ACiQ

THERMOSTAT

INSTALLATION & OWNER'S MANUAL

Model: STN1320

WARNING: <u>DO NOT destroy or lose this manual.</u> Please read the manual thoroughly before installing or operating the controller. Also, store the manual in a place that allows for easy retrieval and future reference. The actual shape and size of your product may vary.

VERSION DATE: 03-02-26

THERMOSTAT QUICK REFERENCE

Thermostat Applications Guide

Description	
Gas or Oil Heat	Yes
Electric Furnace	Yes
Heat Pump (No Aux. or Emergency Heat)	Yes
Heat Pump (With Aux. or Emergency Heat)	Yes
Multi-Stage Systems	Yes
Heat Only Systems	Yes
Heat Only Systems - Floor or Wall Furnace	Yes
Cool Only Systems	Yes
Millivolt Conventional Systems	Yes
Two Transformer Systems	No

## Table of Contents

Power Type

Battery Power
Hardwire (Common Wire)

IMPORTANT SAFETY INFORMATION WARNING:

- Always turn off power at the main power source by unscrewing fuse or switching circuit breaker to the off position before installing, removing, cleaning, or servicing thermostat.
- Read all of the information in this manual before installing or programming this thermostat.
- This is a 24V AC low voltage thermostat. Do not install on voltages higher than 30V AC.
- All wiring must conform to local and national building and electrical codes and ordinances.
- Do not short (jumper) across terminals on the gas valve or at the system control to test installation. This will damage the thermostat and void the warranty.

Getting to know your thermostat
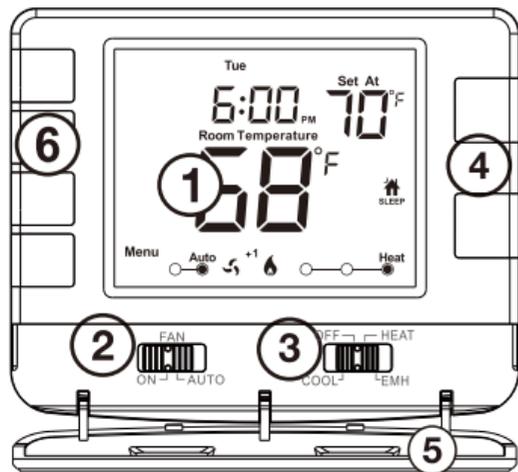
1. LCD Display
2. Fan Switch
3. System Switch
4. Temperature Setpoint Buttons
5. Switch face door(Use the finger bevel on the lower portion of the thermostat to open the casy access)
6. User Buttons

Week and time

Hold: Is displayed when thermostat program is permanently overridden

Displays the user selectable setpoint temperature

LCD

Programmable Time periods: This thermostat has 4 programmable time periods per day

Button Options

Tech Set Next Step Humidity

Set Time Run Sched Clean

Set Sched Hold Prev Step

Mon Tue Wed Thu Fri Sat Sun

Hold Set At

WAKE LEAVE RETURN SLEEP

Fan mode indication

Filter

Low Battery Indicator:
When not connected to 24VAC, Replace batteries when this indicator flashes。

Menu Done

On Auto

+1 +2

Auto Cool

Off Em.Heat

Auto

System Operation Indicators:
The ❄ 💧 or 🌀-icon will display when the COOL,HEAT,or 🌀 (fan) is on.

NOTE:The compressor delay feature is active if these icons are flashing . The compressor will not turn on until the 5 minute delay has elapsed.

System mode indication

Filter Change Reminders Note

⚠️ **Caution:**

When the battery icon 🔋 appears replace your 2x AAA batteries immediately. Failure to do so may result in your heating & cooling system becoming inoperable. Freezing or overheating can occur.

Filter Change Reminder

If your HVAC contractor has configured the thermostat to remind you when the air filter needs to be changed, you will see **FILTER** in the display when your air filter needs to be changed.

Resetting the filter change reminder:When **FILTER** reminder is displayed, you should change your air filter and reset the reminder by holding down the second button from the top left side of the thermostat (Clean) for 3 seconds.

Hold down 3 seconds, to reset filter reminder.

Factory data reset

Press Menu key and switch on the power supply to restore factory, Settings after normal display

Tue

6:00 PM Set At 69 °F

Room Temperature

Clean

68 °F

SLEEP

Filter

Menu Auto Heat
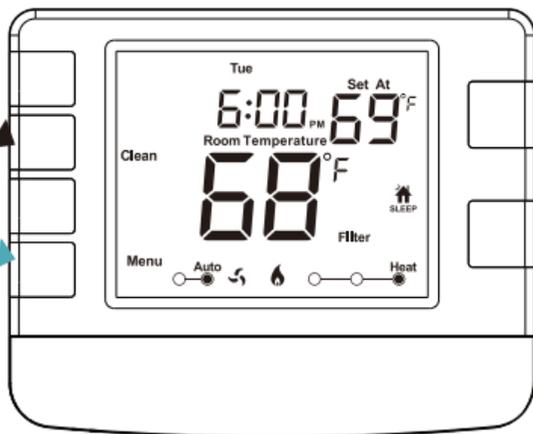
Wall Locations

The thermostat should be installed approximately 4 to 5 feet above the floor. Select an area with average temperature and good air circulation.
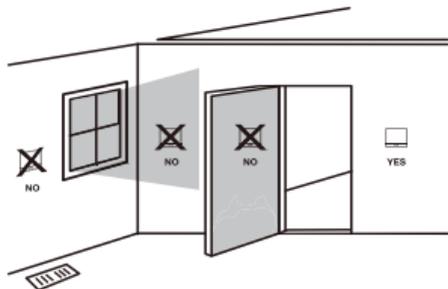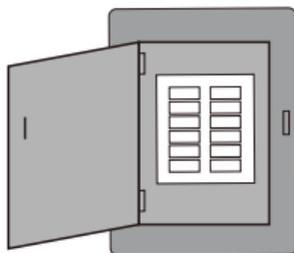

Installation Tip

Pick an installation location that is easy for the user to access. The temperature of the location should be representative of the building.

Do not install thermostat in locations:

- Close to hot or cold air ducts
- That are in direct sunlight
- With an outside wall behind the thermostat
- In areas that do not require conditioning
- Where there are dead spots or drafts (in corners or behind doors)
- Where there might be concealed chimneys or pipes

1 Turn Off the Power of Your Heating/Cooling System
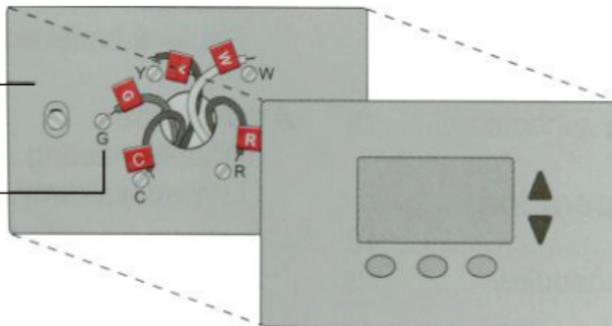
or

Circuit breaker
box

Heating/cooling system
power swich

2 Remove Old Thermostat -(If Any)

Remove the old thermostat , but leave the wallplate with wires attached.

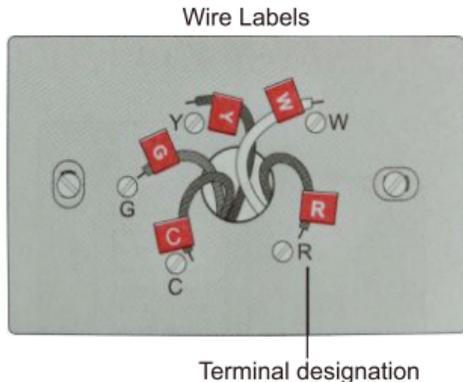Do not remove wallplate yet

Terminal
designation

3 Label Wires with Tags

Label the wires using the supplied wire labels as you disconnect them.

Wiring Labels
Apply these wiring labels to each wire with the appropriate terminal designation as you remove it from the existing thermostat.

Étiquettes de fils
Lorsque vous retirez les fils des bornes du thermostat existant, collez ces étiquettes sur chaque fil correspondant à la lettre de la borne.

Rótulos para los cables
Coloque estos rótulos, con la designación de las terminales, en cada cable al remover los cables del termostato actual.

B	B	Y2	Y2	C	C	E	E	F	F
G	G	H	H	L	L	O	O	P	P
R	R	RC	RC	RH	RH	T	T	U	U
V/VR	V/VR	W	W	W1	W1	W2	W2	W3	W3
X	X	X1	X1	X2	X2	Y	Y	Y1	Y1
AUX	AUX								

Wire Labels
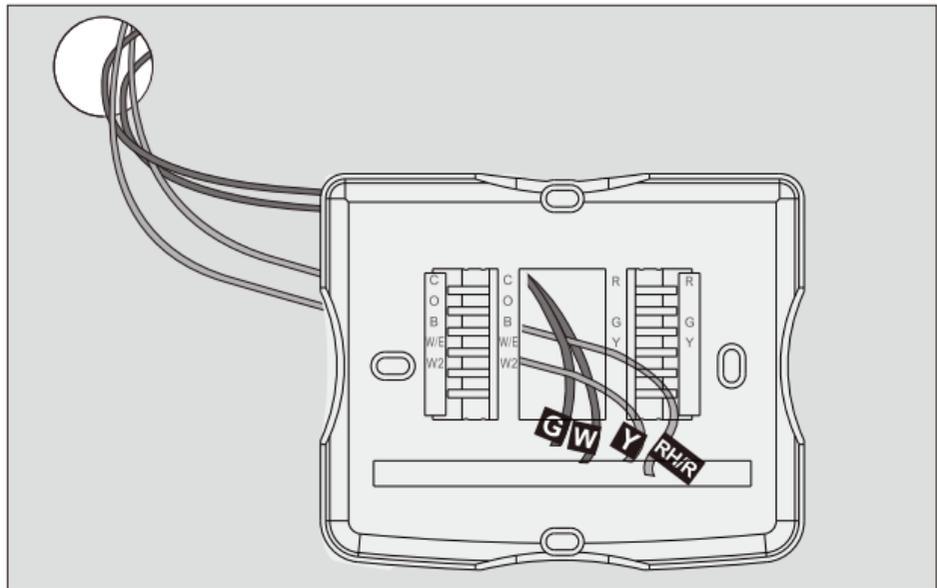
Terminal designation

4.Remove the old wall panels

Remove the old wall panels so that the new ones can be installed.
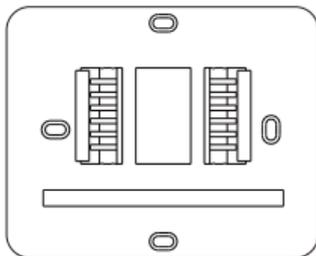
5 Mount New Wallplate

Mount the new wallplate using the included screws and anchors.

Drill 3/16-in. holes for drywall
Drill 3/16-in. holes for plaster

Mercury Notice:
All of our products are mercury free. However, if the product you are replacing contains mercury, dispose of it properly. Your local waste management authority can give you instructions on recycling and proper disposal.
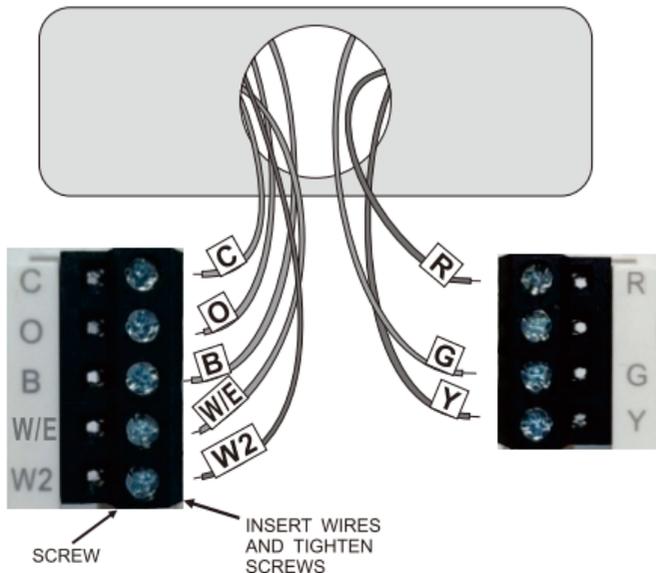
For vertical mount put one screw top and one screw bottom.

For horizontal mount put one screw left and one screw right.

Vertical mount

Horizontal mount

Horizontal mount

Vertical mount
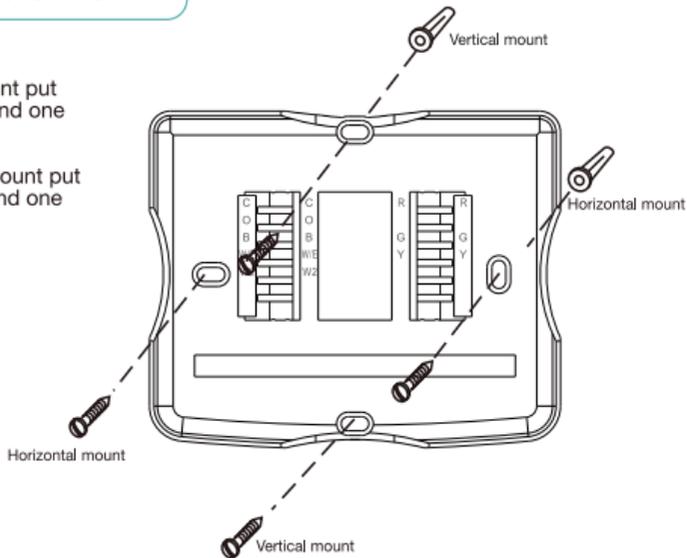
6 Connect Wires

Simply match wire labels to the letters on the thermostat.

SCREW

INSERT WIRES
AND TIGHTEN
SCREWS

Installation Tip

Do not overtighten terminal block screws, as this can damage the terminal block. A damaged terminal block can keep the thermostat from fitting on the subbase correctly or cause system operation issues. Max Torque = 6in-lbs.
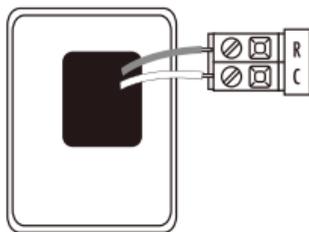
7 Mount Thermostat

Align the 2 tabs on the subbase with corresponding slots on the back of the thermostat, then push gently until the thermostat snaps in place.
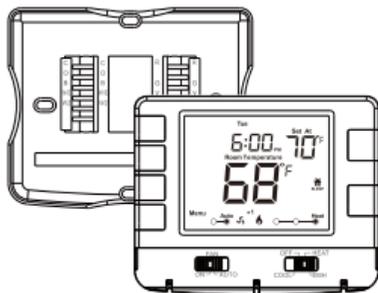
## Battery Installation

Battery installation is optional if used with AC power (the C terminal is connected). During power outages, the batteries will save settings and power the display.

Important:

High quality alkaline batteries are recommended. Rechargeable batteries or low quality batteries are not recommended.

Insert 2 AAA Alkaline batteries. High quality alkaline batteries are recommended.
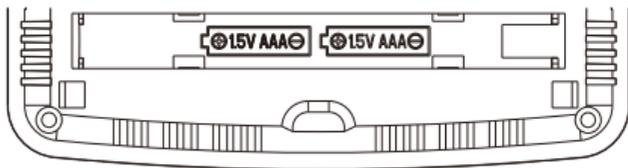
Terminal	Heat Pump System 2 HEAT 1 COOL	Conventional System 2 HEAT 1 COOL
R	Transformer Power	
C	Transformer commonport	
B	Changeover Valve Energized in HEAT	
O	Changeover Valve Energized in COOL	
G	Fan Relay	
W/E	First Stage of Emergency HEAT	First Stage of HEAT
W2	Second Stage of HEAT/ EMERGENCY HEAT	Second Stage of HEAT
Y	First Stage of HEAT and COOL	First Stage of COOL

Wiring Tips

Common wire

The C (common wire) is optional when the thermostat is powered by batteries.

Wire Specifications

Use 18- to 22-gauge thermostat wire. Shielded wire is not required.

WIRING DIAGRAMS

1. Power supply

2. Use either O or B terminals for changeover valve

3. Optional 24 VAC common connection when thermostat is used in battery power mode.

4. Jumper (not supplied)

2H/1C Heat Pump System

Note: In many systems with no emergency heat relay a jumper can be used between E and W2.
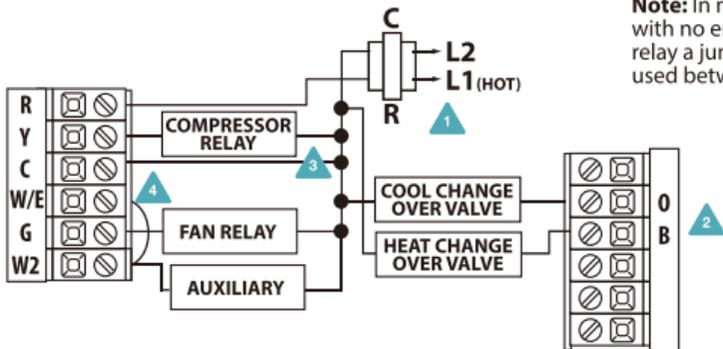
Typical 2H/1C Heat Pump System with separate emergency heat
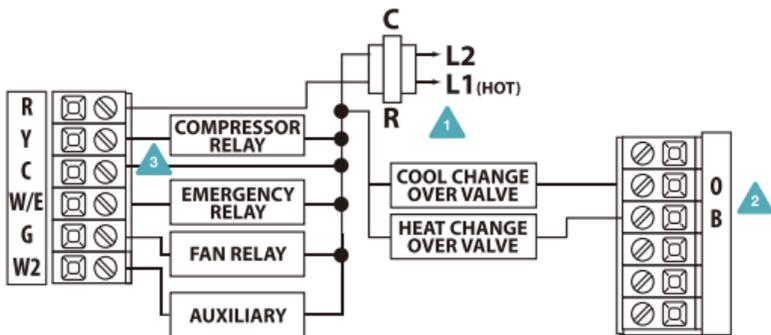
Conventional System 1H/1C, 2H/1C

Note: This thermostat is only compatible with ONE transformer systems.

TECHNICIAN SETUP

1. Press MENU button
2. Press and hold **TECH Set** button for 3 seconds. This 3 second delay is designed so that homeowners do not accidentally access the installer settings.
3. Configure the installer options as desired using the table below.
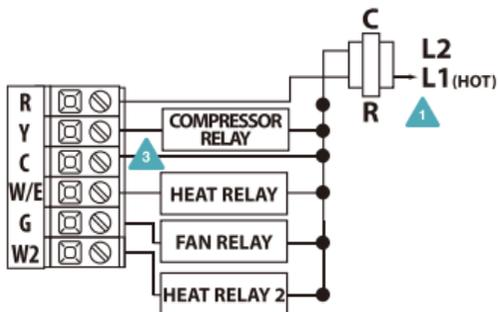4. Use the [–] or [+] keys to change settings and the NEXT STEP or PREV key to move from one step to another. Note: Only press DONE key when you want to exit the Technician Setup options.

Tech Setup Steps		LCD Will Show	Adjustment Options	Default
Filter Change Reminder	This feature will flash a reminder in the display after the elapsed run time to remind the user to change the filter. A setting of "OFF" will disable this feature.	OFF SE FL	You can adjust the filter change reminder from OFF to 2000 hours of runtime in 50 hour increments.	OFF
Room Temperature Calibration	This feature allows the installer to change the calibration of the room temperature display. For example, if the thermostat reads 70° degrees and you would like it to read 72° then select +2.	Set At CRL 0°F	You can adjust the room temperature display to read 4° above or below the factory calibrated reading.	0

Tech Setup Steps		LCD Will Show	Adjustment Options	Default
Minimum Compressor On Time	This feature allows the installer to select the minimum run time for the compressor. For example: a setting of 4 will force the compressor to run for at least 4 minutes every time the compressor turns on, regardless of the room temperature.	OFF ON AN	You can select the minimum compressor run time from "off", "3", "4", or "5" minutes. If 3,4, or 5 is selected, the compressor will run for at least the selected time before turning off.	OFF
Compressor Short Cycle Delay	The compressor short cycle delay protects the compressor from short cycling. This feature will not allow the compressor to be turned on for 5 minutes after it was last turned off.	ON OF CO	Selecting "ON" will not allow the compressor to be turned on for 5 minutes after the last time the compressor was switched off. Select "OFF" to remove this delay.	ON
Cooling Swing	The swing setting often called "cycle rate", "differential" or " anticipation" is adjustable. A smaller swing setting will cause more frequent cycles and a larger swing setting will cause fewer cycles.	dF CO 0.5 °F	The cooling swing setting is adjustable from 0.2˚ to 2˚. For example: A swing setting of 0.5˚ will turn the cooling on at approximately 0.5˚ above the setpoint and turn the cooling off at approximately 0.5˚ below the setpoint.	0.5

Tech Setup Steps		LCD Will Show	Adjustment Options	Default
Heating Swing	The swing setting often called "cycle rate", "differential" or "anticipation" is adjustable. A smaller swing setting will cause more frequent cycles and a larger swing setting will cause fewer cycles.	dF HE 0.4°F	The heating swing setting is adjustable from 0.2° to 2°. For example: A swing setting of 0.5° will turn the heating on at approximately 0.5° below the setpoint and turn the heating off at approximately 0.5° above the setpoint.	0.4
Heating Temperature Setpoint Limit	This feature allows you to set a maximum heat setpoint value. The setpoint temperature cannot be raised above this valve.	HEL 90°F	Use the ⊟ or ⊞ key to select the maximum heat setpoint. Range 44°F- 90°F	90°
Cooling Temperature Setpoint Limit	This feature allows you to set a minimum cool setpoint value. The setpoint temperature cannot be lowered below this value.	COL 44°F	Use the ⊟ or ⊞ key to select the maximum heat setpoint. Range 44°F- 90°F	44°

Tech Setup Steps		LCD Will Show	Adjustment Options	Default
°F or °C	Select F for Fahrenheit read out or select C for Celsius read out.	OF Room Temperature **85** °F	°F for Fahrenheit °C for Celsiust	°F
12 or 24 Hour Clock	You can select either 12 or 24 hour clock setting.	12 H	Use the — or + key to select 12 or 24 hour clock.	12 Hour Clock
Fan Operation	Select GAS for systems that control the fan during a call for heat. Select ELEC to have the thermostat control the fan during a call for heat.	ELEC	GAS or ELEC be selected GAS: When FAN is AUTO, W/W2 is on or OFF, and G is always off. ELEC: When FAN is AUTO, G starts when W/W2 is turned on, and G only closes when W and W2 are turned off simultaneously	ELEC

Set Time

1. Press the **MENU** button
2. Press **SET TIME**
3. Day of the week will be flashing. Use the ⊞ or ⊟ key to select the current day of the week.
4. Press **NEXT STEP**
5. The current hour is flashing. Use the ⊞ or ⊟ key to select the current hour. When using 12-hour time, make sure the correct a.m. or p.m. choice is selected.
6. Press **NEXT STEP**
7. Minutes are now flashing. Use the ⊞ or ⊟ key to select current minutes.
8. Press **DONE** when completed.

Specifications

The display range of temperature — 32°F to 99°F (0°C to 40°C)
The control range of temperature — 44°F to 90°F (7°C to 32°C)
Load rating — 1 amp per terminal, 1.5 amp maximum all terminals combined
Display accuracy — ± 1°F
Swing (cycle rate or differential) — Heating is adjustable from 0.2°F to 2.0°F
Cooling is adjustable from 0.2°F to 2.0°F
Power source — 18 to 30 VAC, NEC Class II, 50/60 Hz for hardwire (common wire)
Battery power from 2 AAA Alkaline Energizer batteries
Operating ambient — 32°F to +105°F (0°C to +41°C)
Operating humidity — 90% non-condensing maximum
Dimensions of thermostat — 4.72"W x 3.86"H x1.02"D

Instruction Manual