



THERMOSTAT

INSTALLATION & OWNER'S MANUAL

Model: STN701

WARNING: DO NOT destroy or lose this manual. 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)	No
Multi-Stage Systems	No
Heat Only Systems	Yes
Heat Only Systems - Floor or Wall Furnace	Yes
Cool Only Systems	Yes
Millivolt Conventional Systems	Yes
Two Transformer Systems	Yes

Table of Contents

	Page
Thermostat Quick Reference	2-4
Installation Tips	5-11
Wiring Diagrams	12-14
Technician Setup	15-17
Specifications	18

Power Type

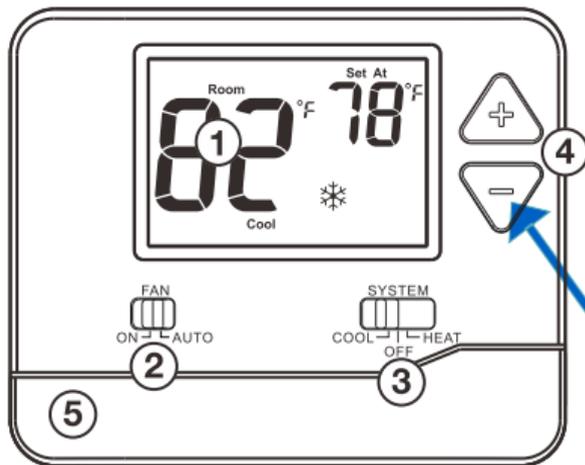
Battery Power

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 easy access)

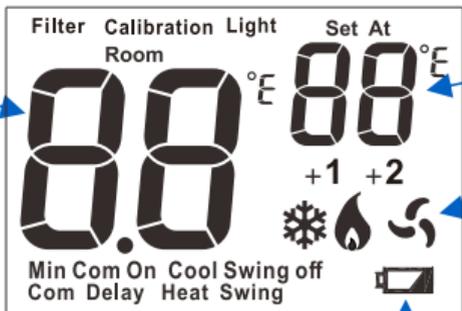
Factory data reset

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

THERMOSTAT QUICK REFERENCE

LCD

Indicates the current room temperature.



Displays the user selectable setpoint temperature.

System operation indicators:
The COOL, HEAT or FAN 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 3 minute delay has elapsed.

Low Battery Indicator:

When not connected to 24VAC ,
Replace batteries when this indicator flashes.

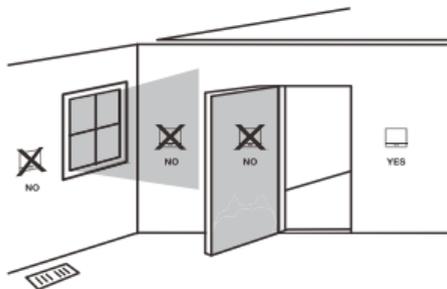


Caution:

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.

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

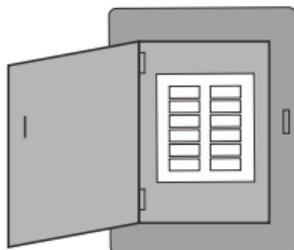
Pick an installation location that is easy for the user to access. The temperature of the location should be representative of the building.

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

INSTALLATION TIPS

1 Turn Off the Power of Your Heating/Cooling System



Circuit breaker
box

or



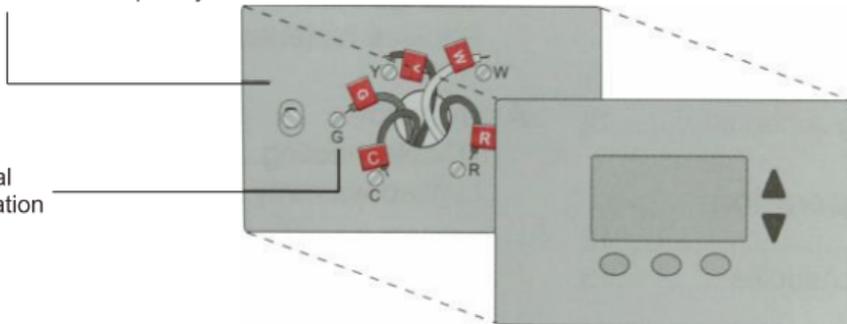
Heating/cooling system
power switch

2 Remove Old Thermostat-(If Any)

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

Do not remove wallplate yet

Terminal
designation

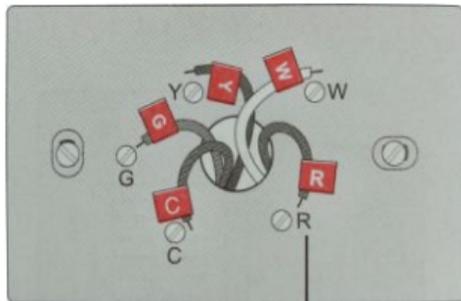


3 Label Wires with Tags

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

Wiring Labels		Étiquettes de fils		Rótulos para los cables					
Apply these wiring labels to each wire with the appropriate terminal designation as you remove it from the existing thermostat.		Lorsque vous retirez les fils des bornes du thermostat existant, collez ces étiquettes sur chaque fil correspondant à la lettre de la borne.		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								

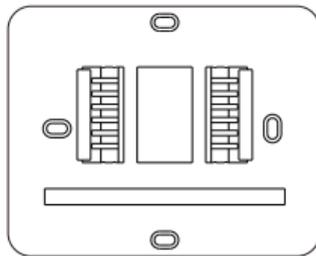
Wire Labels



Terminal designation

4. Remove the old wall panels

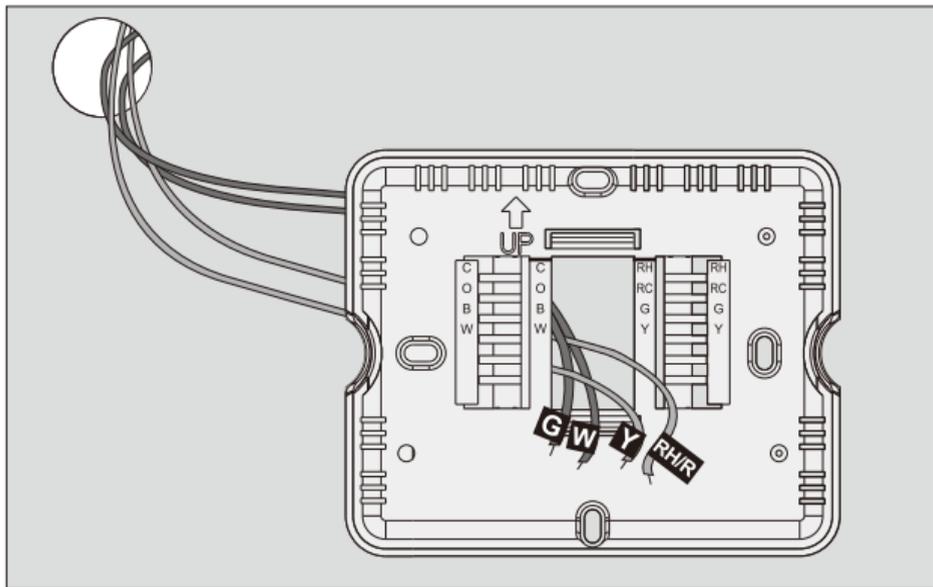
Remove the old wall panels so that the new ones can be installed.



INSTALLATION TIPS

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

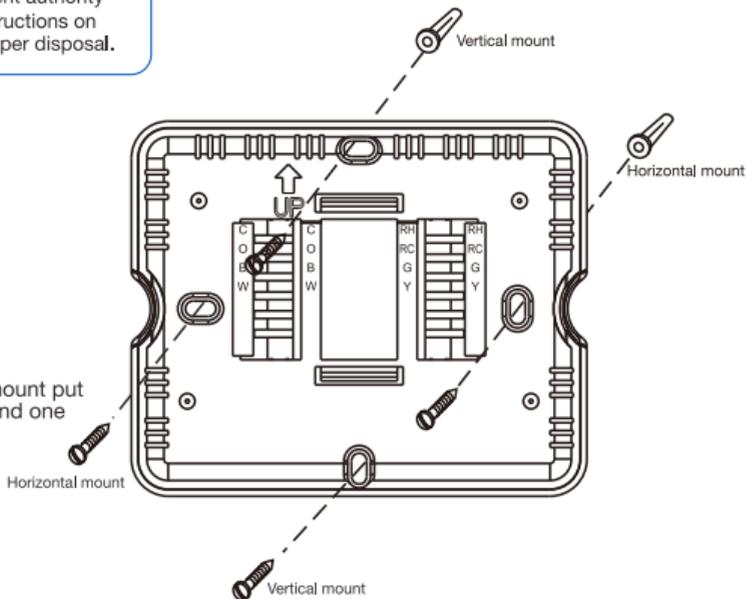


Mercury Notice:

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.

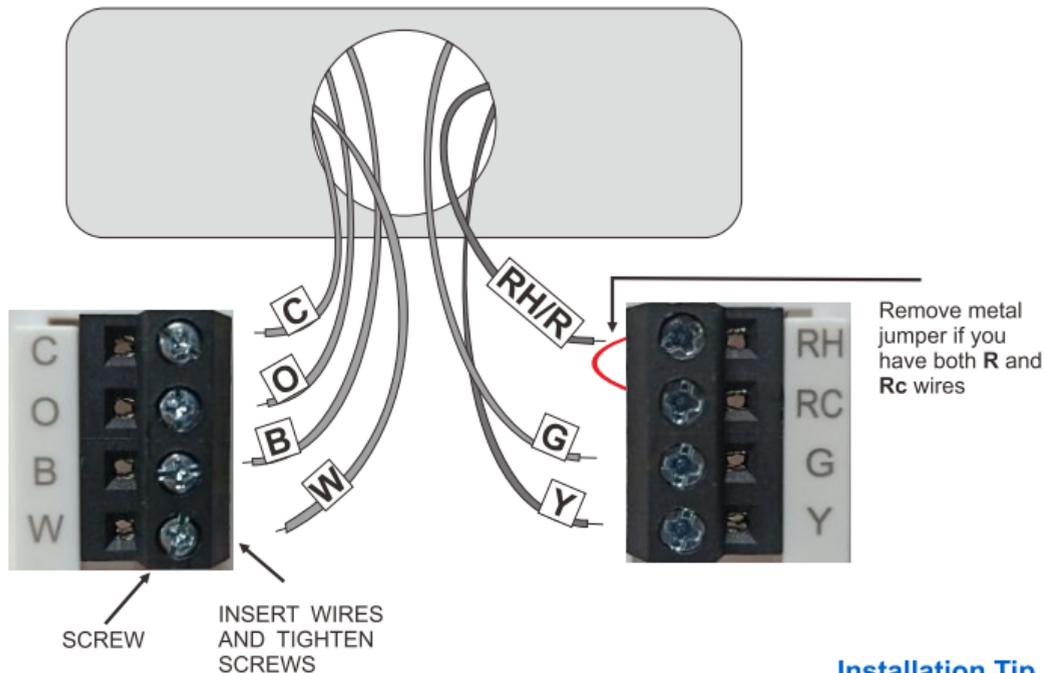
For horizontal mount put one screw left and one screw right.



INSTALLATION TIPS

6 Connect Wires

Simply match wire labels to the letters on the thermostat.

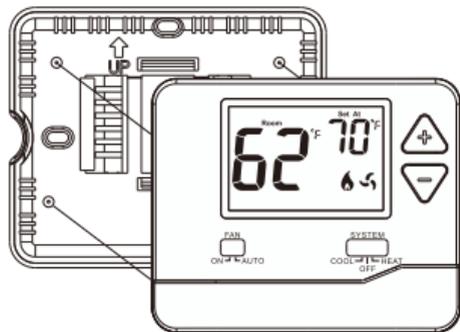


10

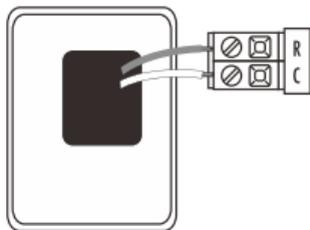
Do not overtighten terminal block screws, as this can damage the terminal block. A damaged terminal block can keep the thermostat from fitting on the subbase correctly or cause system operation issues. Max Torque = 6in-lbs.

7 Mount Thermostat

Align the 4 tabs on the subbase with corresponding slots on the back of the thermostat, then push gently until the thermostat snaps in place.



Battery Installation

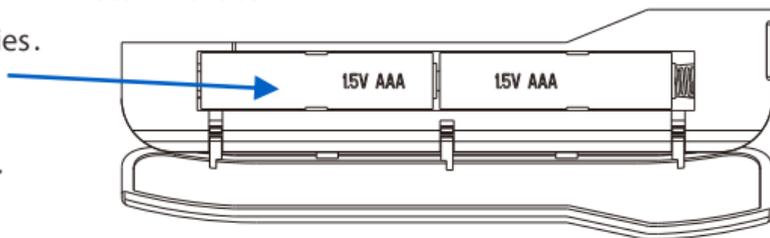


Battery installation is optional if used with AC power (the C terminal is connected). During power outages, the batteries will save settings and power the display.

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.



WIRING DIAGRAMS

Terminal	1 Heat 1 Cool Conventional System	
RC	COOL=RC to Y O	FAN=RC TO G
RH	24VAC(system power supply)	HEAT=RH TO W B
C	COMMON 24VAC (system power supply)	
B	REVVALVE HEAT	
O	REVVALVE COOL	
G	FAN RELAY	
W	HEAT RELAY	
Y	COOL RELAY	

Wiring Tips

Common wire

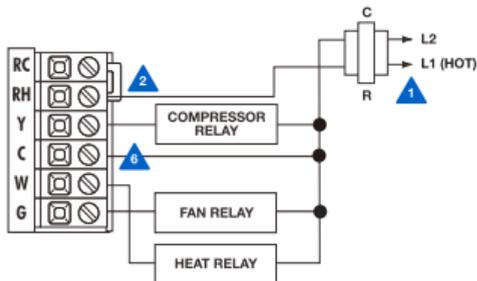
The C (common wire) is optional when the thermostat is powered by batteries.

Wire Specifications

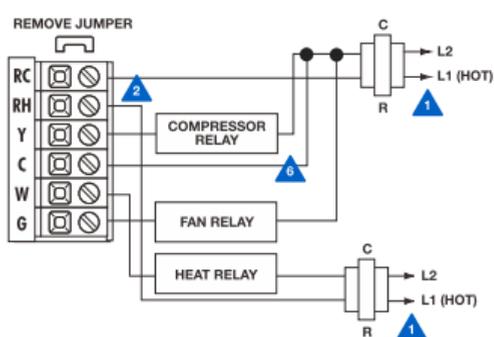
Use 18- to 22-gauge thermostat wire. Shielded wire is not required.

- 1 Power supply
- 2 Factory-installed jumper. Remove only when installing on 2-transformer systems.
- 3 Use either O or B terminals for changeover valve
- 4 Use a small piece of wire (not supplied) to connect W and Y terminals
- 5 Set fan operation switch to electric
- 6 Optional 24 VAC common connection when thermostat is used in battery power mode

Typical 1H/1C system: 1 transformer

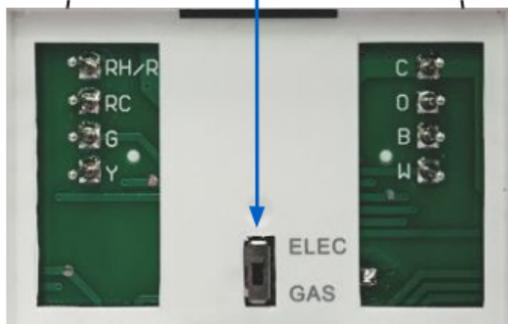


Typical 1H/1C system: 2 transformer





Select ELEC or GAS
with this switch



Gas or Electric Setup

Gas: For systems that control the fan during a call for heat, put the fan operation switch to the **GAS** position.

Electric: The thermostat operation switch should be put in the **ELEC** position. This setting allows the thermostat to operate the fan when the fan relay is connected to the **G** terminal.

●HEAT SWING

Select HEAT with the system switch, hold down the + and - buttons together for 3 seconds to access the HEAT SWING setting. Use the + or - key to adjust the swing from $\pm 0.2^{\circ}\text{F}$ to $\pm 2^{\circ}\text{F}$. Wait approximately 15 seconds or slide the system switch to return to normal operation .

●COOL SWING

Select COOL with the system switch, hold down the + and - buttons together for 3 seconds to access the COOL SWING setting. Use the + or - key to adjust the swing from $\pm 0.2^{\circ}\text{F}$ to $\pm 2^{\circ}\text{F}$. Wait approximately 15 seconds or slide the system switch to return to normal operation.

Select OFF with the system switch, hold down the + and - buttons together for 3 seconds to access the CALIBRATION setting. Use the + to adjust the temperature from -4°F to $+4^{\circ}\text{F}$.

Then press - to access the F(Fahrenheit) or C(Celsius) setting, use + to select.

Press - again to access the DELAY selection, the compressor delay will not allow the compressor to be turned on for 3 minutes after the last time the compressor was on. Use the + to select ON or OFF (ON: the Y terminals will turn off for at least 3 minutes). Wait approximately 15 seconds or slide the system switch to return to normal operation.

SPECIFICATIONS

Specifications

The display range of temperature	-----	41°F to 95°F (5°C to 35°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 x 0.98"D

Instruction Manual