

Goodman GTST Connected Thermostat Installation & Commissioning

Technical Training Module TRC-13



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Agenda

Goodman GTST

System Configurations Installing Goodman GTST Commissioning Goodman GTST with Wi-Fi (recommended) Commissioning Goodman GTST without Wi-Fi Goodman Home App



Goodman GTST Connected Thermostat

- Small footprint design.
- Commissioning and setup can be accomplished with the Goodman Installer app.
 - The end user will be able to control the system remotely through the Goodman Home app.
 - Additional option for commissioning is through the Goodman GTST thermostat buttons.
 - Limited features.
- Open API for integration into most home control systems, such as Crestron[®] and Control4[®].







Goodman GTST Interface

• Pressing or holding down a button or combination of buttons navigates the user through menus to view/adjust settings.



 Navigation through menus and adjusting can also be made using tactile gestures on the Goodman Home application from your mobile device.





Goodman GTST Messaging

- Goodman GTST messaging updates, confirms, and informs about selections you make during set-up and operation.
- There are four types of messages:
 - Status
 - Blue-cooling
 - Red- heating
 - Alerts
 - A critical alert is displayed as a message until resolved by the dealer and dismissed by putting the unit in "OFF" mode and then back into an operation mode.
 - Reminders and Prompts
 - Learn more/tips (App. Only)





Goodman GTST Packaging

 Quick reference cards are packaged with the thermostat to help answer questions during the installation and commissioning.



Scanning the QR code on the bottom left corner will link you to a website related to the title of the card.





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Goodman GTST

System Configurations

Installing Goodman GTST

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Valid System Configurations

Communicating indoor

- Air handler.
- Furnace.
- EEV coil.



Communicating outdoor

- Heat pump.
- Air Conditioning.



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		Outdoor		
GVXC20	GSXV9	GSXS6S	GSXS60	
GSXC7	GVZC20	GSZV9	GSZS60	GSZC7
		Furnaces		
GMVM97	GCVM97	GMVC96	GCVC96	GMVC80
GMVC8	GCVC80	GMVS96-U	GMVS80-U	GCVC8
		Coils		
CAPE/CAPEA	CHPE			
		Air Handlers		
AHVE*1400	MBVCxx00			



Goodman GTST

System Configurations

Installing Goodman GTST

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DO NOT install the thermostat where it can be affected by:

- Drafts or dead spots behind doors and in corners.
- Hot or cold air from ducts or ceiling fans.
- Radiant heat from the sun or appliances.
- Concealed pipes and chimneys.
- Unheated (uncooled) areas such as an outside wall.





Mount the thermostat to be:

- Leveled.
- Approximately 5' from the floor.
- On an interior wall using the included screws.





Wiring Thermostat To Communicating Systems

- Maximum wire distance between the Thermostat and the indoor unit should not exceed 125 feet using 18 gauge wire. Standard non-stranded thermostat wire is acceptable.
- Check for proper voltage before and after wiring is installed.
 - 0.6VDC between Data 1 and 2
- Wiring communicating indoor unit to communicating outdoor units.
 - Connect 1, 2, C and R from the GTST, to 1, 2, C and R at the indoor unit.
 - Connect wires 1 and 2 from the indoor unit to 1 and 2 at the outdoor unit.
- Note: The Goodman GTST is labeled 1, 2, C, R. If wired incorrectly, you will receive a communication error, or your equipment may not be recognized and displayed.





- The thermostat's Aux output is a dry contact that closes the connection to turn on the Aux equipment.
- A 24V AC control signal must be routed through the aux contact of the thermostat.



*The terminals are selected in the GTST installer app.

Note: It is recommended to use a minimum of 18-gauge wire. Standard non-stranded thermostat wire is acceptable. Maximum operating length of wire is 125 ft.



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Use The Coolcloud[™] App. To Verify Furnace Firmware

• The GTST must be utilized when setting up communication.

Note: This system is **NOT** Comfortbridge controlled. If wired to a communicating furnace, the installer must check for critical OTA updates through the CoolCloud app. prior to commissioning.

• Do not energize the controller until you have verified the critical OTA is complete.









Agenda

Goodman GTST System Configurations Installing Goodman GTST

Commissioning Goodman GTST with Wi-Fi (recommended)

Commissioning Goodman GTST without Wi-Fi Goodman Home App



Cloud Commissioning (Wi-Fi)

- Download the Goodman Installer app. from your respective app. store.
- You do not need to create an account to log in
 - User ID and password (case sensitive):
 - User = Goodman
 - Password = Dealer
- System profiles enable the technician to modify settings from the app. and upload those settings to the thermostat.

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Goodman Air Conditioning & Heating	
Installer	Cloud Commissioning Goodman verified installation process, applying system profiles, running system tests, and generating verification reports. (WiFi required.)
password 📎	Apply Profile Apply system profiles for equipment configurations without a WiFi connection.
	Setup WiFi Connect a thermostat to a home WiFi network.
	System Profiles Create system profiles to apply



Create A Job Based On Location

- Every job needs the location details.
- Click on the "+" sign to add location details and continue.
 - The user can use their GPS location to automatically fill in the address.

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<	job list		< add location	
	Myjobs		Location	
	Jobs are used to track cloud commis of one or multiple thermostats at a sir location.	sioning ngle	Add the location where the system installed.	1 is
	Click the "+" in the top right corner to a	start a	address	
	non poo		antista	

< add location

9:41

Location

address	
apt/ste	
city	state
zip code	United States

Use GPS Location

Add the location where the system is installed.

510 Silverdale [Dr	
apt/ste		
Houston	Texas	\sim
77079	United States	~

Continue

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Add Thermostat To Job And Configure For Zoning If Needed

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- Add thermostat by tapping on + in top right corner then scanning the 2D bar code or entering thermostat DKNS # manually.
 - The 2D bar code is found on the terminal subbase.
 - DKN # is found by navigating through the thermostat menus.
- Zone board configuration can be seen by sliding the toggle button to the right.
 - If a thermostat is connected to a zone board and not zone one, then equipment info will not be available.





Connect To The Thermostat Using AP Mode

- On selection of any task, internet connection will need to be verified before the user can continue setup.
 - If the Wi-Fi icon is grey, the system is not connected to Wi-Fi
- To connect to Wi-Fi, first click on "apply system profile"
- On the thermostat, press and hold the fan button for 5 seconds.
 - Release the fan button and press the down button to continue.
 - Approximately 10 seconds to enter AP mode.
 - AP mode must be active before • tapping discover device.
 - When connecting to the thermostat's access point, the mobile device MUST be within two feet.







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- Once connected to the thermostat, following the "Cloud Commissioning" process, the user can connect to a local Wi-Fi network and no longer need to maintain a 2ft. distance from the controller.
 - Must be password protected.

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×	networks		<	connect to home wifi	
	Select a network to connect t thermostat.	to the		When the thermostat is connected WiFi network, the WiFi icon will an the display.	d to the ppear on
1	OTRESLAB			A Londoney 6 Marg	
				Continue	
				WiFi not connected? If you do not see the WiFi icon, bu see just a dot (•) the thermostat of connected to your WiFi network a may need to try to connect again.	it instead was not nd you
				Retry Connection to WiFi	
		-			





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Apply System Profile

- A list of the connected equipment will be populated once connected to Wi-Fi.
 - Verify equipment, then continue to view thermostat profile options.
 - Once connected to Wi-Fi, the green o icon will be displayed. If access is expired, then the user will see the no access icon o.

ç	9:41	वा 🗟 ।	
<	129	90 Riverdale Ln	
2	Tasks Scan therm	Add thermostat to job the bar code found on the back of the oostat package or back of thermostat.	+
		GTST 22120000001 zone 1	
		apply system profile	>
		run system test	>
		verify charge	>

9:41 🙃 💻	9:41 et la seconda de la secon
<pre>find installed equipment</pre>	< apply system profile
Equipment The following equipment is connected to this thermostat.	System Profile Based on the equipment select from the list of compatible system profiles for this installation.
Heat Pump GSZS601810 012456789	profile from equipment Current profile settings applied at this time
Air handler AHVE24BP1400 012456789	Goodman provided Climate Optimized for zone 2A (adjustments may be needed)
Continue	Goodman provided Default profile out of the box settings for all unitary systems
	custom profile DVPEC with aux heat adjusted changeover settings and setpoints

Job Completed





Apply System Profile (continued)

- You can select and or modify any profile to send to the thermostat.
 - Make edits as needed, then tap "Send to Thermostat"
- **NOTE:** Modifying the profile does not affect the default profile

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apply system profile	< apply system p	profile
System Profile	Climate Optimized	d
Based on the equipment select from the list of compatible system profiles for this	Q Search	
installation.	device name	main room
profile from equipment	Display	
settings applied at this time	language	english
Goodman provided Climate Optimized for zone 24 (adjustments may be needed)	degree units	fahrenheit
Goodman provided	use large font	
Default profile out of the box settings for all unitary systems	> use light bar	•
	screen saver	off
	Date & Time	
	time zone	Pacific
	use 24-hour time formal	
	Schedule	
	enabled	
	Send to 1	hermostat



Run System Test

- Running system test will prompt the user to calculate the charge before running the test.
 - Measure total line set length, then select liquid and suction line diameter before calculating required trim charge.
 - Input the actual charge weighed in.





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Run System Test

- Verify service valves are open.
 - Tap "Run Test."
 - Users can leave the screen while the test is running and return as needed.
 - System test is required for inverter systems.
 - If the test has not been completed an error code "11" will be generated.
 - Error code "11" will clear once the test is complete.





Run System Charge Verification

- Recommended charge to be added to meet required charge displayed.
- Measure subcooling and verify proper specifications are met utilizing the charging chart in the IOM.
- Once system stabilizes and is running at full speed, the calculated subcool will be displayed.
 - Allow up to 5 min delay between gauge reading and app. verification.
 - Stopping the verification will generate a report.

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ask	Add thermostat to job	+		Charge verification
can hern	the bar code found on the back of the nostat package or back of thermostat.			Required trim charg
	GTST 22120000001	•••		Added
~	profile: Climate Optimized	>		Additional charge I
~	system test completed	>		It is recommended t
	verify charge	>		each time and let th
				Charge mode allows of the system. Syste for a duration of app minutes.
				Skip
				While the system is in thermostat will disp the thermostat until
	Job Completed			verified and you hav





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Complete Setup

• After all steps are complete, the user will be able to share a commissioning report before completing the job.

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Scan	the bar code found or	Remove Thermostat from Jpb				
herm	nostat package or bac	Cancel	D	ealer	Home	owner
	GTST 22120000001	•••	Dealer			Goodmar
\checkmark	profile: Climate Optimiz	zed >	Commis Report	sioning		Air Cendli ar ing & Hur
\checkmark	system test completed	>	Created by: Prank MacDanand	Parson: Petroary 21, 2023		
× .	charge verified	>	2019 Omsonet View Sa Swgar Land, IX 77475	The alloched report cap ories ded Dation eautyme trapad performance and be configured by qualifier naming a Dealer Corres Instantian, Description place of instantian inst	Lares system settings and of at the tase the report of terfacer as all installed exp of and thermal HAAC pada assuming Report at the roo and provided for reference and terms. For technical da	Forefigurations for the was run. Epstein settings planert and shauld alma/st mass rule. Calce reconstrain rigintion of wery system or bid should NCT to satisf et sy another trauleschoft et sy another trauleschoft
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Goodman Home App



Apply System Profile (without Wi-Fi)

- Download the Goodman Installer app. from your respective app. store.
- You do not need to create an account to log in
 - User ID and password (case sensitive):
 - User = Goodman
 - Password = Dealer
- System profiles enable the technician to modify settings from the app. and upload those settings to the thermostat.

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Apply Profile Apply system profiles for equipment configurations without a WiFi connection.
Setup WiFi Connect a thermostat to a > home WiFi network.
System Profiles Create system profiles to apply

Download the Goodman Installer app



Available on the App Store and Google Play



Must have Wi-Fi enabled on your mobile device without a network connected



Connect To The Thermostat Using AP Mode

- On the thermostat, press and hold the fan button for 5 seconds.
 - Release the fan button and press the down button to continue.
 - Approximately 10 seconds to enter AP mode.
 - AP mode must be active before tapping discover device.
 - When connecting to the thermostat's access point, the mobile device MUST be within two feet.







- A list of the connected equipment will be populated once equipment settings are detected (may take several minutes).
 - Verify equipment, then continue to view thermostat profile options.







Apply System Profile (continued)

- You can select and or modify any profile to send to the thermostat.
 - Make edits as needed, then tap "Send to Thermostat"
 - Without being connected to a network, the user MUST be within two feet of the thermostat.
- **NOTE:** Modifying the profile does not affect the saved profile

1:15	.it l (7 8)	1:15
apply system profil	е	< apply sy
System Profile		Current Profil
Based on the equipment, selection is the system profine to the system profine to the system profine to the system profine to the system profile to the sys	ct from the les for this	Temperature
Warks withC75/0/010 .		min/max setpo
Works with - GSZS606010 + AHVE60DP1400AA	>	deadband
Current Profile This is a current system profile	9	Humidity
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		overcool to def
		Heat Pump
		house size
		COOL AIRFLO
		cool airflow tri
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		cool airflow on
		Sen

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nt Profile			Curr
erature			devic
ax setpoints	50° / 90°	>	Disp
and	4°	>	
dity			Syst sent
humidty	40° / 55°	>	
ol to dehumidify	0°	>	
Pump			
size	not available	>	time
AIRFLOW SETTI	NGS		use 2
rflow trim	-6% , -6% , -6%	>	Tem
ofile	Profile D	>	min/
rflow on delay	5 sec	>	dead
Send to Ther	mostat		





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Running System Test (without Wi-Fi)

- On the thermostat, press and hold MODE/FAN buttons at the same time for 5 seconds to enter setup options.
- Navigate to step 20 by pressing the MODE button.
- Hold the FAN button for approximately two seconds will turn system test on.
 - The system test cannot be stopped once started. This test should take about 15 minutes to complete.
- The display will cycle through the message, "System Test Running" while testing.
- When the system test is complete, press the MODE button to return to the main menu.





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Charge Verification (without Wi-Fi)

- On the thermostat, make sure system mode is in Cooling, and drop the set point to the lowest cooling mode temperature.
 - Approximately 50°F to run maximum cooling.
- System must reach maximum speed to charge the system and measure subcool using gauges and temperature clamp.
- Weigh-in any additional charge needed to meet requirements on corresponding charging chart.

NOTE: Charge verification can also be initiated by navigating through the screens on seven-segment display of the ODU. This process is found in the ODU IOM.

Setting No.	Contents		Set	tting		Installer/Servicema Notes
1	Maximum Defrost Interval*1	0: 30min. 1: 60min. 2: 90min. 3: 120min.				
2	Set Maximum Current	N/A		Future Use		
3	N/A	N/A				
4	System Verification Test (Sys- tem test)	0:	ON	1:0	DEE	
7	Force Defrost Cycle*1	0:	ON	1:0	OFF	
9	Charge Mode	0:	ON	1:0	OFF	
10	Maximum Compressor RPS for Cooling	0: -10.0 RPS 4: -8.0 RPS	1: -9.5 RPS 5: -7.5 RPS	2: -9.0 RPS 6: -7.0 RPS	3: -8.5 RPS 7: -6.5 RPS	Can adjust comp RPS in each 0.5 RPS.
11	Maximum Compressor RPS for Heating*1	12: -4.0 NPS 16: -2.0 RPS 20: 0.0 RPS 24: 2.0 RPS 24: 2.0 RPS 28: 4.0 RPS 32: 6.0 RPS 36: 8.0 RPS 40: 10.0 RPS	10:-0.5 NPS 17:-1.5 RPS 21: 0.5 RPS 25: 2.5 RPS 29: 4.5 RPS 33: 6.5 RPS 37: 8.5 RPS	14: -3.0 NPS 18: -1.0 RPS 22: 1.0 RPS 26: 3.0 RPS 30: 5.0 RPS 34: 70 RPS 38: 9.0 RPS	15: -2.5 RPS 19: -0.5 RPS 23: 1.5 RPS 27: 3.5 RPS 31: 5.5 RPS 35: 7.5 RPS 39: 9.5 RPS	Can adjust comp RP in each 0.5 RPS.
12	COOLING BOOST MODE Selection	0:0N 1:0FF				
13	COOLING BOOST MODE Temperature	0:105F, <u>1:100F</u> , 2:95F, 3:90F, 4:85F, 5:80F, 6:75F, 7:70F, 8:Always ON				
15	N/A	N/A				
16	Noise down level	0:LE 2:LE	VEL1 VEL3	<u>1:LE</u>	VEL2	
17	N/A	N/A				
18	N/A	N/A				
19	Capacity priority	0:0	DFF	1:	ON	
22	DEFROST HEAT*1	3:40F, 4	0:Always ON :45F, 5:50F, 6:5	, 1:30F, 2:35F, 55F, 7:60F, 8:65	F, 9:OFF	
28	HEATING BOOST MODE*	0:0FF 1:0N				



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Goodman GTST System Configurations Installing Goodman GTST Commissioning Goodman GTST without Wi-Fi Commissioning Goodman GTST with Wi-Fi





Account Set-up

- Setting up an account is a four-step process.
 - 1. Downloading the application from your IOS or Android application store.
 - Creating the account.
 - 2. Confirming your account.
 - 3. Adding the thermostats' location.
 - 4. Connecting the app to the thermostat.

Note: A **mobile device**, the **GTST** connected to **Wi-Fi** that is wired to a **communicating system** and a valid **email address** is needed to create a mobile account.

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Coodman	≡ my home	
Air Conditioning & Heating		
Home	🔲 Hallway	
email	-	70
password Ø		\square
Sign In		
(J)	Upstairs	
Forgot Password Create Account	ح ک	32
	🔛 Main Room	
	*	73





Step 1 - Create The Account

- Tapping **create account** at will start the process.
- **Before** agreeing, read the terms and service, privacy statement, and other notices.
- Fill in your name, valid email address, and password.

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Create Account
Create Account

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create account			< creat
By signing into your Daiki using your device, you ag following documents.	n account and ree to each of the		lan
terms and conditions		>	last na
privacy statement		>	Your en
end user license		>	email
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	9:41 create account By signing into your Daiki using your device, you ag following documents. terms and conditions privacy statement end user license Cancel	9:41 Create account By signing into your Daikin account and using your device, you agree to each of the following documents. terms and conditions privacy statement end user license Cancel IAgree	9:41 Create account By signing into your Daikin account and using your device, you agree to each of the following documents. terms and conditions privacy statement cancel Agree

9:41	ad 🗢 💼
create account	
lan	
last name	
Your email address is your user ID).
email	
password	Ø
Descured must contain at least 1/	2

Password must contain at least 10 characters, a number, an uppercase letter, lowercase letter, and a special character from this set: ^\$[]{?!@#

Next



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Step 2 - Confirming The Account

- You will be prompted to access the **email address** you provided when creating the account.
- A welcome email will appear in your inbox providing a **six-digit** code.
- Entering the six-digit code on your phone app. will allow you to continue.







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O accounts@daikinskyport.com <accounts@daikinskyport.com>

[EXTERNAL] Your verification code

Your verification code is 006501.

To:

Step 3 - Adding The Thermostat's Location

- Tap the login button and enter the email and password associated to your mobile account and.
 - If you have forgotten your password, tap the forgot password link to recover information via email.
- Type the address of where the thermostat is located to gather accurate information.
- Click Save This Location

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\equiv my home	×
Continue to link your acc location and any connect	ount to your ted devices.
Add Locat	tion

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imes add location		
West Park Home		
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77079	United States 🚿	<
Use Phone Location	Continue	





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Step 4 - Connecting The App. To The Thermostat

- Tap the added location and select "add thermostat".
- Once the thermostat has been selected in the app., press and hold the fan button on the thermostat until the words "wireless setup" appears.
 - Select next on the mobile app. after "wireless setup" appears.









Step 4 - Connecting The App. To The Thermostat (Cont.)

- On the thermostat, press the warmer button to reveal the six-digit code.
 - Select next on the mobile app. after code appears.





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Step 4 - Connecting The App. To The Thermostat (Cont.)

• In the mobile app., enter the code displayed on the thermostat and select "add".







Resource

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Visit <u>Goodmanmfg.com</u> for additional information



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Thank goodness for Goodman[®].