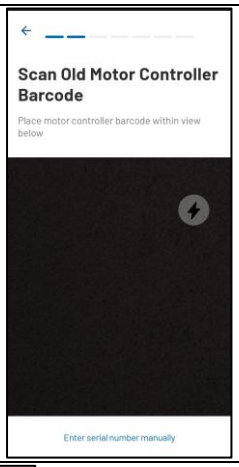
1. You must be connected to a motor controller with the motor home screen visible.
3. Tap the **graph icon** on the *top left* of the screen. A detailed list of motor performance information is displayed in a **Motor System Status** screen.
4. Tap the **I/O** icon in the *upper right* area of the screen to view the state of various motor controller input and output information.

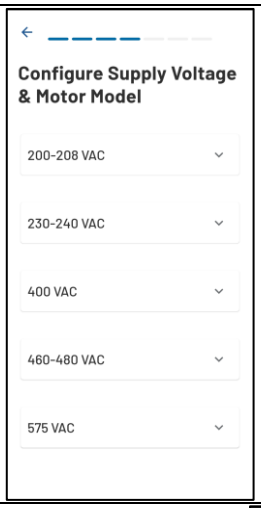
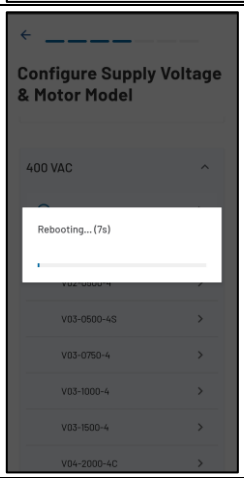
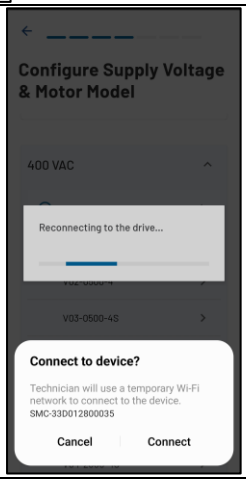
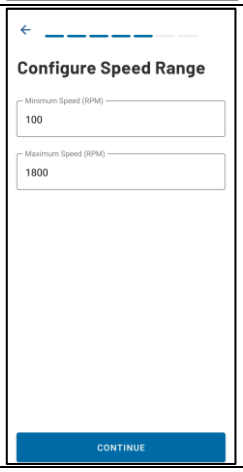


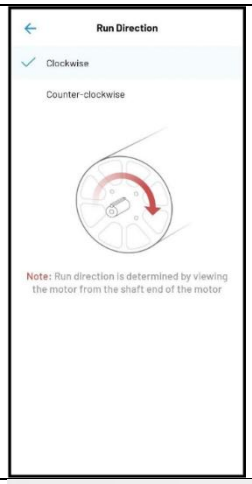
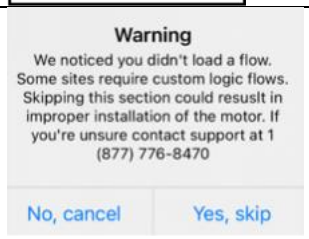




Commissioning a Motor

Step	Instructions	Screenshots
1	1. Log into the app, tap **Connect to motor** 2. Scan the barcode on the motor controller you want to install. 3. Tap **Connect**. 4. Tap **Begin Setup.**	 
2	Enter the name of the unit. a. **If this is a replacement installation project**, tap **Yes.** b. Scan the barcode of the (old) motor controller you want to replace and tap **Continue**.	 
3	Scan the barcode of the motor.	

4	In the **Configure Supply Voltage & Motor Model** screen: a. Select the correct applied voltage. *Selecting the incorrect voltage may result in over/under voltage errors*. b. Select the correct Turntide **Motor Model**. Only models with compatible voltage are displayed. *The model number is found on the motor nameplate.*	
5	The app reboots and reconnects to the motor controller you are installing.	 
6	Once you are reconnected, the **Configure Speed Range** screen appears. 1. Enter **a Minimum Speed** and a **Maximum Speed**. Ensure you enter the maximum speed from the induction motor nameplate. **Speed range should never be set below 100 or above that listed on the original induction motor.** 2. Tap **Continue.**	

7	The **Configure Direction** instruction appears in the **Run Direction** screen. By default, the direction is **Clockwise** and **Prohibit Reverse Operation** is set to **ON**. **Do NOT change the Prohibit Reverse Operation to OFF.** Allowing the RTU blower to run backwards can result in damage Tap **Continue**.	
8	The **Configure Control Mode** screen appears. 1. Tap **Logic Flow**. (Logic Flow is the most common controller mode for RTU and AHU applications.) 2. Tap **Load Logic Flow** to confirm that you want to load a logic flow to run on the motor controller. 3. The **Select Logic Flow** screen appears. Use ***one*** of the following logic flows: • For an RTU, select **RTU: 24V Thermostat Control** – See detailed steps -RTU: 24V Thermostat Control. • If your Turntide representative has informed you to use a Special Projects logic flow, use **Special Projects** – See detailed steps - Special Projects. • For an Air Handling Unit (AHU), select **AHU: BMS control** – See detailed steps - AHU: BMS control option. • For 24V Heat pump, select **RTU: Heatpump 24V.** – See detailed steps RTU: Heat pump 24V.	 **Note**: If you skip loading a flow, this could result in improper installation of the motor.
9	At the end of the initial configuration, the **Setup Complete**! message appears. 1. Tap **Yes** to save the configuration. 2. Enter a recognizable name for the configuration in the **Save Config** field and tap **Save**. 3. Tap **Done**.	

RTU: 24V Thermostat Control

Allows you to install a control mode based on the number of heating and cooling stages and motor speed options.

1. In the **Select Logic Flow** screen, tap **RTU: 24V Thermostat Control**.
2. The **RTU Logic Flow** screen appears. Select the number of heating stages.
3. Choose the desired motor speed for Stage 1 heating. (The app automatically sets Stage 2 heating motor speed at 90%.)
4. Select the number of cooling stages.
5. Select the desired motor speed for Stage 1 cooling. (The app automatically sets Stage 2 cooling motor speed at 90%.)
6. At the end of the initial configuration, the **Setup Complete!** message appears.
7. Tap **Yes** to save the configuration.
8. Enter a recognizable name for the configuration in the **Save Config** field and tap **Save**.
9. Tap **Done** to complete the process.

Special Projects

Logic flows for large rollouts with pre-specified unit operation parameters. A Turntide representative advises technicians if they are working on special project and which logic flow is necessary.

1. In the **Select Logic Flow** screen, tap **Special Projects**.
2. The **Special Projects** screen appears with specific logic flows listed.
3. Select (tap) the flow name given to you by your Turntide representative.
4. A screen with the logic flow name at the top appears. Tap the **Load Flow** button.
5. At the end of the initial configuration, the **Setup Complete!** message appears.
6. Tap **Yes** to save the configuration.
7. Enter a recognizable name for the configuration in the **Save Config** field and tap **Save**.
8. Tap **Done** to complete the process.

AHU: BMS control option

(Requires motor controller firmware 2.5.1 or higher.)

Allows you to install a generic logic flow that is easily configured by the installation technician based on outputs from the BMS system.

1. In the **Select Logic Flow** screen, tap **AHU: BMS control**.
2. The **AHU Logic Flow** screen opens with the **Configure Inputs** section.
    a. If the motor will run at a single speed, tap **Single** and enter the **% Max Speed** and tap the green **Done** button.
3. If the motor will run at multiple speeds, tap **Multiple**.
    a. If the motor will be controlled by an analog signal input (linearly scaled), tap **Yes**. Select the signal and tap the green **Done** button.
    b. If the motor will NOT be controlled by an analog signal input (linearly scaled), tap **No**.

4. Select the **% Max Speed** for each input and tap the green **Done** button.
5. At the end of the initial configuration, the **Setup Complete!** message appears.
6. Tap **Yes** to save the configuration.
7. Enter a recognizable name for the configuration in the **Save Config** field and tap **Save**.
8. Tap **Done** to complete the process.

RTU: Heat pump 24V

Allows you to install a control mode based on an RTU with a heat pump.

1. In the **Select Logic Flow** screen, tap **RTU: Heatpump 24V.**
2. The **RTU: Heatpump 24V Logic Flow** screen appears. Select the type of reverse energizing: **Heating** or **Cooling**.
3. Select the number of **cooling** stages and fan rates:
    a. For systems with one-stage cooling, tap **One** and tap the **green Done** button.
    b. For systems with two-stage cooling, set the fan to run at **75%** of rated speed or **90%** of rated speed for Stage 1 cooling.
    c. Tap the green **Done** button after each selection.
4. At the end of the initial configuration, the **Setup Complete!** message appears.
5. Tap **Yes** to save the configuration.
6. Enter a recognizable name for the configuration in the **Save Config** field and tap **Save**.
7. Tap **Done** to complete the process.

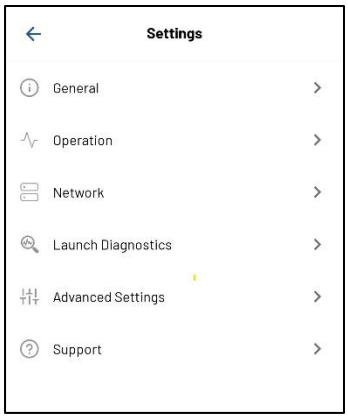
Appendix - Diagnostics and Troubleshooting for Full Integration Installations ONLY

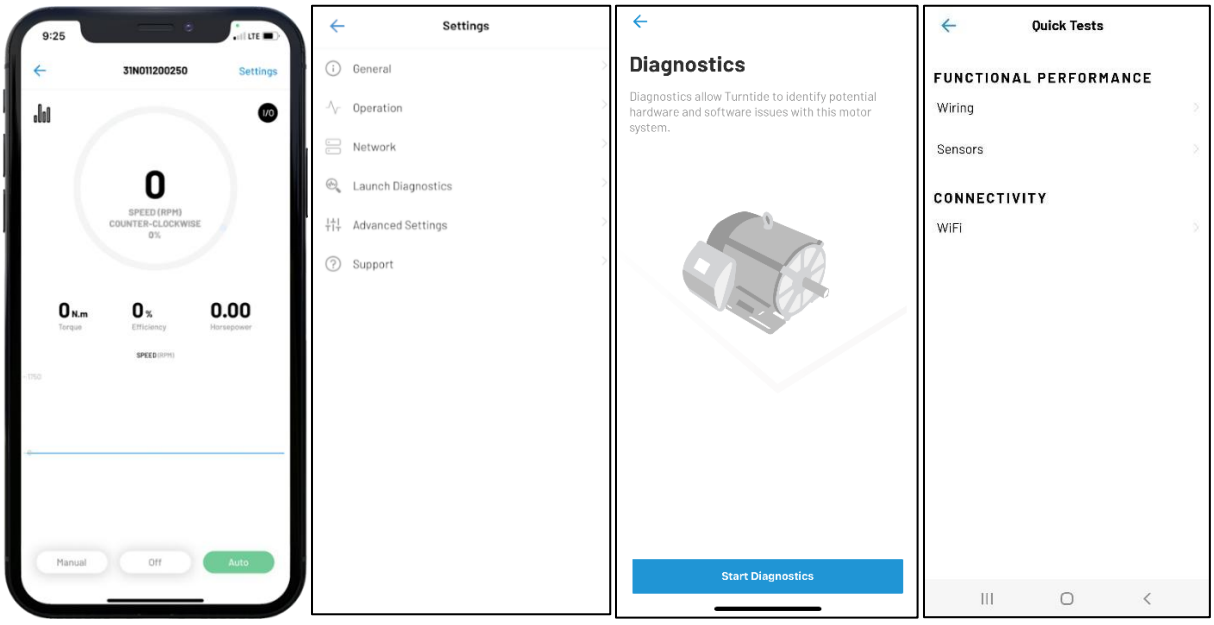
In Full Integration (sometimes called “man-in-the-middle” by Turntide) is the control wiring configuration where the Motor Controller interrupts the 24V signals between the thermostat and RTU. The thermostat sends stage signals to the motor controller via the white input cable. Once the motor reaches speed, the motor controller energizes the corresponding heating or cooling stage via the black output cable to the RTU. **Full Integration is NO LONGER used as part of Turntide product installations, but information is provided here in the Appendix.**

Diagnostics

During Turntide motor installation, you can use the Turntide Technician App to confirm that control wiring is correct, the motor is operating properly, the sensors, if used, are wired correctly, and if the motor controller is emitting proper signal strength.

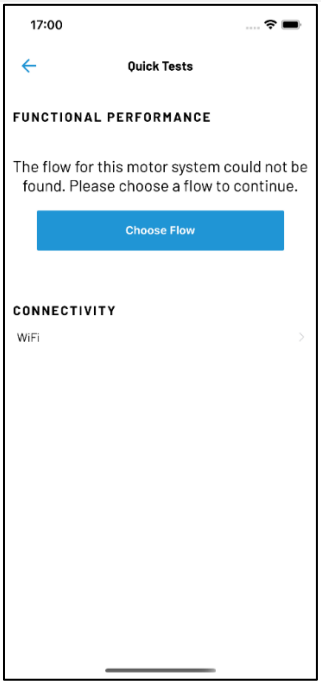
1. Log in and tap **Connect to motor.** Scan the barcode of the inverter to connect. *Alternatively*, *you can tap **Connect Manually** and enter the barcode number.*
2. Once at the home screen, tap **Settings** and then tap **Launch Diagnostics**.
3. The **Diagnostics** screen opens. Tap **Start Diagnostics.**
4. The **Quick Tests** screen opens.
   - **Wiring**: Allows you to validate motor controller input and output wiring. *
   - **Sensors**: Displays collected sensor data to determine proper location and wiring. **
   - **Wi-Fi:** Motor controller WIFI signal strength is measured to ensure it’s adequate.

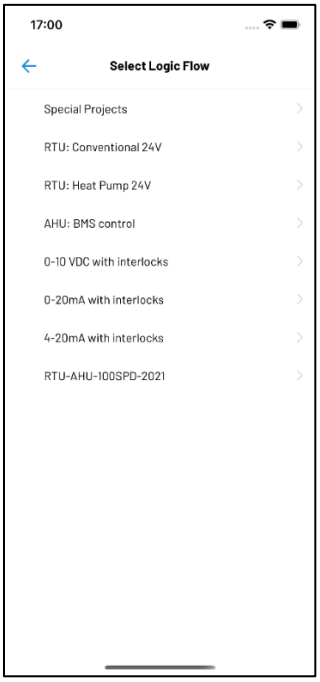




*With the Turntide Technician App version 1.15.1 and higher, you can conduct the **Wiring** test with any motor controller firmware version.

** **Sensor** testing is available on the Turntide Technician App versions 1.12 through 1.15.1 and higher for motor controllers with firmware *greater than or equal* to firmware version 2.5. If you connect to a motor controller that is running motor controller firmware 2.5.1 or higher and the correct logic flow is loaded (one that indicates sensors are being used), then the **Sensors** test option is displayed in the app. Otherwise, only **Wiring** and **Wi-Fi** test options are displayed.

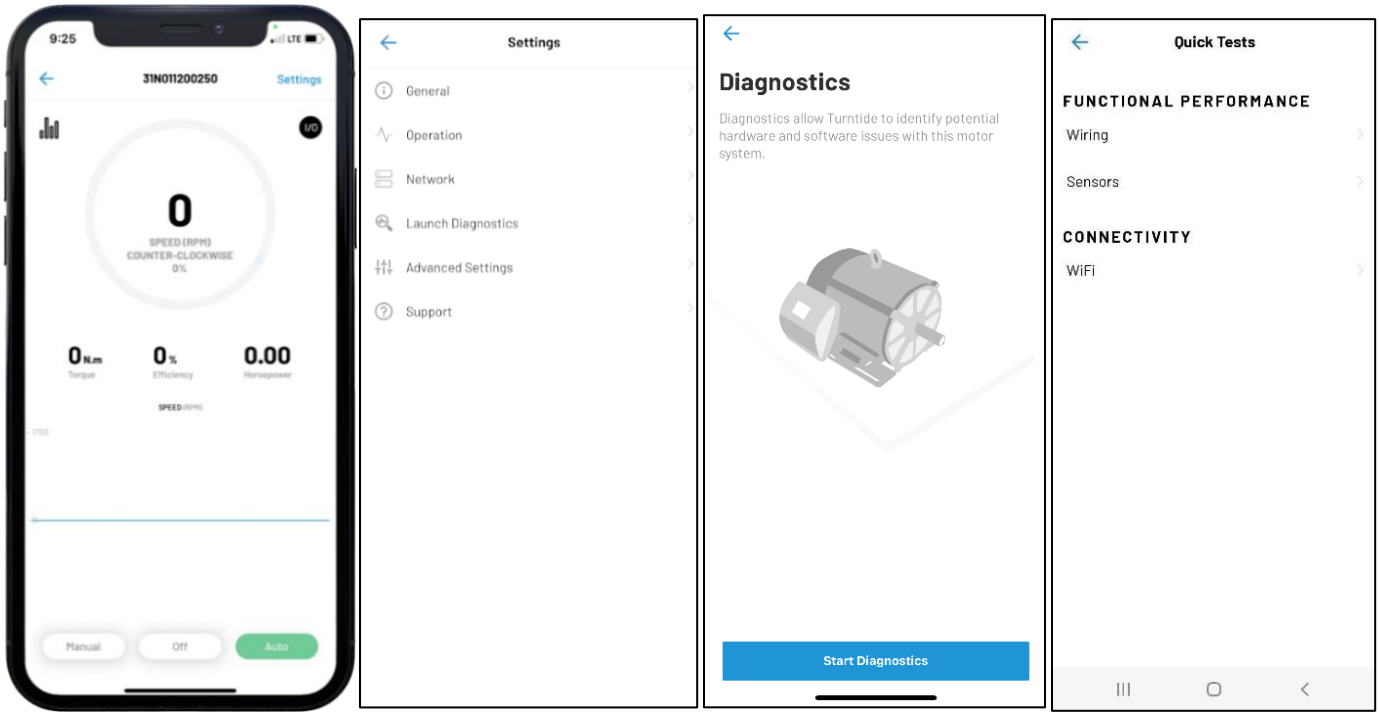




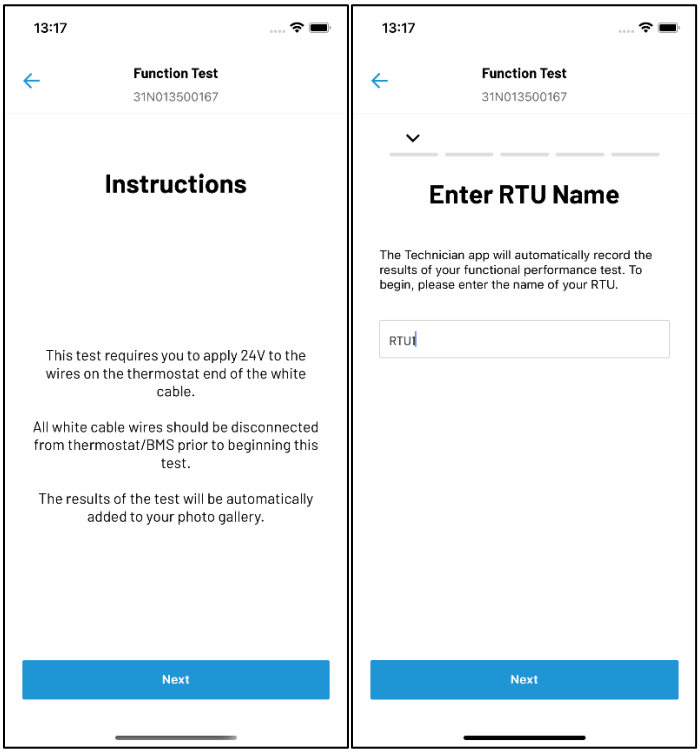
Wiring Test

By using Turntide Technician App version 1.15.1 and higher, you can conduct the Wiring test with any motor controller firmware version.

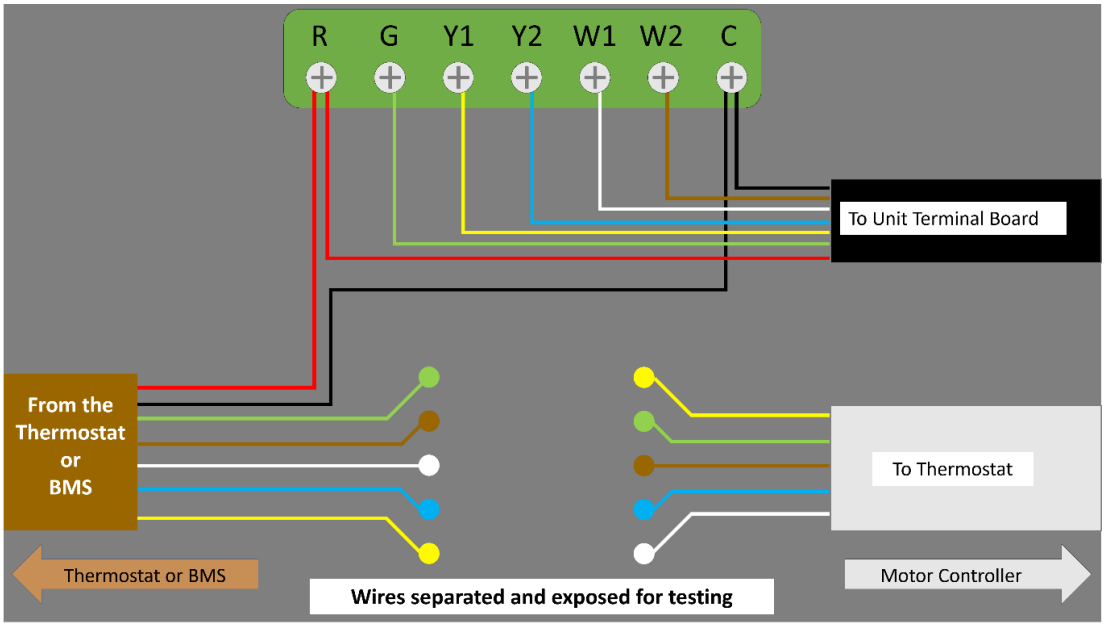
1. Once at the home screen, tap **Settings** and then tap **Launch Diagnostics**.
2. The **Diagnostics** screen opens. Tap **Start Diagnostics**. The **Quick Tests** screen opens.
3. Tap **Wiring.**



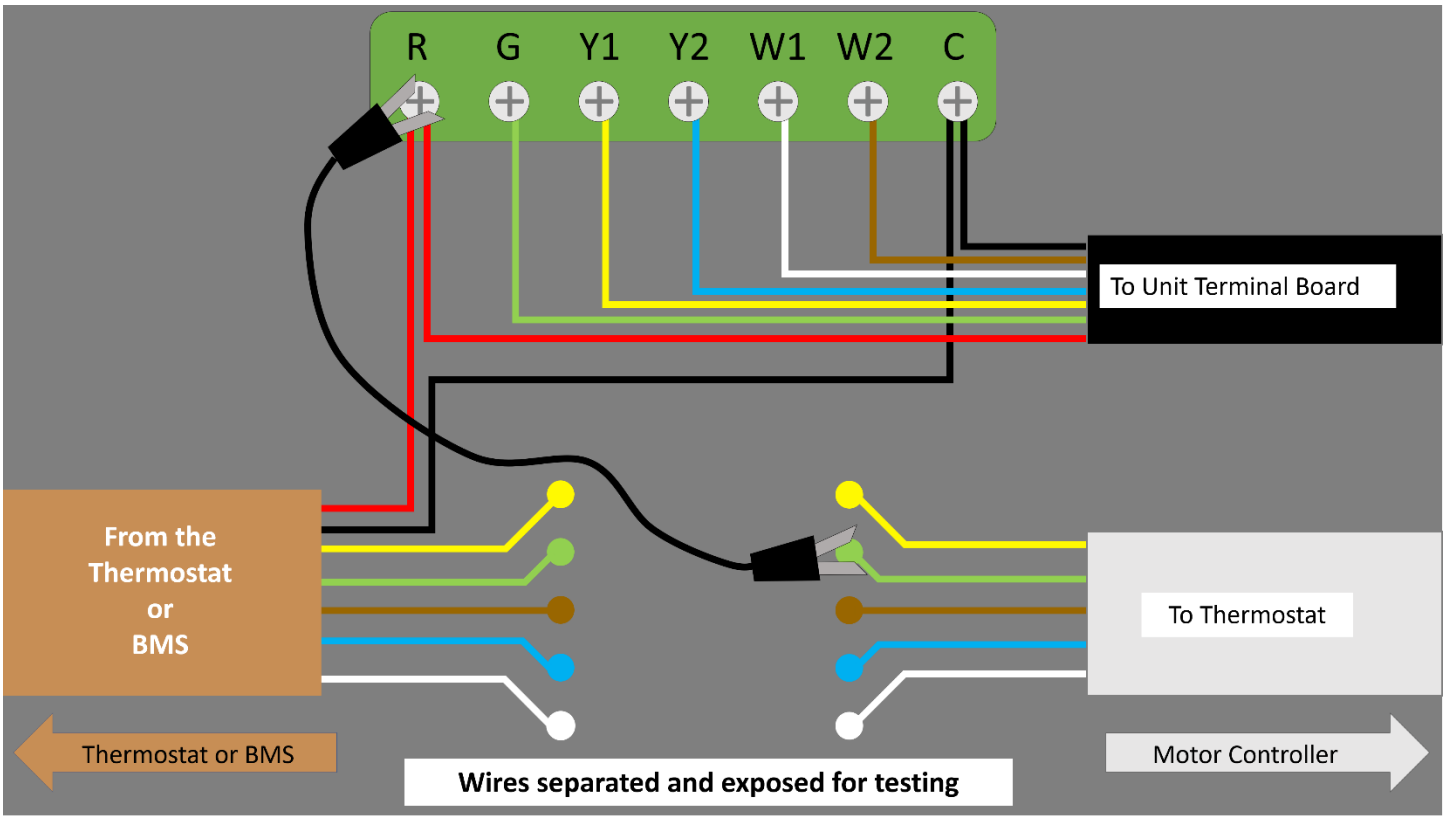
4. The **Instructions** screen opens. Read the information and Tap **Next**. Enter a name for the RTU unit being tested and tap **Next**.

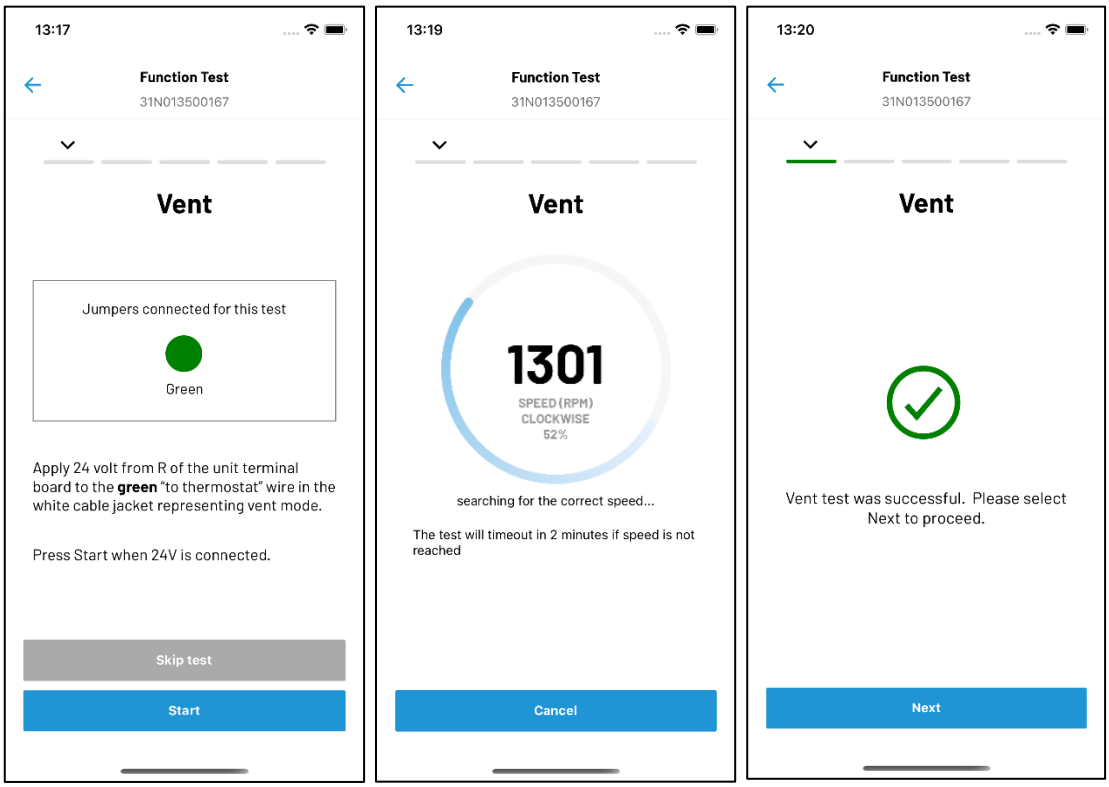


5. As per the instructions in the app, disconnect the white **To Thermostat** wires on the motor controller from the **From the Thermostat or BMS** on the thermostat or BMS. The following illustration shows a two-stage system. When testing a single-stage system, the Turntide Technician App omits the second stage.

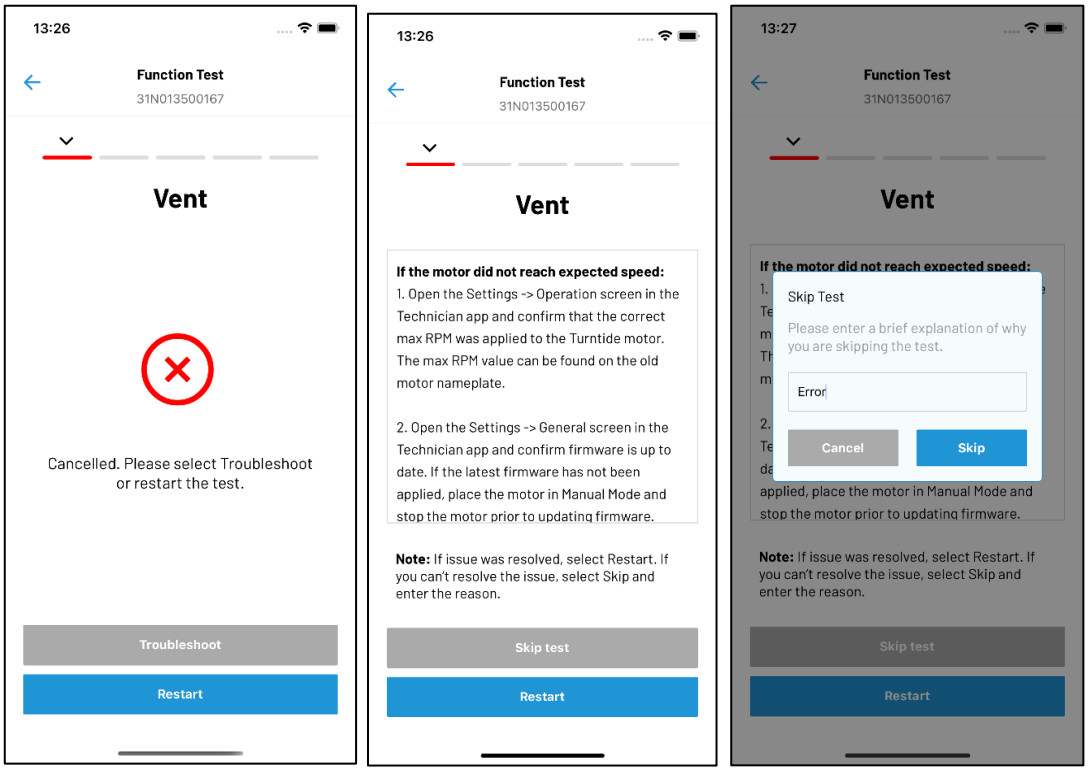


6. The test requires *three* jumper wires in most cases.
    a. With power applied to the RTU, connect one end for the jumper to the power, or "R" side of the 24 V transformer, such as the "**R**" terminal of the unit control board.
    b. You will connect the other end of the jumper to the wire indicated by the test instructions.
7. To begin, connect the other end of the jumper wire to the **green** wire of the **To Thermostat** cable.
    a. In the **Function Test** (**Vent**) screen, tap **Start** to begin the test.
    b. The app displays the motor RPM, rotation, and percent of full speed during ramp up.
    c. After operating at the proper speed for five seconds a green checkmark indicates success. Tap **Next**.

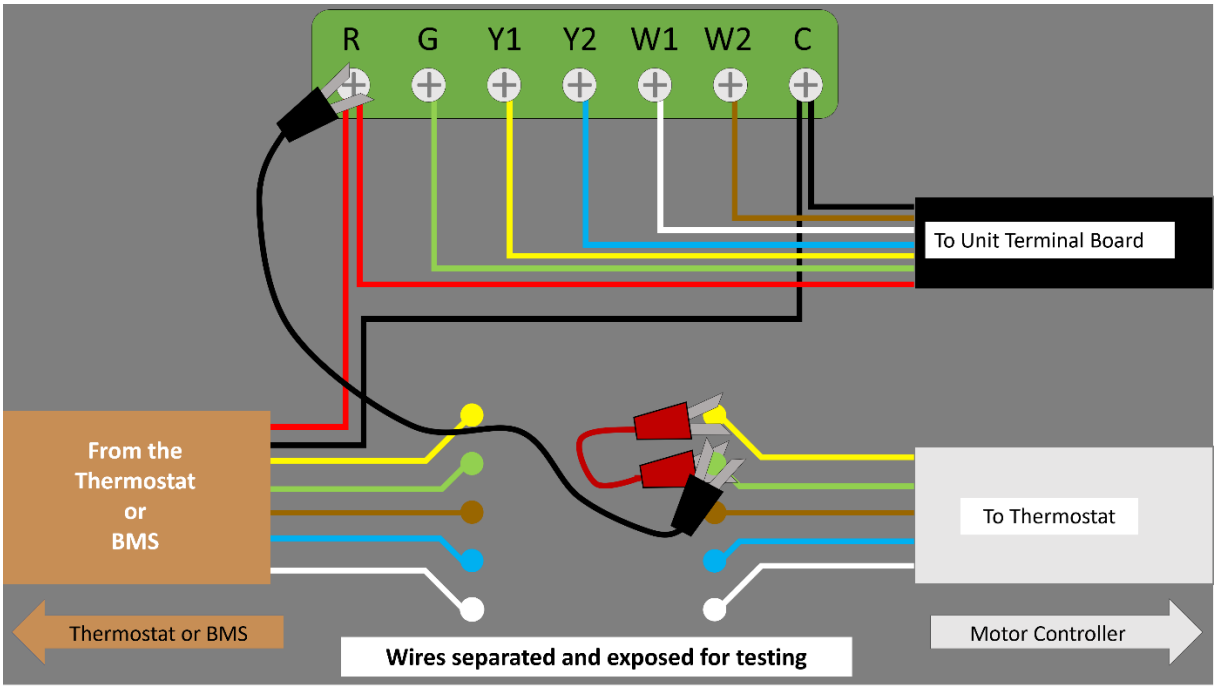




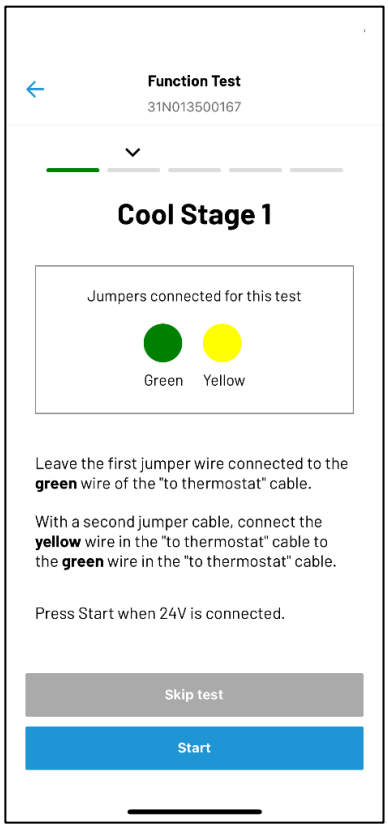
If any test fails, you can tap **Restart** to redo the test or tap **Troubleshoot** for more instructions. See Troubleshooting, Function Test Fails – Vent.

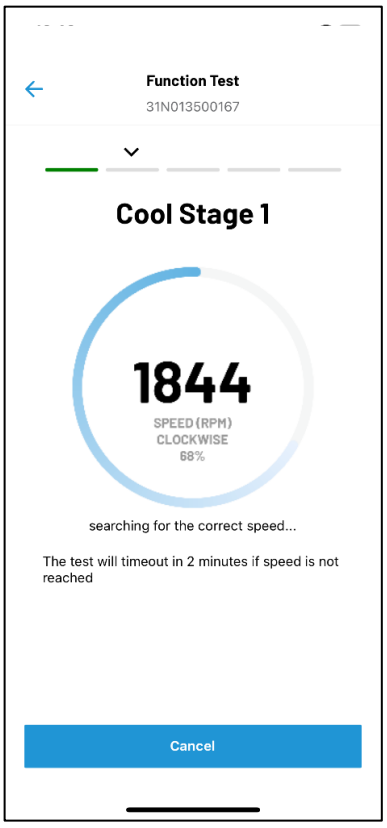


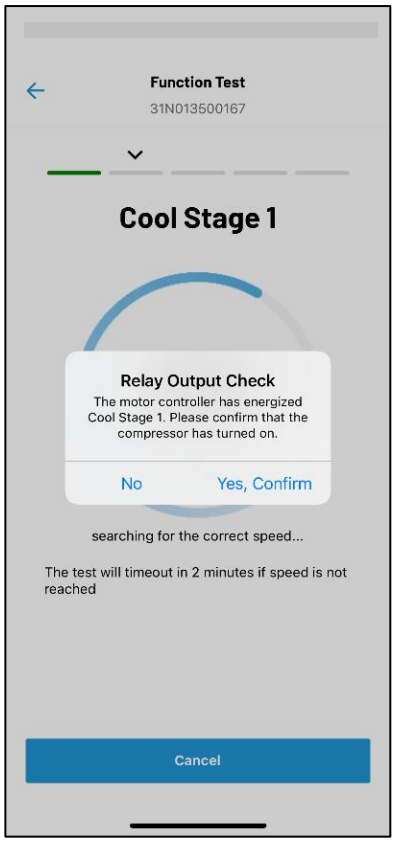
8. Leave the first jumper wire connected to the green wire of the **To Thermostat** cable. With a second jumper cable, connect the yellow wire in the **To Thermostat** cable to the green wire in the **To Thermostat** cable.
    a. Tap **Start** to begin the test.
    b. After the motor achieves the correct speed, the first stage cooling will energize. *
    c. Tap **Yes, Confirm**. Following confirmation, a green checkmark indicates the test was successful. Tap **Next**.

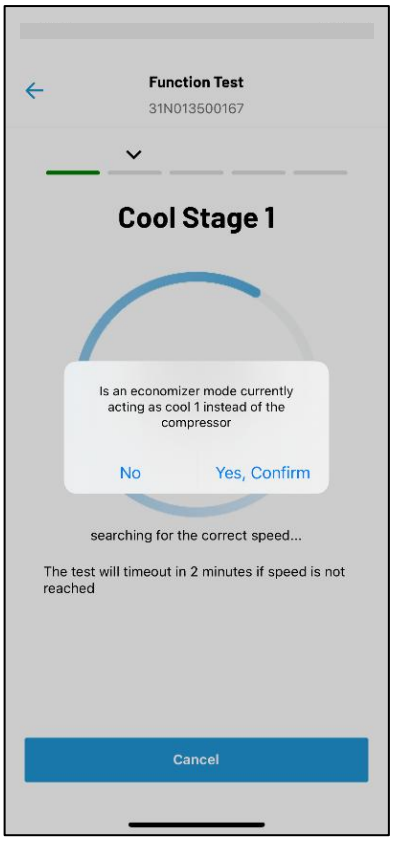


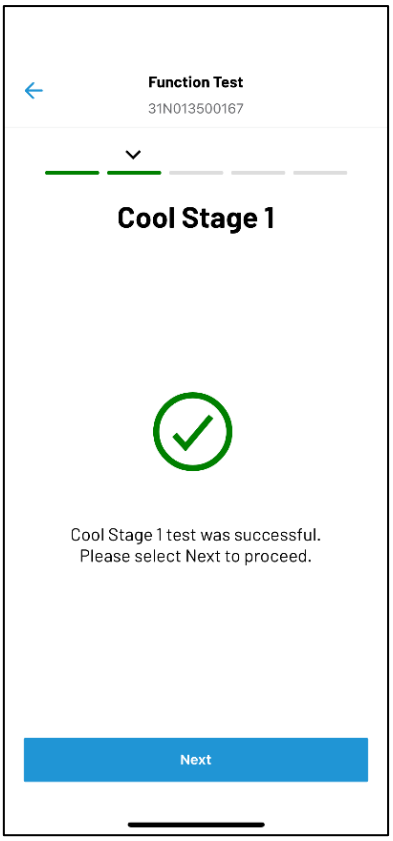
* Time delays built into the RTU control system may prevent the cooling or heating from starting immediately.





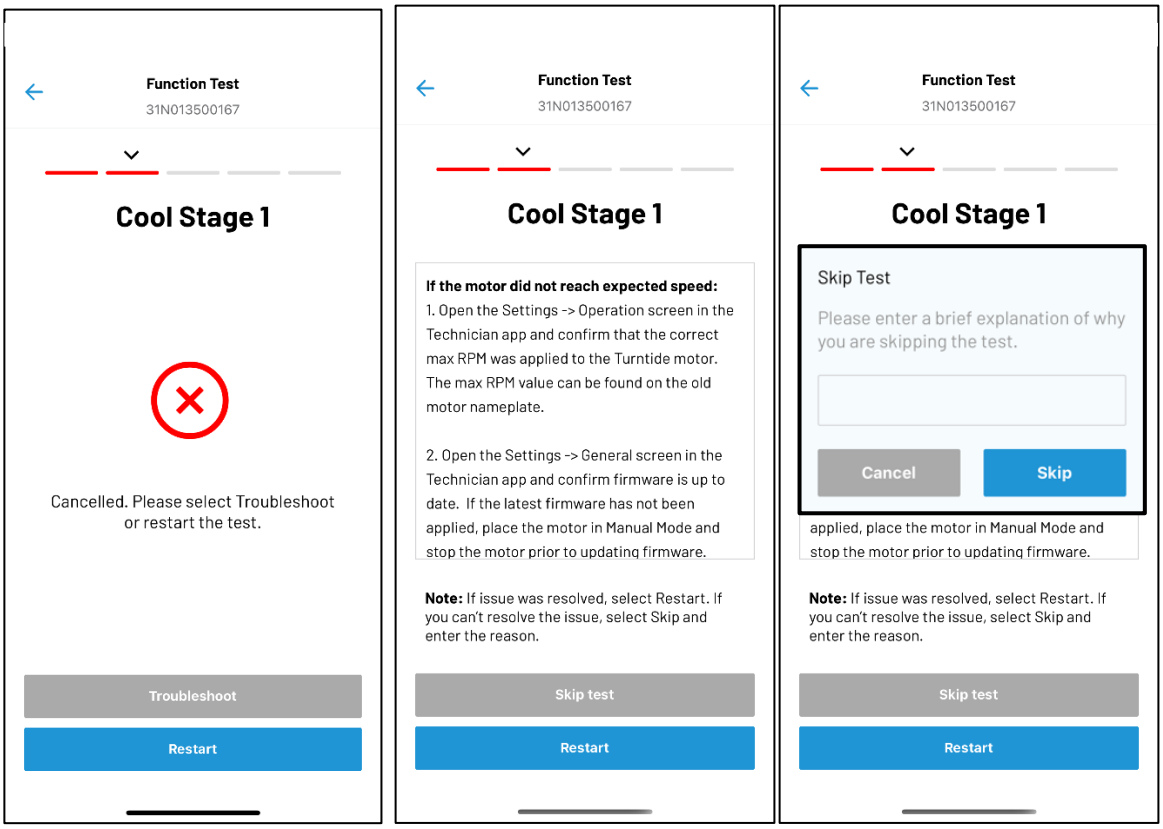




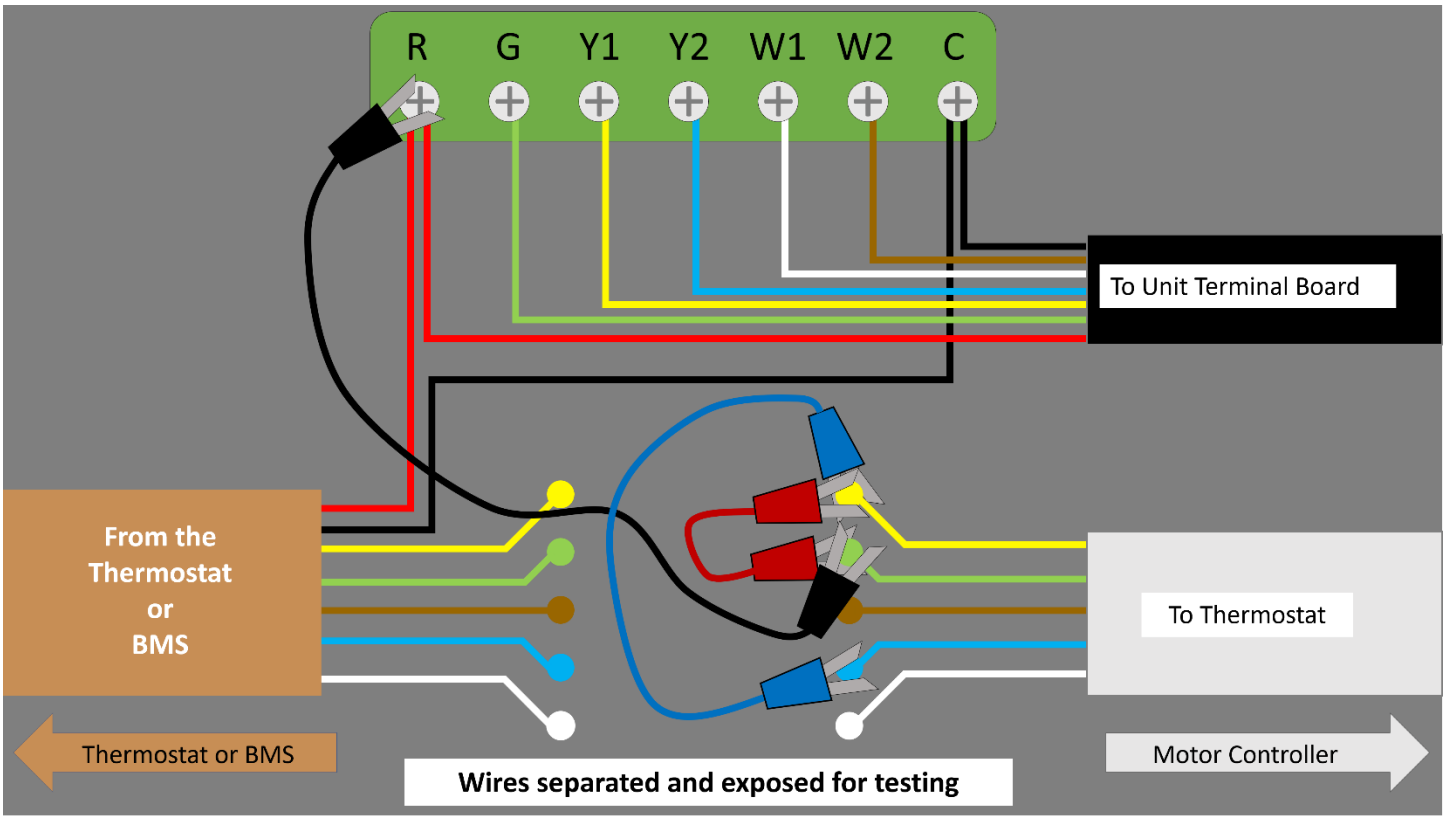


If any test fails, you can tap **Restart** to redo the test or tap **Troubleshoot** for more instructions.

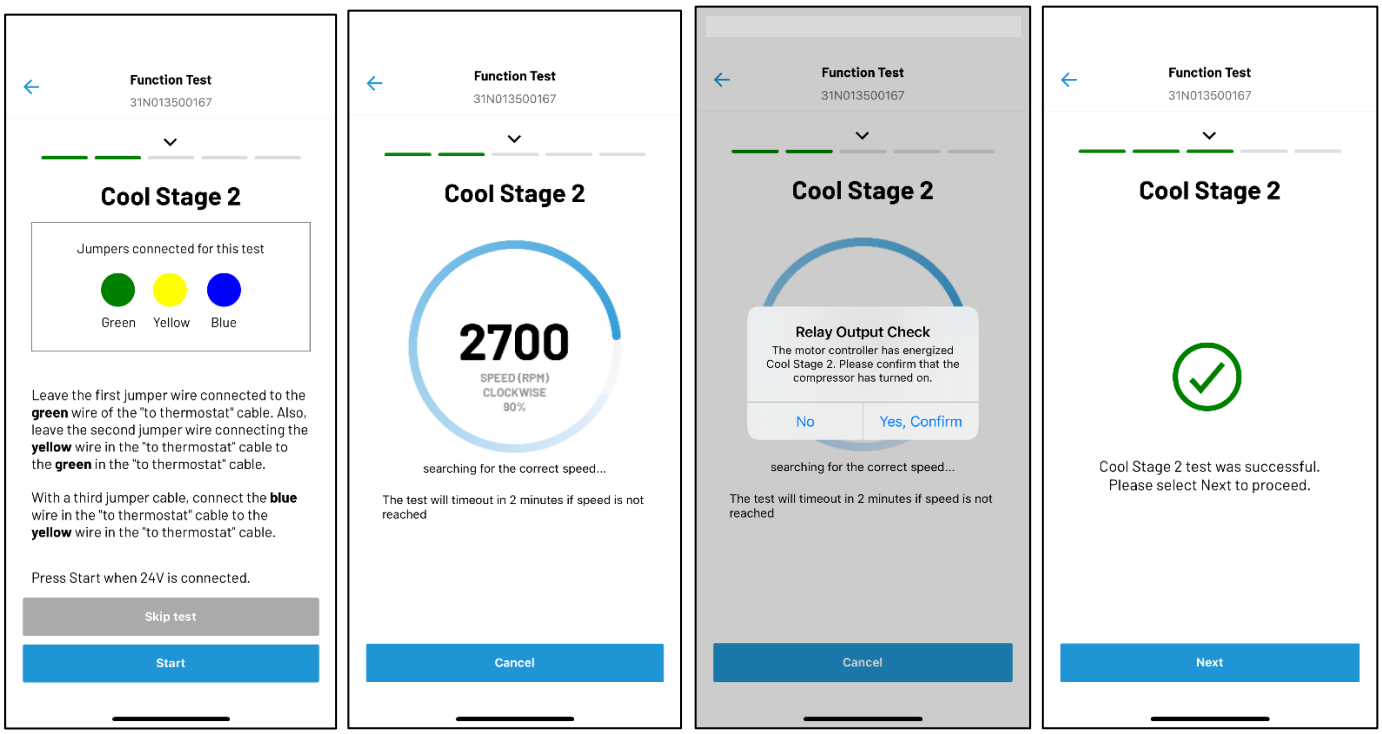
See Cooling Stage 1 & 2 Test Fails.



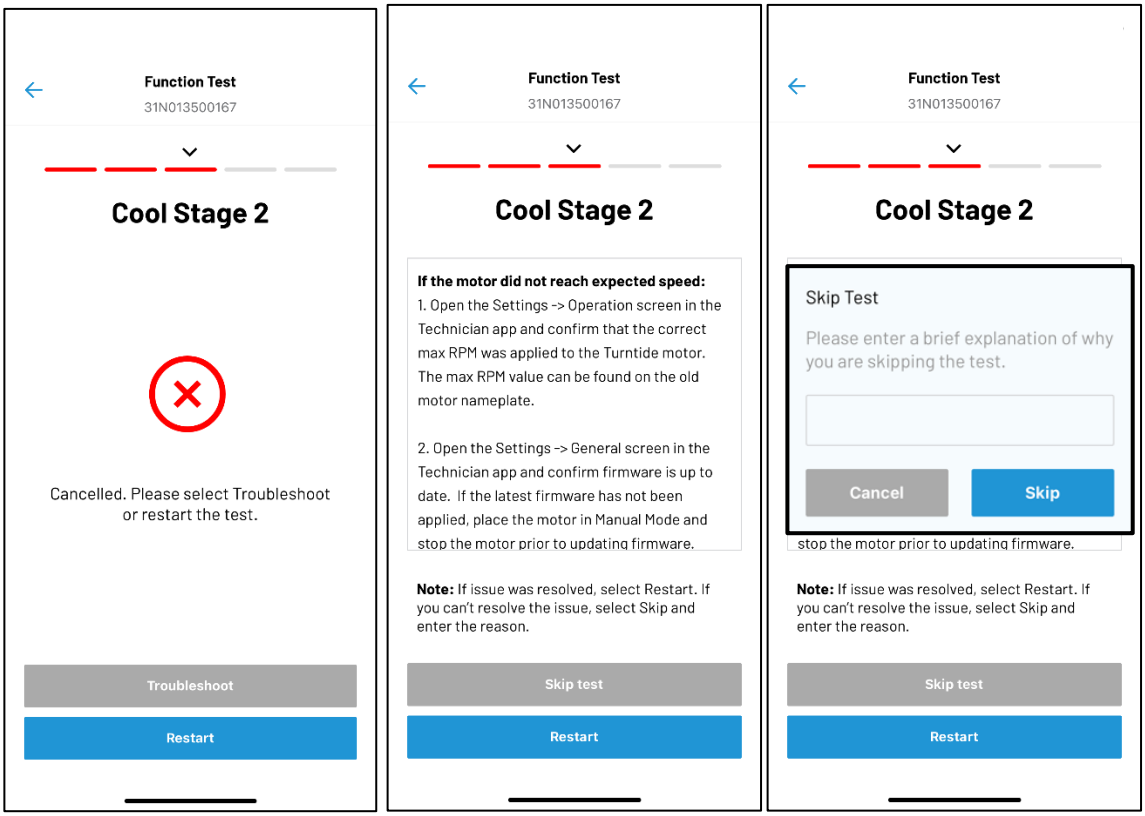
9. (This step is omitted for single stage equipment.) Leave the first jumper wire connected to the green wire of the **To Thermostat** cable. Also, leave the second jumper wire connecting the yellow wire in the **To Thermostat** cable to the green in the **To Thermostat** cable. With a third jumper cable, connect the blue wire in the **To Thermostat** cable to the yellow in the **To Thermostat** cable.
    a. Tap **Start** to begin the test.
    b. After the motor achieves the correct speed, the second stage cooling will energize. *
    c. Tap **Yes, Confirm.** Following confirmation, a green checkmark indicates the test was successful. Tap **Next.**



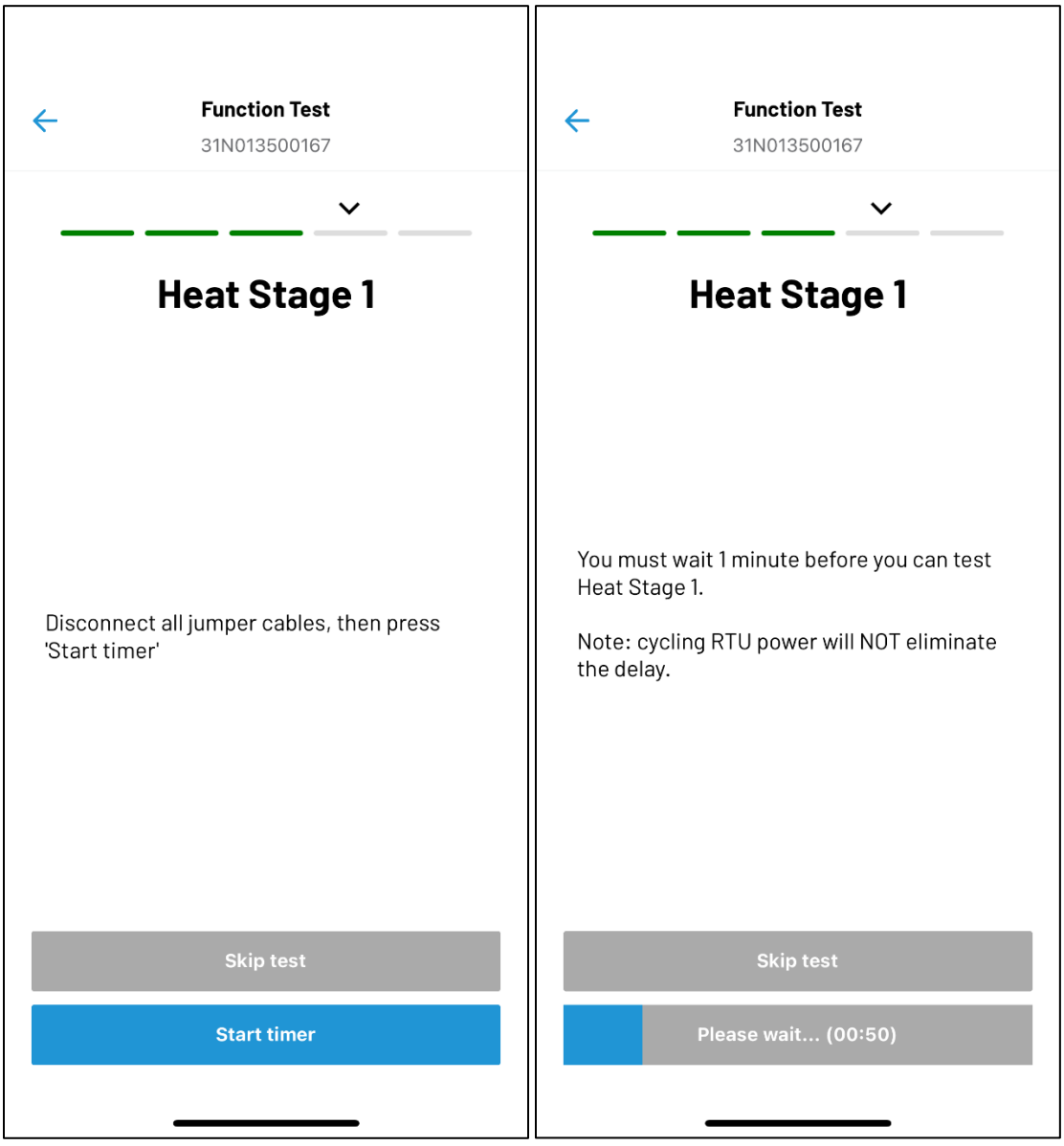
* Time delays built into the RTU control system may prevent the cooling or heating starting immediately.



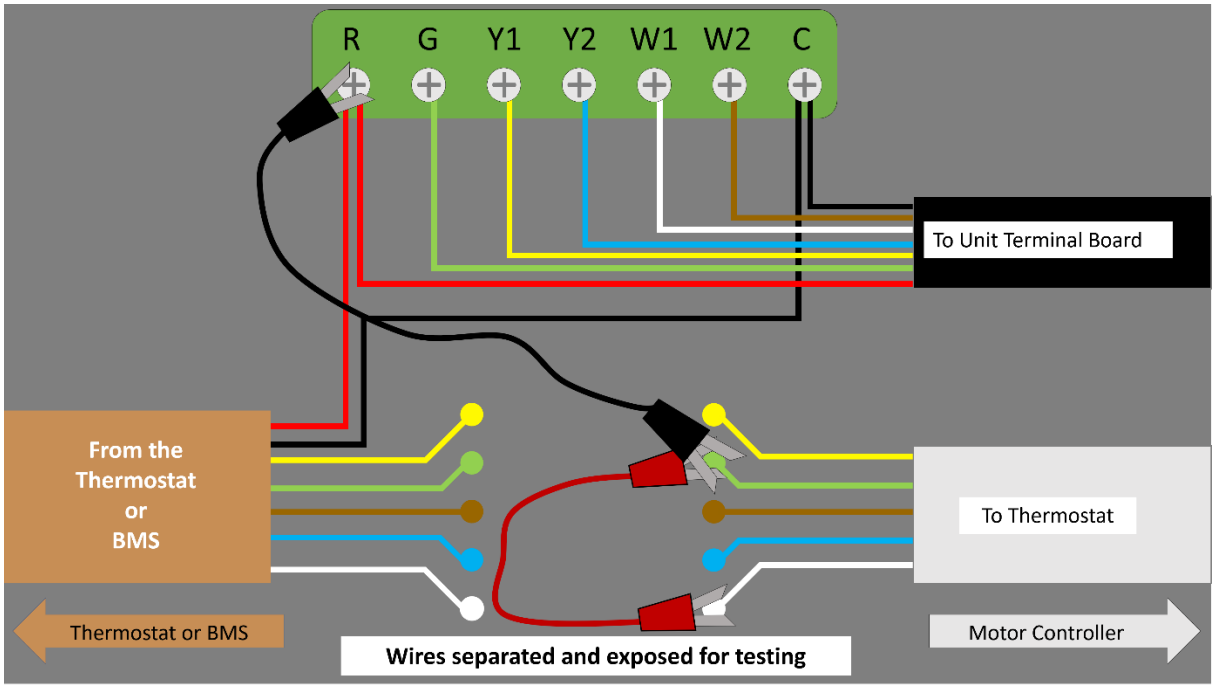
If any test fails, you can tap **Restart** to redo the test or tap **Troubleshoot** for more instructions. See Cooling Stage 1 & 2 Test Fails.



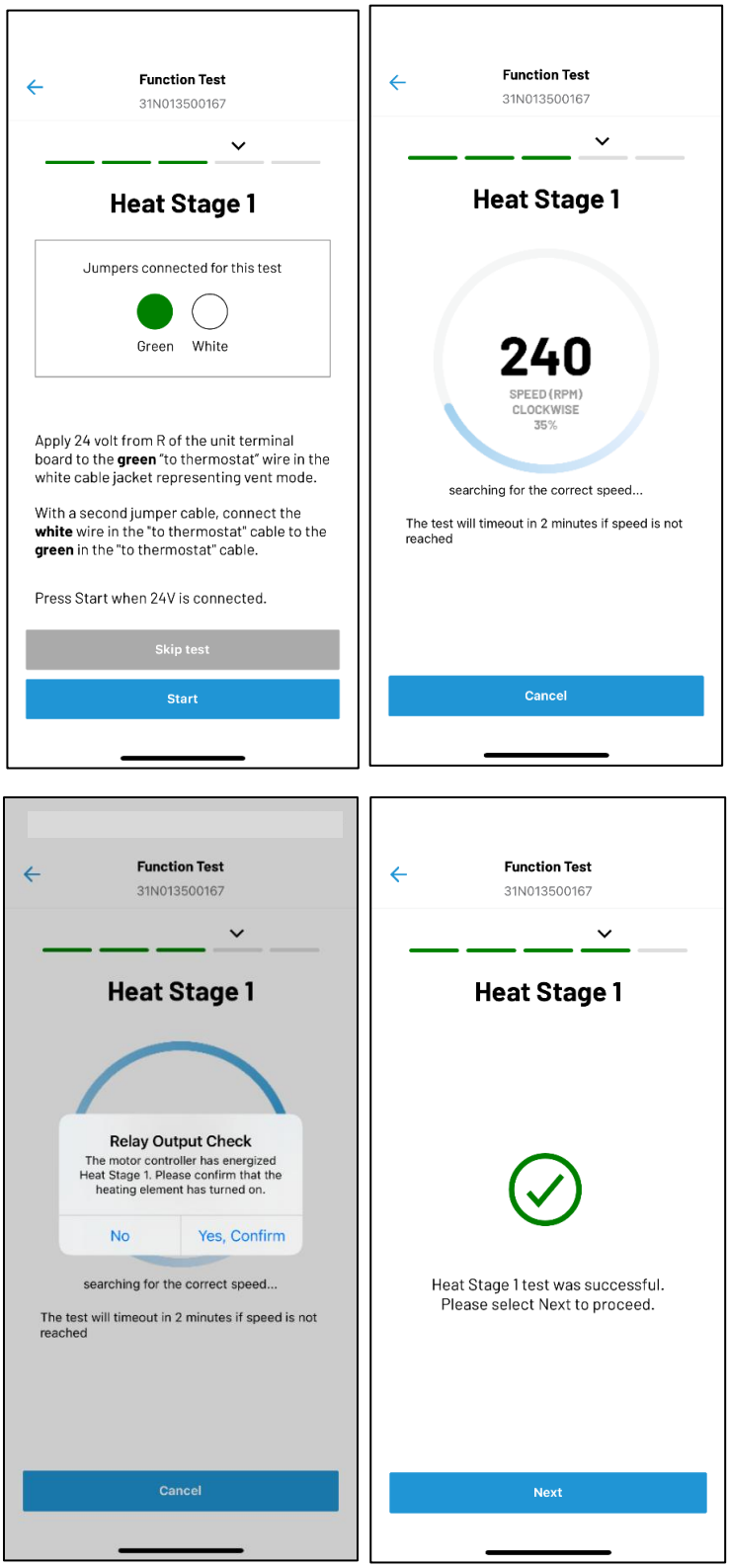
10. Before first stage heating is tested, the motor controller must complete the cooling off period. During this time, the motor will continue to run for 30 to 240 seconds, depending on the flow loaded.
    a. **Disconnect all jumper cables and then tap Start Timer. The Turntide Technician App displays a countdown timer during this period.**
    b. In some applications, the second stage cooling motor speed is the same as the first stage heating speed. There is no speed change.



11. With power applied to the RTU, connect one end of a jumper to the power, or “R” side of the 24-volt transformer, such as the “R” terminal of the unit control board. Connect the other end of jumper wire to the green wire of the **To Thermostat** cable. With a second jumper cable, connect the white wire in the **To Thermostat** cable to the green wire in the **To Thermostat** cable.
    a. Tap **Start** to begin the test.
    b. After validating motor operation, first stage heating will start. *
    c. Tap **Yes, Confirm**. Following confirmation, a green checkmark indicates the test was successful. Tap **Next**.

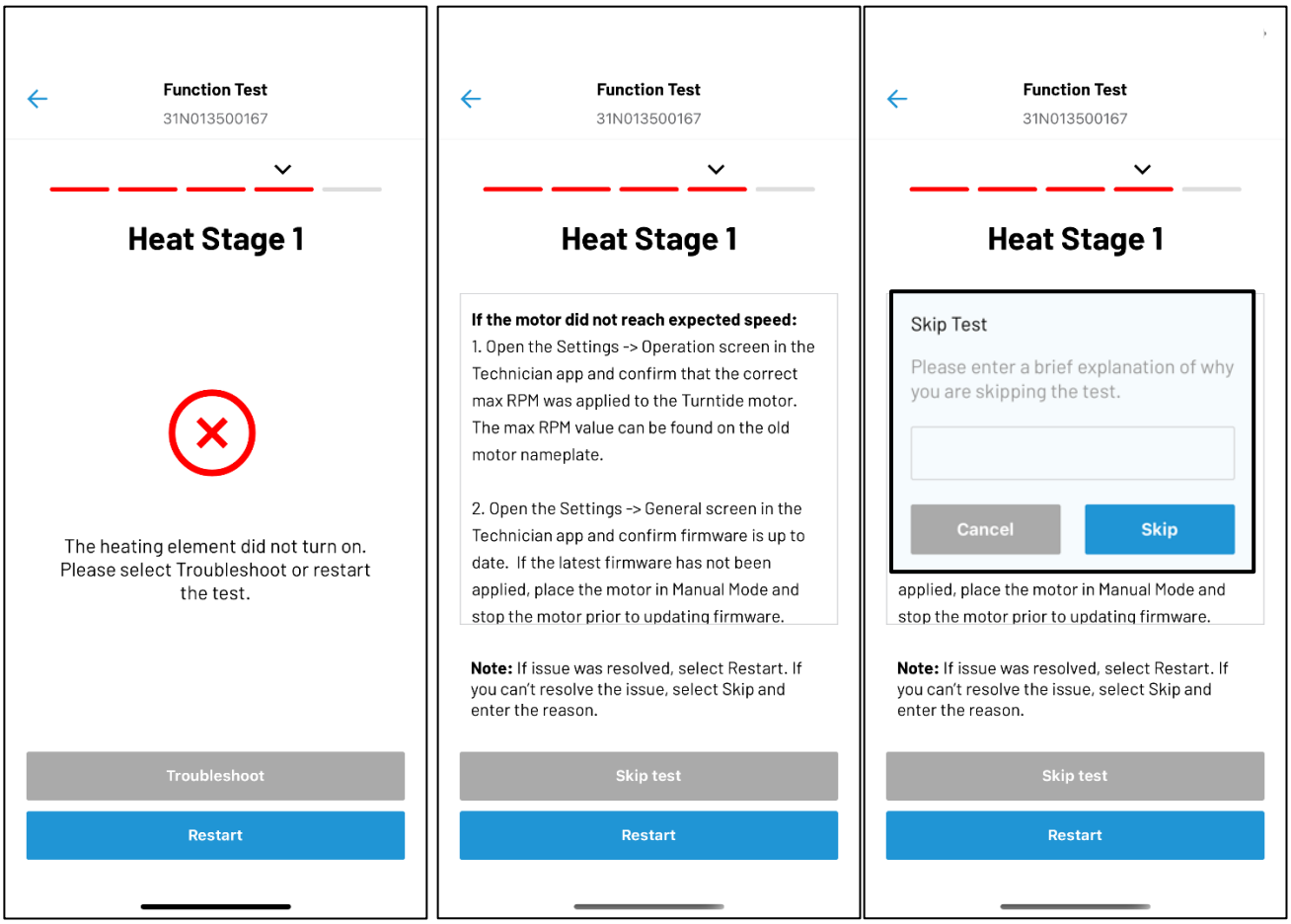


* Time delays built into the RTU control system may prevent the cooling or heating from starting immediately.

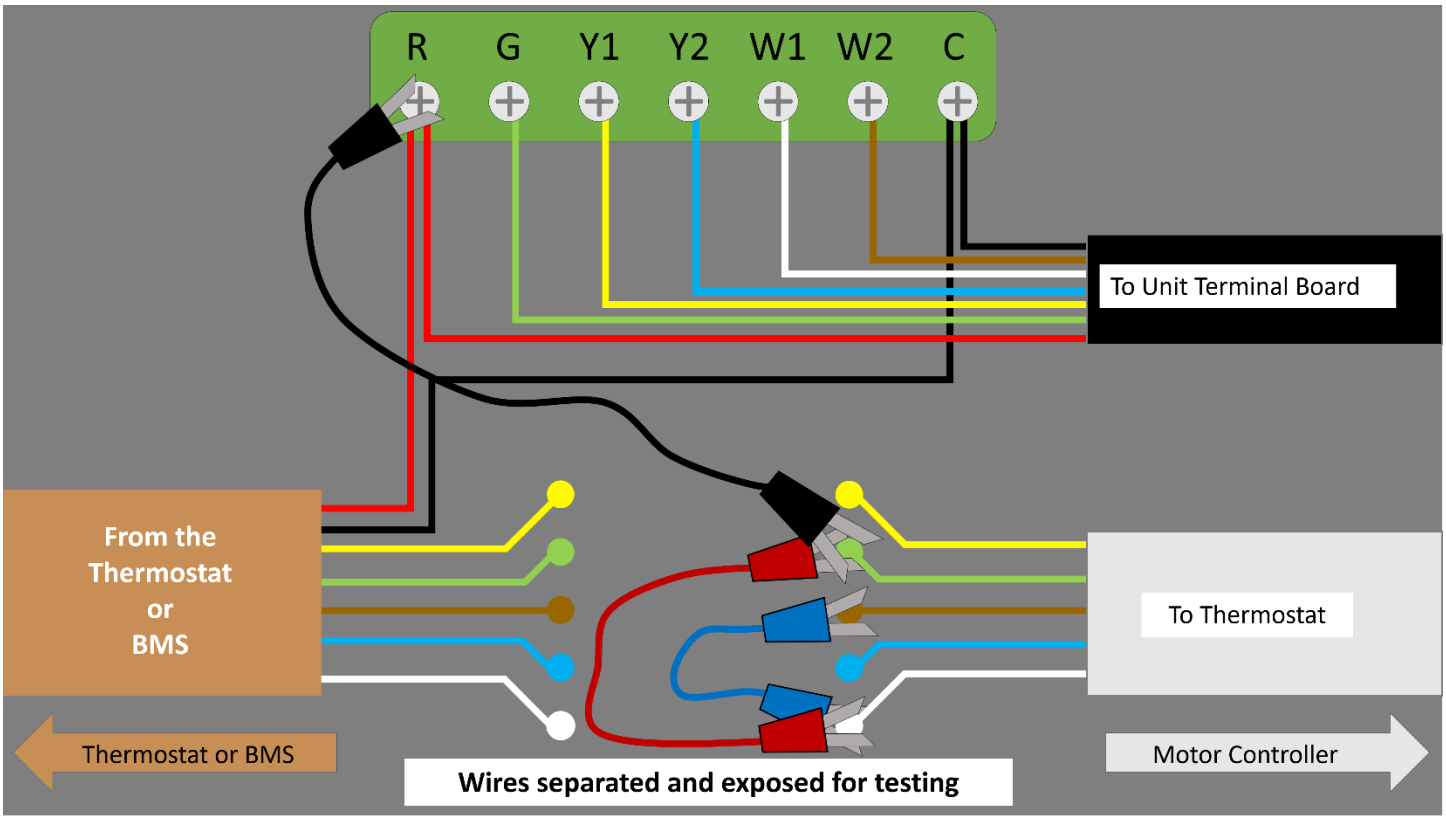


If any test fails, you can tap **Restart** to redo the test or tap **Troubleshoot** for more instructions.

See Heating Stage 1 & 2 Test Fails.

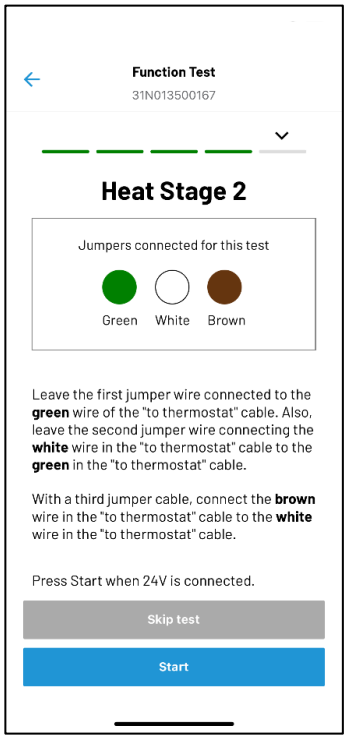


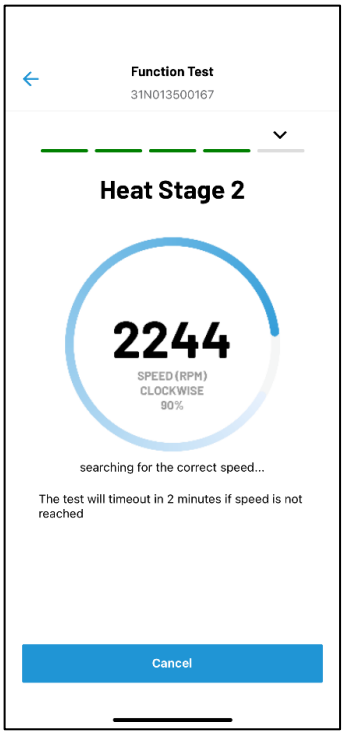
12. Leave the first jumper wire connected to the green wire of the **To Thermostat** cable. Also, leave the second jumper wire connecting the white wire in the **To Thermostat** cable to the green wire in the **To Thermostat** cable. With a third jumper wire, connect the brown wire in the **To Thermostat** cable to the white wire in the **To Thermostat cable**. **
    a. Tap **Start** to begin the test.
    b. After motor achieves required speed, second stage heating will start. *
    c. Tap **Yes, Confirm**. Following confirmation, a green checkmark indicates the test was successful. Tap **Next** to complete testing.

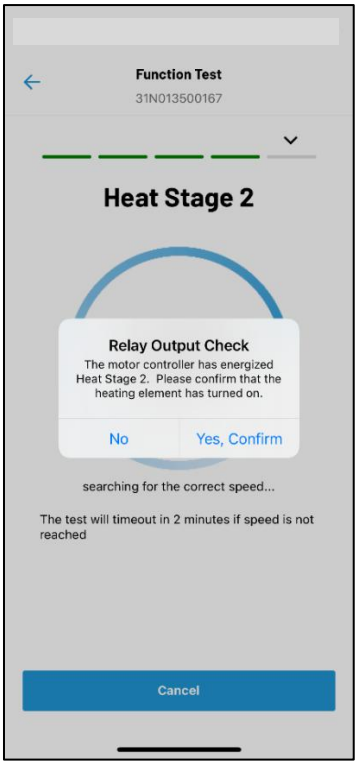


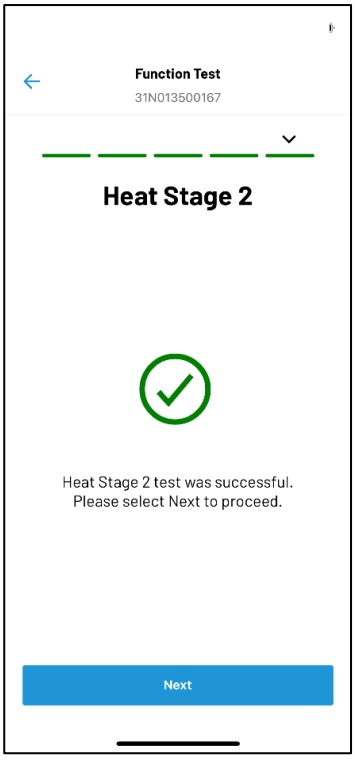
* Time delays built into the RTU control system may prevent the cooling or heating from starting immediately.

** In many cases the first stage heat must be energized before the second stage can energize.



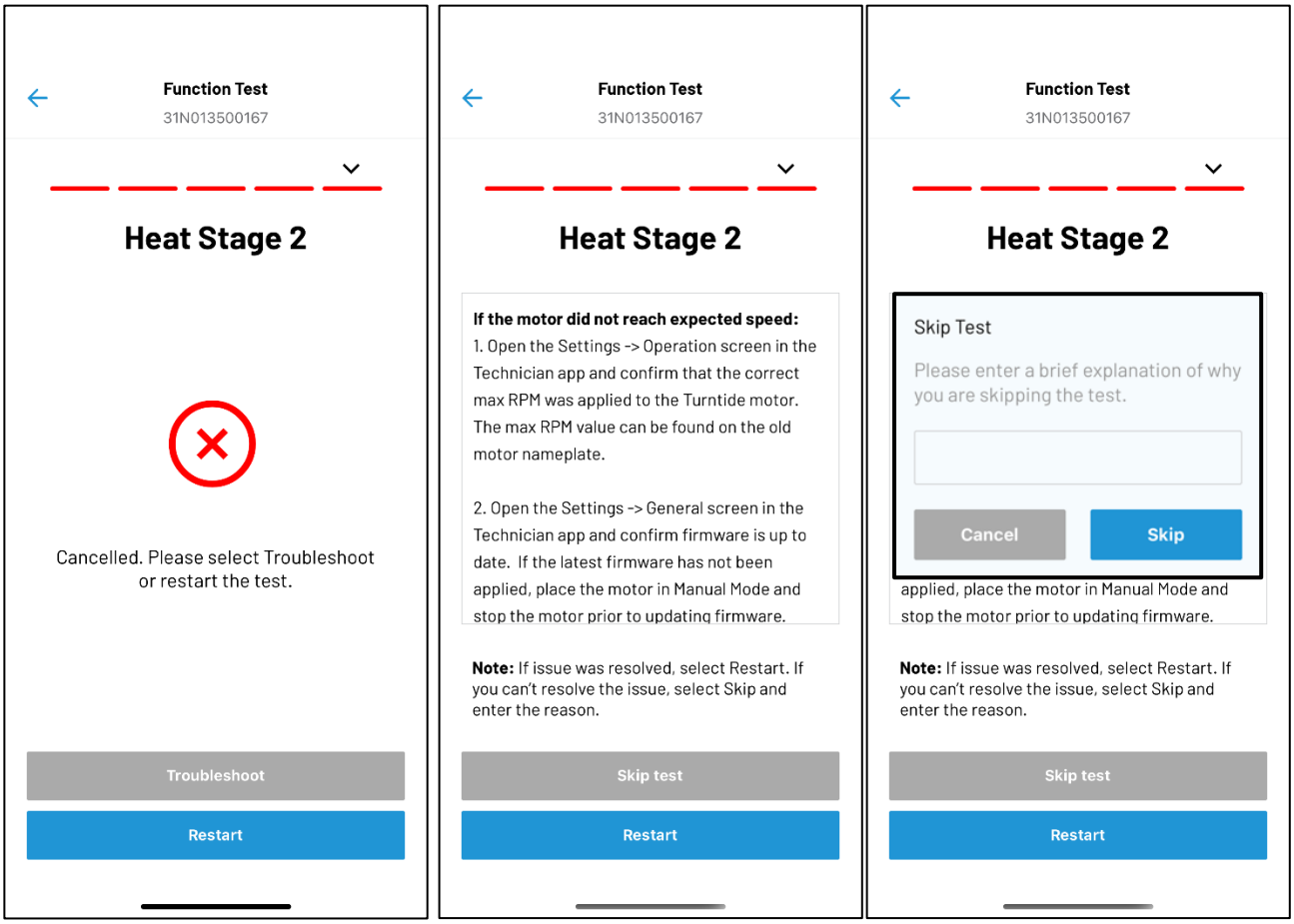




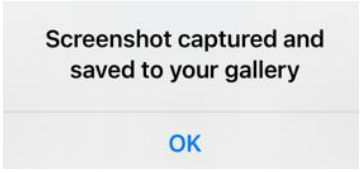


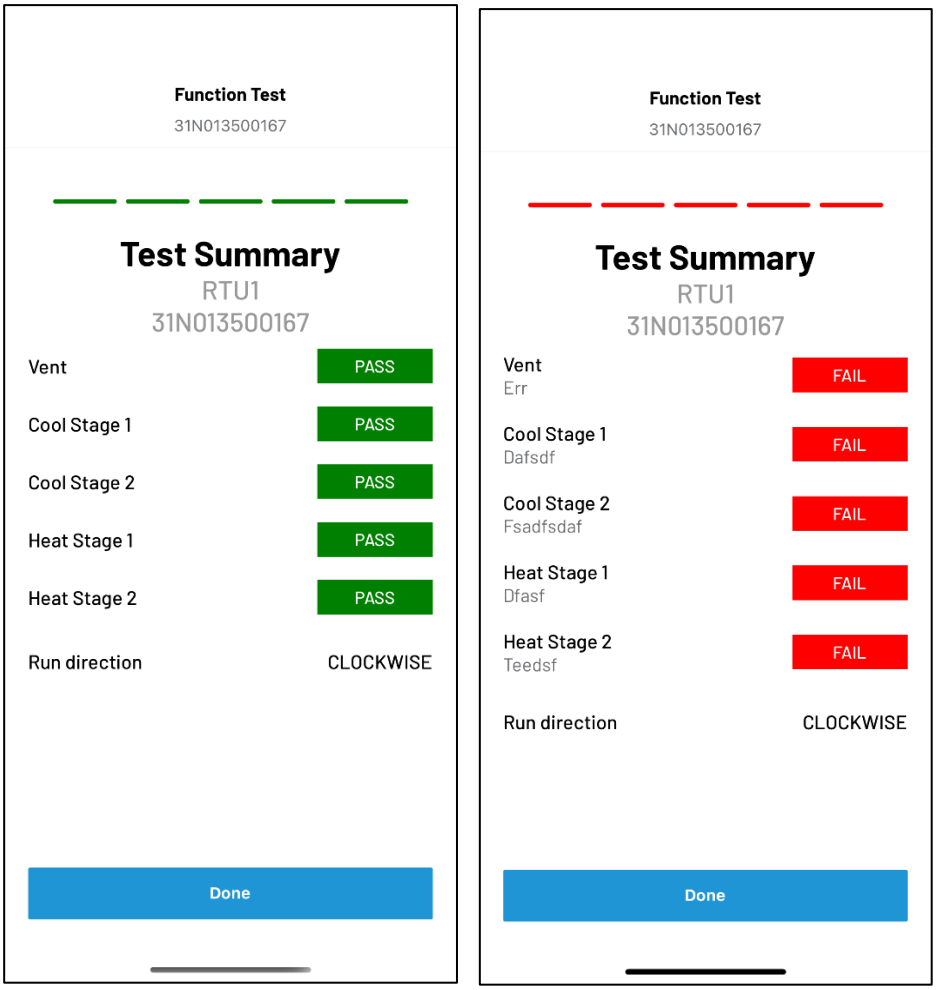
If any test fails, you can tap **Restart** to redo the test or tap **Troubleshoot** for more instructions.

See Heating Stage 1 & 2 Test Fails.



13. The **Test Summary** screen appears.
    a. Tap **Done** to return to the motor Home screen.
    b. The app automatically saves an image of the Test Summary to your phone's photo library.





Disconnect the jumper wires and reconnect the **To Thermostat** cable wires to the thermostat wires.

Troubleshooting

Function Test Fails – Vent

If the motor did not reach expected speed, try all the following troubleshooting steps as necessary using the Turntide Technician App:

Confirm max RPM was applied	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm that the correct max RPM was applied to the Turntide motor. The max **RPM** value can be found on the motor nameplate.
Confirm firmware is up to date	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm firmware is up to date. If the latest firmware has not been applied, place the motor in **Manual Mode** and stop the motor prior to updating firmware. 3. After firmware has been updated, place the motor back into **Auto Mode**.
Reapply flow to motor controller	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. 4. After the flow has been applied, place the motor back into **Auto Mode**.
Ensure senor installed correctly	If a supply air temperature sensor is part of the installation, ensure the sensor is installed in the duct correctly.

If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com.

Cooling Stage 1 & 2 Test Fails

If the motor did not reach expected speed, try all the following troubleshooting steps as necessary using the Turntide Technician App:

Confirm max RPM was applied	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm that the correct max RPM was applied to the Turntide motor. The max **RPM** value can be found on the motor nameplate.
Confirm firmware is up to date	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm firmware is up to date. If the latest firmware has not been applied, place the motor in **Manual Mode** and stop the motor prior to updating firmware. 3. After firmware has been updated, place the motor back into **Auto Mode**.
Reapply flow to motor controller	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. 4. After the flow has been applied, place the motor back into **Auto Mode**.
Ensure senor installed correctly	If a supply air temperature sensor is part of the installation, ensure the sensor is installed in the duct correctly.

If the motor controller output did not close, try all the following troubleshooting steps as necessary:

Verify pins	1. For 24VAC output operated thermostats, open the motor controller, and verify the bridge is placed on **pins 5-6 on jumper J96** for P04 and P05 motor controllers and **J10** for the SL120 controller. 2. For dry contact signals, the bridge should be placed on **pins 3-4 on jumper J96** for P04 and P05 motor controllers and **J10** for the SL120 controller.
Toggle modes	1. With the motor Home screen visible in the Turntide Technician App, toggle the motor controller into **Manual Mode** and then back again into **Auto Mode**.
Reapply flow to motor controller	1. With the motor Home screen visible in the Turntide Technician App, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. 4. After the flow has been applied, place the motor back into **Auto Mode**.

If the compressor did not engage, try all the following troubleshooting steps as necessary:

Check terminals	1. Check the 24VAC at MC R1/R2 terminals. 2. Ensure a 24VAC input is jumpered across RxA or RxB terminals.
Present at Y1/Y2	1. Check for 24VAC at RTU Y1/Y2. 2. If 24VAC is present at Y1/Y2, continue with normal troubleshooting steps. 3. Check devices in the safety circuit: HPS, LPS, etc.
Cold weather	Some units have a temperature sensor safety that will prevent compressors from running in cold weather. Verify if there is a temperature sensor probe in the fan compartment and warm with hand to see if the compressor engages.

If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com

Heating Stage 1 & 2 Test Fails

If the motor did not reach expected speed, try all the following troubleshooting steps as necessary using the Turntide Technician App:

Confirm max RPM was applied	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm that the correct max RPM was applied to the Turntide motor. The max **RPM** value can be found on the motor nameplate.
Confirm firmware is up to date	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Confirm firmware is up to date. If the latest firmware has not been applied, place the motor in **Manual Mode** and stop the motor prior to updating firmware. 3. After firmware has been updated, place the motor back into **Auto Mode**.
Reapply flow to motor controller	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. 4. After the flow has been applied, place the motor back into **Auto Mode**.
Ensure senor installed correctly	If a supply air temperature sensor is part of the installation, ensure the sensor is installed in the duct correctly.

If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com

If the motor controller output did not close, try all the following troubleshooting steps as necessary:

Verify pins	1. For 24VAC output operated thermostats, open the motor controller, and verify the bridge is placed on **pins 5-6 on jumper J96**. 2. For dry contact signals, the bridge should be placed on **pins 3-4 on jumper J96**.
Toggle modes	1. With the motor Home screen visible in the Turntide Technician App, toggle the motor controller into **Manual Mode** and then back again into **Auto Mode**.
Reapply flow to motor controller	1. With the motor Home screen visible in the Turntide Technician App, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. 4. After the flow has been applied, place the motor back into **Auto Mode**.

If the heating element did not engage, try all the following troubleshooting steps as necessary:

Check terminals	1. Check the 24VAC at MC R3/R4 terminals. 2. Ensure a 24VAC input is jumpered across RxA or RxB terminals.
Present at W1/W2	1. Check for 24VAC at RTU W1/W2. 2. If 24VAC is present at W1/W2, continue with normal troubleshooting steps. 3. Check devices in the safety circuits: fan proving switch, high limit switch, etc.

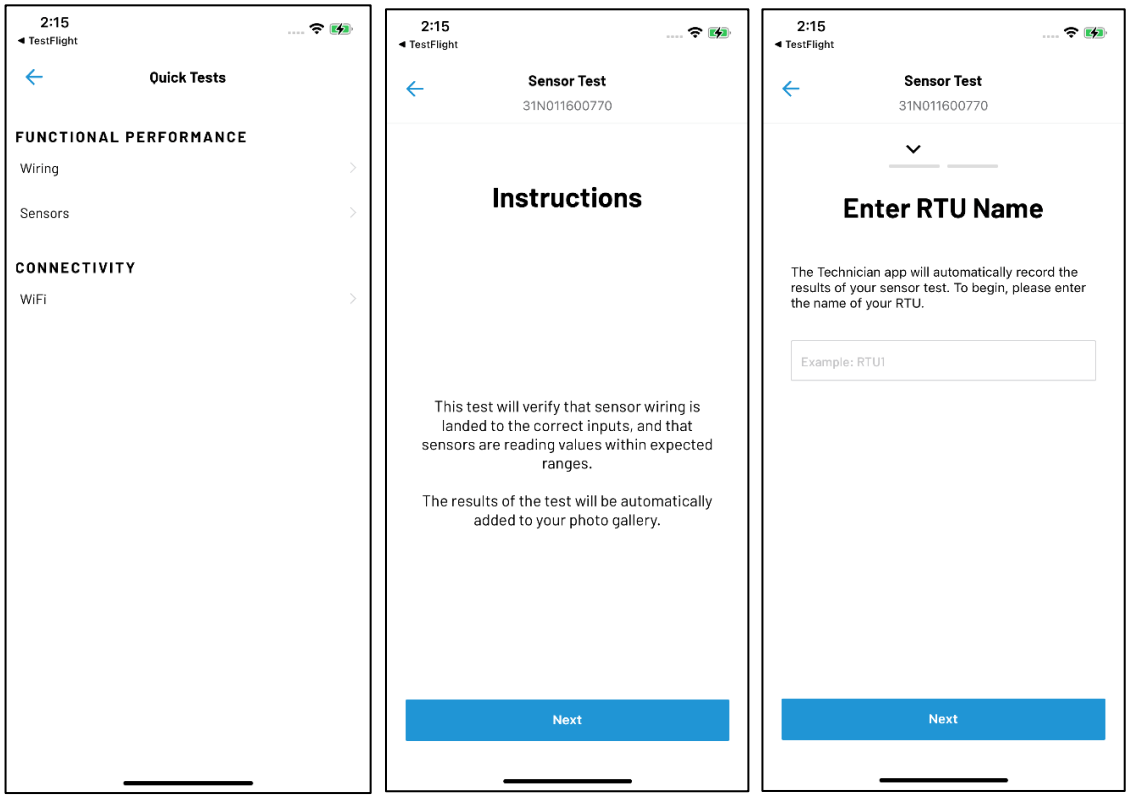
If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com.

Supply and Return Air Sensor Test

Sensor testing is available on the Turntide Technician App versions 1.12 through 1.15.1 and higher for motor controllers with firmware *greater than or equal* to firmware version 2.5. If you connect to a motor controller that is running motor controller firmware 2.5.1 or higher and the correct logic flow is loaded (one that indicates sensors are being used), then the **Sensors** test option is displayed in the app. Otherwise, only **Wiring** and **Wi-Fi** test options are displayed.

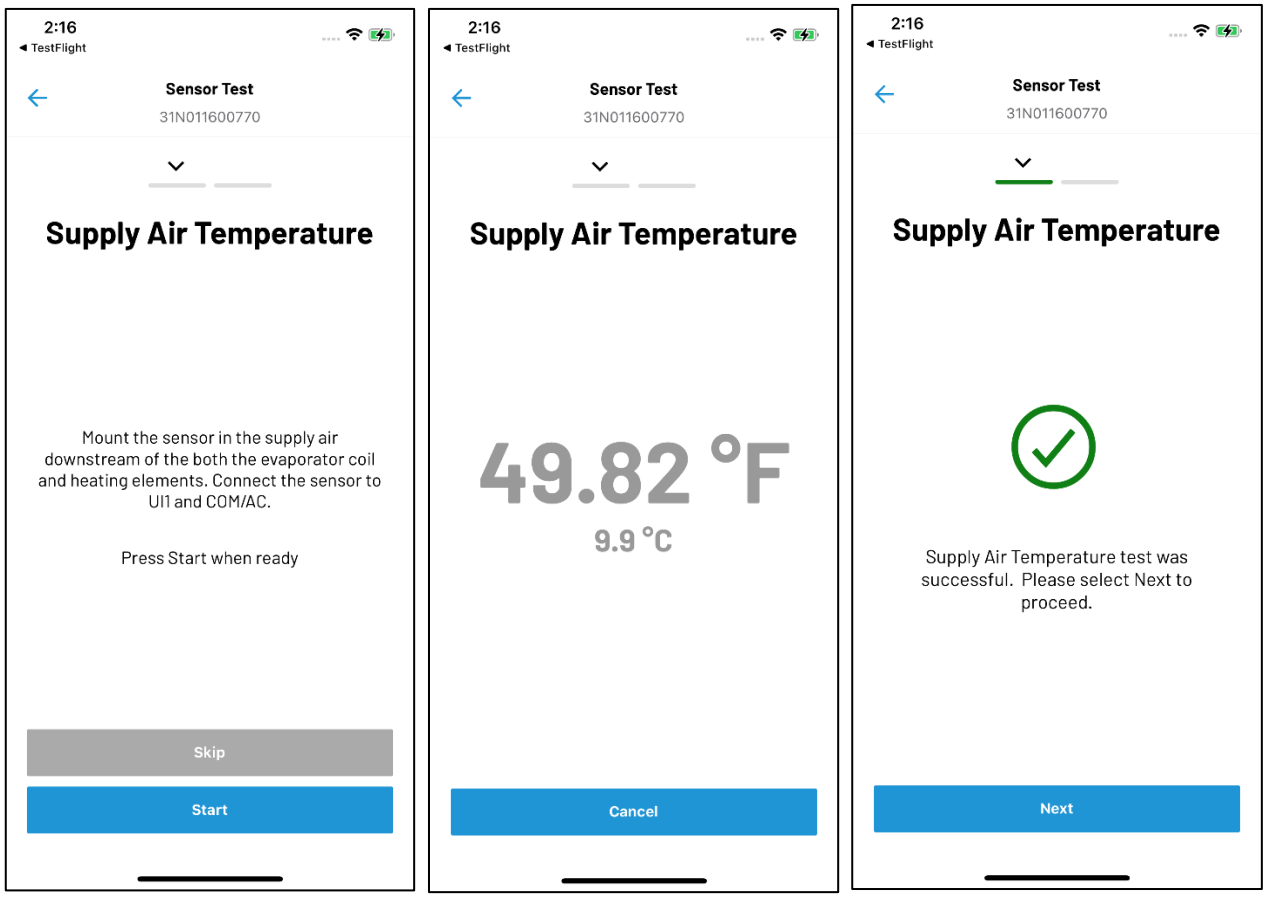
Temperature is displayed in Fahrenheit and Celsius.

1. You must be connected to a motor controller with the motor Home screen visible.
2. Tap **Settings** and then tap **Launch Diagnostics**.
3. The **Diagnostics** screen opens. Tap **Start Diagnostics**. The **Quick Tests** screen opens.
4. Tap **Sensors** to begin testing each sensor. The **Sensor Test** screen appears with **Instructions** outlining the test that will be conducted.
5. Tap **Next** and enter a name for the RTU unit being tested (for example “MyRTU”).
6. Tap **Next**.



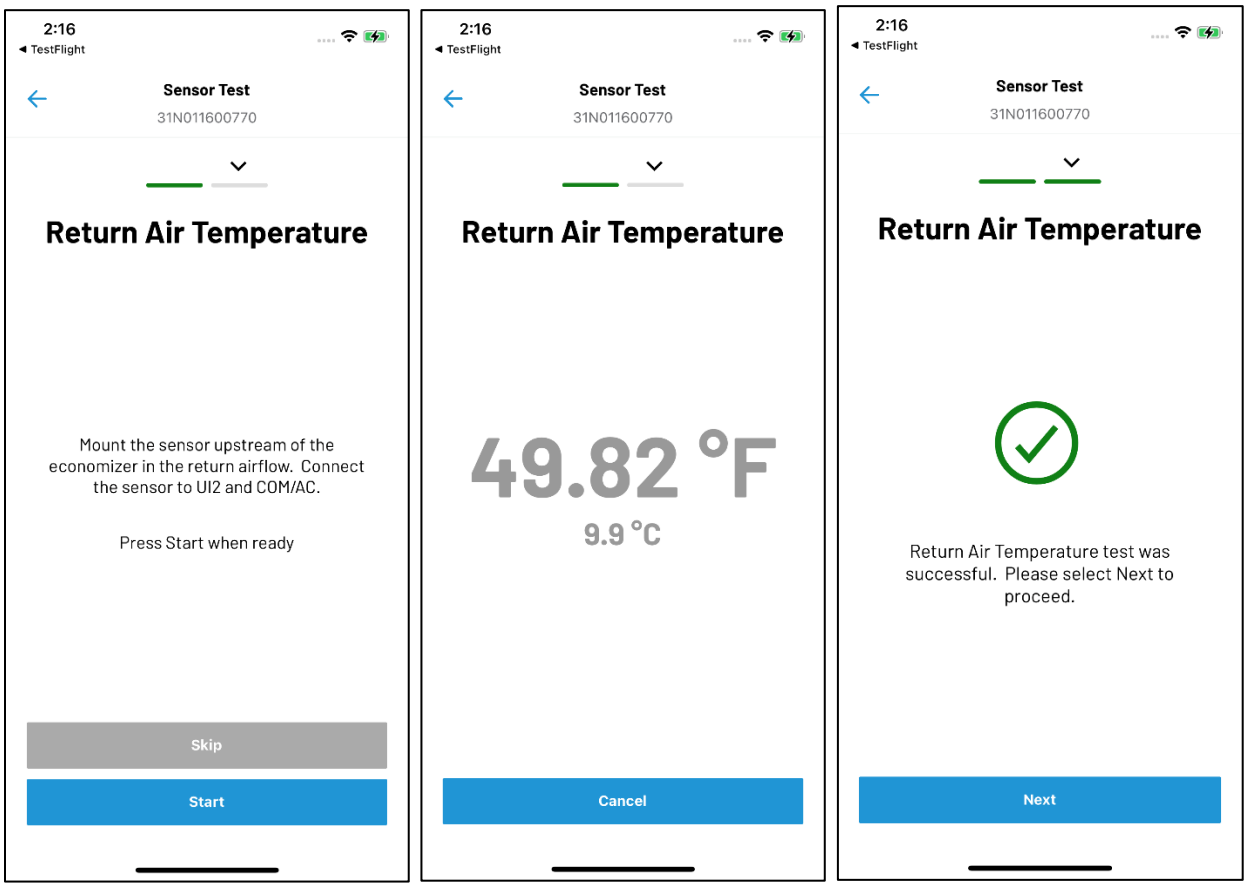
Tap **Start** to being testing the supply air sensor. The supply air temperature is displayed (Fahrenheit and Celsius).

7. After a few seconds, a green checkmark is displayed indicating the test was successful.
8. Tap **Next** to go to the next test.



A *successful* test indicates that the value from the sensor is between a Fahrenheit range that is specified in the flow. The range is -10 to 200. This test ensures that the universal input on the motor controller (which the sensor is connected to) is configured correctly.

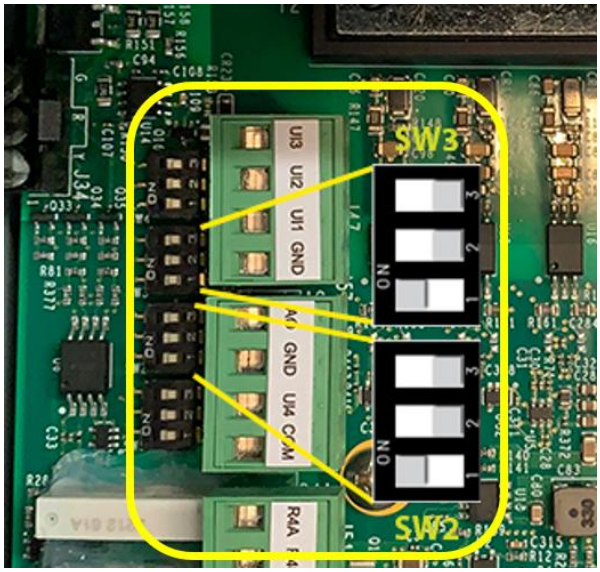
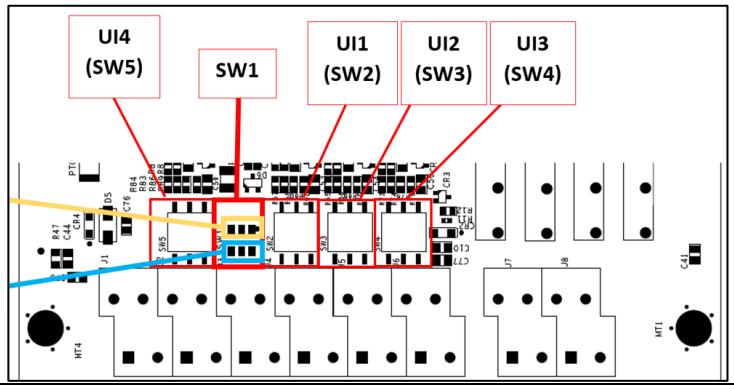
9. The **Return Air Temperature** is displayed. Tap **Start** to being testing the return air sensor.
10. After a few seconds, a green checkmark is displayed indicating the test was successful.

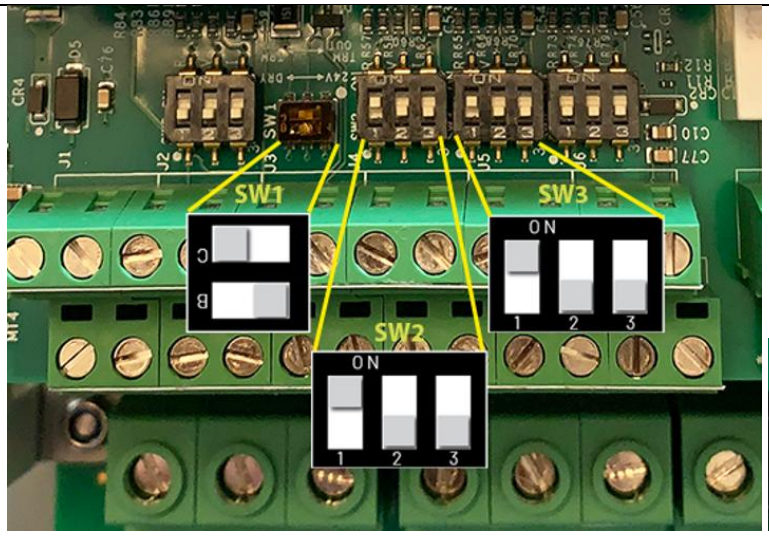
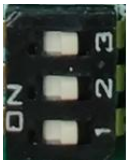


11. Tap **Next**. A **Test Summary** is displayed indicating a **PASS** or **FAIL** for each sensor.
    a. An image of the test summary will be automatically saved to your phone's photo gallery.
    b. **If test fails**, see Supply Air Temp Not Reading in Expected Range or Return Air Temp Not Reading in Expected Range.
12. Tap **Done** to return to the motor Home screen.

Supply Air Temp Not Reading in Expected Range

Try all the following troubleshooting steps as necessary:

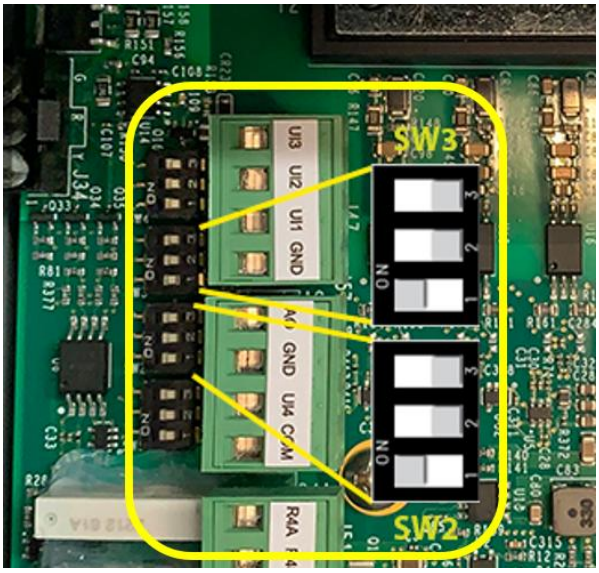
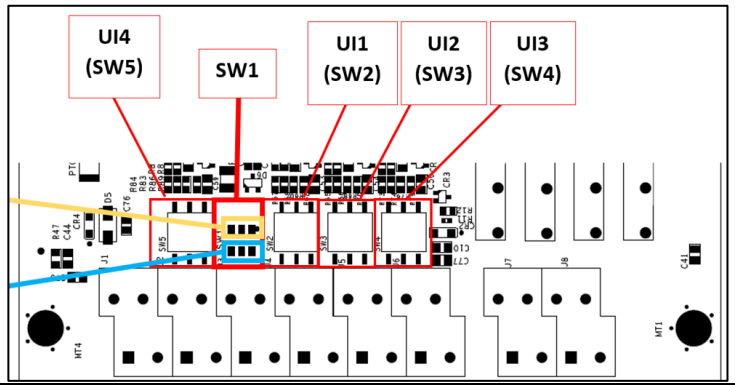
Verify pins/dip switches	**Pins**: Open the motor controller and verify UI1 jumper is set on pins 1-2. • J5125 for the **P04 and P05** motor controllers • J11 for the **SL120** controller **Dip switches: P06 & SL121** **Universal Input Mode Switches** **UI1 / UI2 / UI3 / UI4** **SW2 / SW3 / SW4 / SW5** **P06:**  **SL121:** 

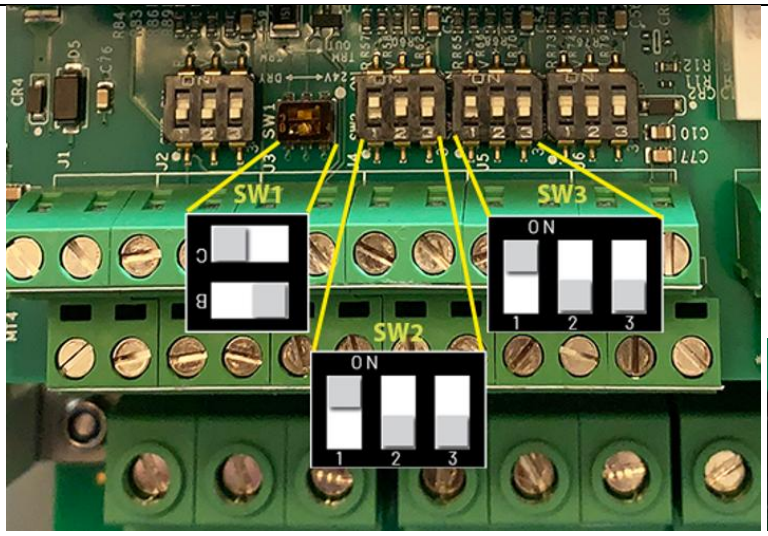
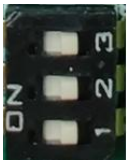
	 **On both P06 and SL121:** Universal inputs define the connected device type. The Universal inputs may be configured in one of **three modes (I, V, R)** via DIP Switches. **Caution**: ONLY one switch **position** should be ON at a time; otherwise, it may cause damage to the motor controller. **Resistive (R):** Thermistor temperature sensors (may be used to monitor ambient air, return air, and supply air temperatures in HVAC systems) • Position 1 ON is the **resistive mode** 
Wiring connections	Check all wiring connections
Reapply flow to motor controller	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. After the flow has been applied, place the motor back into **Auto Mode**.

If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com.

Return Air Temp Not Reading in Expected Range

Try all the following troubleshooting steps as necessary:

Verify pins/dip switches	**Pins**: Open the motor controller and verify UI1 jumper is set on pins 1-2. • J5125 for the **P04 and P05** motor controllers • J11 for the **SL120** controller **Dip switches: P06 & SL121** **Universal Input Mode Switches** **UI1 / UI2 / UI3 / UI4** **SW2 / SW3 / SW4 / SW5** **P06:**  **SL121:** 

	 **On both P06 and SL121:** Universal inputs define the connected device type. The Universal inputs may be configured in one of **three modes (I, V, R)** via DIP Switches. **Caution**: ONLY one switch **position** should be ON at a time; otherwise, it may cause damage to the motor controller. **Resistive (R):** Thermistor temperature sensors (may be used to monitor ambient air, return air, and supply air temperatures in HVAC systems) • Position 1 ON is the **resistive mode** 
Wiring connections	Check all wiring connections
Reapply flow to motor controller	1. With the motor Home screen visible, tap **Settings->Operation**. 2. Place the motor in **Manual Mode** and stop the motor. 3. Reapply the flow. After the flow has been applied, place the motor back into **Auto Mode**.

If the issue persists after trying all the troubleshooting steps listed, contact Turntide Support support.turntide.com