Daikin One+ Smart Thermostat Installation & Commissioning



Technical Training Module TRC-3



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Daikin One+

System Configurations Installing Daikin One+ Commissioning Daikin One+ Full Set-up **Dealer Navigation** Homeowner Navigation Mobile Apps



Daikin One+ Smart Thermostat

- Premium control that provides optimal comfort.
- Easy to use, energy efficient, reliable, and ensures that the system is set up properly.
- Designed to regulate and communicate with HVAC equipment.
- The user will be able to control the indoor unit remotely through the Daikin One Home app.







Daikin One+ Smart Thermostat

- Offers two-way communication when combined with:.
 - Daikin *FIT* system; air conditioners and heat pumps, residential inverters; air conditioners and heat pumps, and two stage system; air conditioners and heat pumps.
 - Also includes the Daikin One ecosystem which provide an integrated solution for temperature control and air quality.
 - Daikin One home air monitor (recommend adding the MERV 15 filter)
- Serves as a cloud-connected hub and controller for communicating HVAC systems.









Daikin One+ Interface

- The thermostat has a physical dial on the right used for manual setpoints adjustments.
- Pressing the center of the dial at any time during normal mode acts as a home button, displaying the primary screen.
- The high-resolution touch screen on the left supports tactile-based interactions.
- Navigating to each screen is done by tapping an icon.





Service Reminders

- Set service reminders to maintain your system.
- Preset reminder options include:
 - Media filter
 - Humidifier Pad
 - Service reminders

<	reminders		
	media filter	3 months >	
	service reminder	6 months >	

< media filter

Remind to replace air filter after:

2 months	
3 months	
4 months	

restart timer



Messaging

- Daikin One+'s messaging updates, confirms, and informs about selections you make during set-up and operation.
- There are four types of messages:
 - Status
 - Alerts
 - Reminders and Prompts
 - Learn more/tips

eating to 74°F	
⊾ fan failure alert	
ould you like to edit the schedule?	
earn more (i)	
LIKIN	

Note: Alerts have priority over all other messages in the system.



Quick Reference Card

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



Scanning the bar code on the bottom left corner will link you

to a website related to the title of the card.

https://daikinone.com/smart_thermostats/oneplus/pros/



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Valid System Configurations

Communicating Indoor

Communicating Outdoor

Heat pump.

Air Conditioning.

- Air handler.
- Furnace.
- EEV coil.





Non-communicating Indoor

- Furnace
 - Utilizing a D24V Gateway



Non-communicating Outdoor*

 24V single-stage condenser.



*Added equipment.



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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.





Installing Daikin One+ Smart Thermostat

- Mount the thermostat to be
 - Leveled.

AIR INTELLIGENCE

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





- Maximum wire distance between the Daikin One+ and the indoor unit should not exceed 125 feet using 18 gauge wire.
- 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 Daikin One+, 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.
- Wiring communicating indoor unit to non-communicating outdoor units.
 - Connect 1, 2, C and R from the Daikin One+, to 1, 2, C and R at the indoor unit.
 - Connect wire Y1 from the indoor unit to Y1 at the outdoor unit.







Wiring thermostat to communicating systems

- Communicating indoor units supplied with a 9 pin connector only, will move the connector to the far left to pair R, C, G, W1 on the 9 pin with 1, 2, R, C on the indoor PCB.
- Communicating outdoor units supplied with a 7 pin connector only, will move the connector to the far left to pair R, C on the 7 pin with 1, 2 on the outdoor PCB.

Note: The Daikin *One*+ is labeled 1, 2, C, R. If wired incorrectly, you will receive a communication error, or your equipment may not be recognized and displayed





Wiring thermostat to communicating systems

- Communicating indoor units with a 4 pin connector supplied, will match 1, 2, R, C on the 4 pin with 1, 2, R, C on the indoor PCB.
- Communicating outdoor units with a 4 pin connector supplied, will match 1, 2 on the 4 pin with 1, 2 on the outdoor PCB.

Note: The Daikin *One*+ is labeled 1, 2, C, R. If wired incorrectly, you will receive a communication error, or your equipment may not be recognized and displayed.





Aux wiring

- The thermostats Aux outputs are dry contacts that close the connection to turn on the Aux equipment.
- A 24V AC control signal must be routed through one of the aux contacts of the thermostat.



*The terminals are selected in the Daikin One+ installer wizard.

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



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- Begin set-up: walks installers through the entire commissioning process to ensure the system is configured properly and ready for the homeowner to use.
 - Enables random access to any setting.
 - Remembers settings as they are entered.
 - Individual may stop and restart as needed.
- The screens are populated based on the model numbers of the equipment, matched to a database of device configuration settings.





Commissioning Daikin One+ Smart Thermostat

- Start-up screen is displayed upon powering the thermostat.
- The welcome screen displays preferences to choose from.
- Select Unitary (default) before moving to the setup screen.
- Version of the thermostat is displayed on the learn more screen.
- Selecting setup options allows you to factory reset the thermostat.

			_	
DAIKIN				< V DAIKIN
velcome				setup
hoose the language you woul se to set up your Daikin therm	ld like to lostat.			The Daikin smart thermostat saves each step as you proceed. You can always go back and channe your settings
nglish	۲			baok and onango your ookinge.
spañol	0			
ançais	0			
				begin setup >
se large font		This setting will affect the equipment detected by your thermostat.		setup options
ontinue	>	unitary	\odot	learn more >
		single/multi-split (S21)	0	
		VRV,SkyAir,single/multi-split (P1/P2)	0	
		continue	>	



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Daikin One+ System Configurations Installing Daikin One+ Commissioning Daikin One+ Full Set-up Dealer Navigation

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Start-up

- Tapping begin set-up starts the five step set-up process:
 - Communication.
 - Personalization.
 - Equipment Set-up.
 - System Optimization.
 - Preferences.
- Note: All steps must be completed and reviewed before completing set-up to ensure the system is configured properly and ready for the homeowner to use.

For detailed menu settings https://daikinone.com/smart_thermostats/oneplus/pros/

< VDAIKIN	
smart thermostat setup	
1 communication	\rightarrow
2 personalization	\rightarrow
3 equipment setup	\rightarrow
4 system optimization	\rightarrow
5 preferences	\rightarrow
complete setup	\rightarrow



Step 1 - Communication

- Configures Communication Networks.
- Select home Wi-Fi to search for networks.
- With Wi-Fi configured, the system can check the software version and update software to the latest version automatically.

Note:

- Wireless router must be password protected.
 - Compatible with 5Ghz routers which supports 2.4Ghz
- Equipment type displays the equipment selected on start up.

DAIKIN		< communication	on
smart thermostat		equipment type	unitary >
		home wifi	disconnected $>$
1 communication	\rightarrow		
2 personalization	\rightarrow		
3 equipment setup	\rightarrow		
4 system optimization	\rightarrow		
5 preferences	\rightarrow		
complete setup	\rightarrow		
		previous step	next step



Step 2 - Personalization

- Tapping the personalization tab allows you to edit default information.
- Personalization displays:
 - Language.
 - Large font selection.
 - Date & Time.
 - If Wi-Fi is connected, date & time sets automatically.
 - Thermostat Name.
 - Degree Units.

Note: A green check mark appears next to items reviewed from the set-up menu.

DAIKIN		< personalization
smart thermostat setup		language english >
1 communication	\rightarrow	date & time 7/14/2020 7·48 AM
2 personalization	\rightarrow	device name main room
3 equipment setup	\rightarrow	degree units fabrenheit >
4 system optimization	\rightarrow	
5 preferences	\rightarrow	
complete setup	\rightarrow	
		previous step next step



Step 3 - Equipment Set-up

- Displays equipment found by searching the communication network, or by adding/removing equipment and accessories from the preset list.
- The unit that is identified determines the list of configurations that will be displayed
 - View unit Specifications.
 - Configure
 - Cool settings
 - Heat Settings
 - Heat Pump Settings
 - Humidifier Relay
 - Aux alarm
 - Heater Kit

DAIKIN		<	equipment setup		
smart thermostat			air conditioner	DX17VSS >	
			air handler	DV25PECB14AA >	
1 communication	\rightarrow		media filter	>	
2 personalization	\rightarrow		add equipment	\oplus	
3 equipment setup	\rightarrow				
4 system optimization	\rightarrow				
5 preferences	\rightarrow				
complete setup	\rightarrow				
			previous step	next step	





Added Equipment

- The Daikin One+ smart thermostat is compatible with multiple accessories.
 - Air quality sensor
 - Humidifier
 - Dehumidifier
 - You can Install the humidifier and dehumidifier by using aux 1 or 2
 - Recommend using an isolation relay between auxiliary device and thermostat.
 - UV Bulb
 - Electronic Filter
 - HEPA filter
 - EWC Zone Board.

Air Quality Sensor



EWC Zone Board



Humidifier









Add Equipment – Auxiliary Heat

Selecting add equipment will allow you to configure an auxiliary heat source.

< equipment setu	ıp	
★ indoor unit	>	
× outdoor unit	>	
standard filter	>	
add equipment	\oplus	
previous step	next step	

<	add equipment		
	air quality sensor	>	
	aux heat source	>	
	filter box	>	
	HEPA filter	>	

З	aux heat source		
c	onnection	aux 1	>
h	eat pump is primary heat	source	\bigcirc
a	ux is primary heat source		\bigcirc
С	ontrol		>
		ld oquipmor	.+
	cancel ac	ia equipmer	п



*Aux heat source is the only option for an AC only outdoor unit.

Secondary Heat Settings

The control section will allow you to adjust settings such as lockouts and secondary heat activation temperature.





*Emergency Heat mode will appear as a system mode when connected to heat pump units and can be used to directly turn on the aux heat source if enabled.



T on/T off Control

- T on and T off provide an alternative control method to have the main AC/heat pump control the aux heat source using its PI control algorithm.
- T on/T off is the only control option for AC- only outdoor units
 - If the indoor unit is a gas furnace, or is an air handler with a heater strip, these heat sources will be controlled around the heat setpoint by the demand-based algorithm.
 - The aux heat source will be controlled independently.

< control		< T on / T off
heat pump lockout	15°F >	These temperature differentials from the heat setpoint control when aux heater will turn on and off
aux heat lockout	disabled >	Turn on temperature differential:
use T on / T off		-4
T on / T off	-3°F / 1°F >	-3 °F
indoor unit fan enabled		Turn off temperature differential:
		0 1 °F
		Turn off temp must be at least 3°F above



Aux Heat Control

- When heat pump is the primary heat source:
 - Heat pump lockout temperatures are adjustable from -20°F to 65°F in 5°F increments. (default 15°F)
 - Auxiliary heat lockout temperatures are adjustable from -10°F to 75°F in 5°F increments. (default 50°F)

Auxiliary heat demand:

- T on differential is adjustable from -7°F to -3°F in 1°F increments (default -3°F)
- T off differential is adjustable from -4°F to 1°F in 1°F increments (default 1°F)





Aux Heat Control

- When auxiliary heat is the primary heat source:
 - Heat pump lockout temperatures are adjustable from -20°F to 65°F in 5°F increments. (default 15°F)
 - Setpoint differential can be set at -9°F, -7°F, -4°F, and -2°F (default -2°F)

Heat pump demand:

- T on differential can be set at -1°F or -2°F (default -1°F)
- T off differential 1°F fixed





Step 4 – System Optimization

- System optimization displays:
 - System test.
 - Inverters only.
 - Charge mode.
 - Inverters only.
 - Optional test.
 - Error history.
 - Logs alerts with an error code.
 - White = not critical
 - Yellow = critical
 - Calibration. Thermostat must be in OFF mode.
 - Wait 30 minutes before calibration for the thermostat to equalize.
 - Status.



DAIKIN		< 5	system optimiz	zation
smart thermostat		S	system test	>
		C	harge mode	>
Communication	\rightarrow	-	ontional tests	
2 personalization	\rightarrow	-		
3 equipment setup	\rightarrow	e -	error history	>
		C 	alibration	>
4 system optimization	\rightarrow	S	tatus	>
5 preferences	\rightarrow	_		
complete setup	\rightarrow			
			previous step	next step

System Test

- The system test should be run for the inverter units before proceeding to complete set-up.
- To proceed through the set-up process, the system test needs to be completed without any errors.
- When the tests are completed, the run test screen is displayed.
 - System test is complete only when display code E11 notice clears from the seven segment LED display on the heat pump or air conditioner.

<	system optimizatio	n	
	system test		>
	charge mode		>
	optional tests		>
	error history		>
	calibration		>
	status		>
	previous step	next step	

|--|

This is approximately a 5-15 minute test. If the thermostat is set to cool mode, the system will enter charge mode upon completion, otherwise it will stop.



Charge Mode

- Selecting charge mode allows for a steady system operation for approximately 1 hour to allow for refrigerant charging of the system via the suction charge port.
- The system will stop after completion.
- Note: For proper charging of a system, please see equipment installation manual.

	< system optimization	< charge mode
l	system test >	run test
	charge mode >	This allows for a steady system
	optional tests	1 hour to allow for refrigerant charging
	error history	The system will stop after completion.
	calibration >	
	status >	
	previous step next step	



Optional Tests

- Each optional test has a short description.
- Optional tests display a stop test button while test is running.

Note: Thermostat will only display tests that the system can perform.

<	optional tests	
	cooling	>
	fan	\rangle
	heat pump heat	>
	electric heat	\rangle
	humidification	\rangle
	dehumidification	\rangle
	pump down	>

cooling	<	cooling	
run test	>	test running	
This allows for a steady cooling operation until the test is stopped		stop	×
		This allows for a steady cooling operation until the test is stopped.	

Status

The status menu displays data pertaining to the selected equipment.

DA

• The scrollable list can be accessed any time by returning to the installer set-up screen.

< system optimiz	zation
system test	>
charge mode	>
optional tests	>
error history	>
calibration	>
status	>
previous step	next step

	<	heat pump	
		outdoor air temp	32.7°F
		outdoor coil temp	65.4°F
		liquid temperature	112.3°F
		discharge temperature	81.6°F
		outdoor defrost sensor temp	-25
		suction temperature	-35.6°F
		suction pressure	-42 PSI
		~	^
KIN	,		





Step 5 - Preferences

- There are four preference settings to choose from in order to optimize your systems performance.
 - Cool/Heat
 - House settings
 - Dealer information
 - Reminders

Note: Changing preferences is not required, but reminders and dealer contact information should be inputted.

< VDAIKIN		< preferenc	es		
smart thermostat		cool/heat			>
		house settings	8		>
I communication	\rightarrow	dealer informa	ition		>
2 personalization	\rightarrow				
 3 equipment setup 	\rightarrow	reminders			>
4 system optimization	\rightarrow				
5 preferences	\rightarrow				
complete setup	\rightarrow				
		previous si	tep	next step	



Dealer information

Selecting allows you to enter and review the dealer's information.

< preferences < dealer inform			information		
	cool/heat	>	name	some dealer	>
	house settings	>	phone	(123) 456-7890	>
	dealer information	>	email	hello@example.com	>
	reminders	>	website	http://www.example.com	>
			message	Thanks for choosing so	>
	previous step	next step			



Reminders

- The number of reminders are based on the installed equipment with accessories.
- Once the equipment has been added, a 1 – 24 month service reminder can be selected depending on the installed equipment.

Note: The homeowner cannot edit service reminders.

< preferences		< reminders	
cool/heat	>	electronic filter	12 months >
house settings	>	HEPA filter	12 months >
dealer information	>	media filter	12 months >
reminders	>	UV bulbs	24 months >
		dehumidification filter	12 months >
		humidifier pad	12 months >
		service reminder	off >
previous step	next step		



Final step - Complete set-up

 Selecting complete set-up will conclude the full set-up of the thermostat and display normal mode for you to navigate and verify settings.

Reminder: All steps must be reviewed before completing full set-up.





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Dealer Navigation

Dealer edit

- Navigating to dealer edit will allow you to access or revisit the installer set-up screen.
- Advanced adjustments to the Daikin One+ will be made here.



<	settings		<
	account	/	
	air quality	>	
	humidity	>	
	energy	>	
	thermostat	>	
	equipment	>	
	support	>	
	dealer edit	>	
	~ ^		

configuration			
dealer			
date & time			
messages			
Warning This feature accesses advanced features of your system. Any changes to the configuration can prevent proper operation.			

cancel



continue

Dealer Navigation

- Acknowledging the prompt enables you to tap the learn more icon.
- The icon displays the installer code, giving you access to the installer set-up screens.





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Normal Mode

- Normal mode allows you to view messaging, temperature, and access settings to adjust parameters placed by the installer.
- Navigating is accomplished by tapping icons or turning the analog dial.
- Note: Analog turn dial is used to adjust temperature only. Pressing the dial returns to the home screen.





Homeowner Navigation

Adjust control

- Tapping the system mode icon allows you to select:
 - Auto. (cool & heat)
 - Cool.
 - Heat.
 - Off.
 - Emergency heat. (heat pump only)
- Tapping the arrow icons or rotating the dial will adjust setpoints that are displayed. You can also slide the setpoints to the desired temperature.





Homeowner Navigation

Schedule

- The schedule is presented as 7 days, displaying one day at a time, with 24 hours fitting on the screen.
- You can use the drop-down menu or swipe to enable schedule editing.
- Copy and paste is a feature that makes scheduling seamless.

Note: Unlike other screens, scheduling requires saving edits before exiting the mode.





Away

- The away screen displays the current state (on/off) and the away cooling/heating setpoints used when away is on.
 - on/off is selected from drop down menu.
- User can change the values of the setpoints by dragging the numbers or the comfort range up and down.
- With the mobile application, enabling geo-fencing will automatically switch to away mode when **outside** the radius.
 - Settings must be configured in the mobile application.

away on	< away
82°	Use away mode whenever you want to save energy or automatically based on the location of your phone.
indoor	on O
72° —	away temperatures 61°/82° >
61°	The system can automatically toggle away mode using the geofencing feature of the Daikin One Home mobile app.
	receive geofencing events
$\widehat{\Box} \boxplus \bigotimes \bigotimes $	



Air quality

- The air quality screen displays indoor air quality levels, outdoor air quality, and weather (when connected to the internet and paired with the app.)
- If air quality sensors are not installed, indoor air quality is based on filter life cycle and humidity values.
- Selecting indoor air quality from the air quality screen allows you to access one clean and air quality history.
 - One clean runs the fan, at high speed for three hours, to circulate and filter the indoor air.



< indoor air quality	i
moderate	
particles	
প্য chemicals	
run one clean	>
air quality history	>



Homeowner Navigation

Settings

- Settings gives you access to additional supporting features:
 - Display.
 - Adjust and enable visual features.
 - Comfort.
 - Set target humidity.
 - Configuration.
 - App. account setup
 - Dealer information
 - Date & Time
 - Enable messages/view alerts
 - System components
 - Home Wi-Fi

AIR INTELLIGENCE



settings	
system mode	>
schedule	>
away	>
display	>
sound	>
reminders	>
date & time	>
	、 、
\sim	^

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Mobile Apps

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 Daikin One+ connected to Wi-Fi that is wired to a communicating system and a valid email address is needed to create a mobile account.





(d)

Step 1 - Create the account

- Tapping create one at the bottom right corner of the login screen 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.

	🖬 T-Mobile Wi-Fi 🗢 12:06 PM	1 39% 🔲,	📲 T-Mobile Wi-Fi 🗢 12:00	6 PM
	< create account		< create account	
	By signing into your Daikin accour terms of service.	nt, you agree to the	name	
	terms and service	>	email	
One Home	privacy statement	>	password	Þ
		>		
email				
password				
forgot password				
login				
Don't have an account? Create one	cancel	lagree	1 of 4	next step



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.





Mobile Apps

Step 3 - Adding the thermostats location

- Enter the email and password associated to your mobile account and tap the login button.
 - 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.





Step 4 - Connecting the App to the thermostat

- With Wi-Fi enabled on your thermostat, access your account to retrieve the six-digit code.
- Type the six-digit code displayed on your thermostat into the space provided on the mobile app.
- Tap connect to continue and operate the Daikin One+ from your mobile device.

< account

Get the Daikin Smart Thermostat app from the App Store or Google Play, create an account, then link your thermostat with the code provided here.

get code







Mobile Apps



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



