PRO1 ®

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Hours of Operation: M-F 9AM - 6PM Eastern

T625-2

Thermostat Application 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

Power Type

Battery Power
Hardwire (Common Wire)
Hardwire (Common Wire) with
Battery Backup

A trained, experienced technician must install this product.

Carefully read these instructions. You could damage this product or cause a hazardous condition if you fail to follow these instructions.

Una version en español de este manual se puede descargar en la pagina web de la compañia.

Table of Contents

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)
Swing (cycle rate or differential) ...... Heating is adjustable from 0.2° to 2.0°
Cooling is adjustable from 0.2° to 2.0°
Power source .... 18 to 30 VAC, NEC Class II, 50/60 Hz
for hardwire
Battery power from 2 AA Alkaline batteries
Operating ambient .... 32°F to +105°F (0°C to +41°C)
Operating humidity .... 90% non-condensing maximum
Dimensions of thermostat .... 4.7"W x 4.4"H x 0.8"D

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Rev. 1823

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.
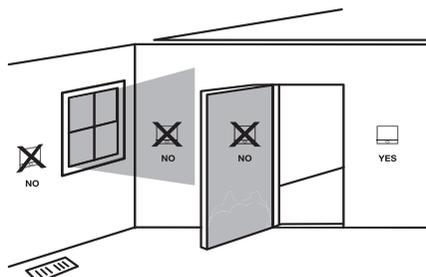
Do not install thermostat in locations:

- 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

Subbase Installation

① Horizontal Mount
② Vertical Mount
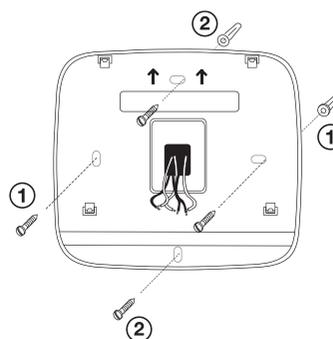
For vertical mount put one screw on the top and one screw on the bottom.
For horizontal mount put one screw on the left and one screw on the right.

Installation Tip: Electrical Hazard

Failure to disconnect the power before beginning to install this product can cause electrical shock or equipment damage.

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.

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.
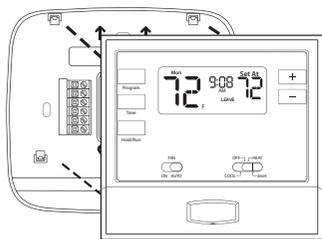
Battery Installation

Battery installation is recommended even if thermostat is hardwired (C terminal connected). When thermostat is hardwired and batteries are installed, the thermostat will activate a compressor delay of 5 minutes when the thermostat detects a power outage from the hardwired power supply.
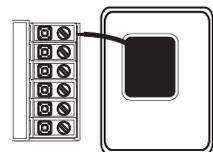

Important:

High quality alkaline batteries are recommended. Rechargeable batteries or low quality batteries do not guarantee a 1-year life span.

Insert 2 AA Alkaline batteries (included). High quality alkaline batteries are recommended.

Use the + or - key to select your desired room temperature, A copy of the Operating Manual can be downloaded

Select Heat, Off, or Cool as needed. Select Fan On for continuous operation or Fan Auto to cycle fan with system.

Replace AA Batteries when low battery indicator shows in display.
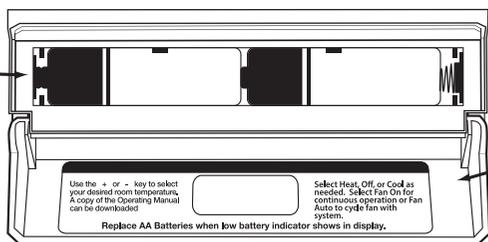
Simple operating instructions are found on the back of the battery door.

### Getting to know your thermostat
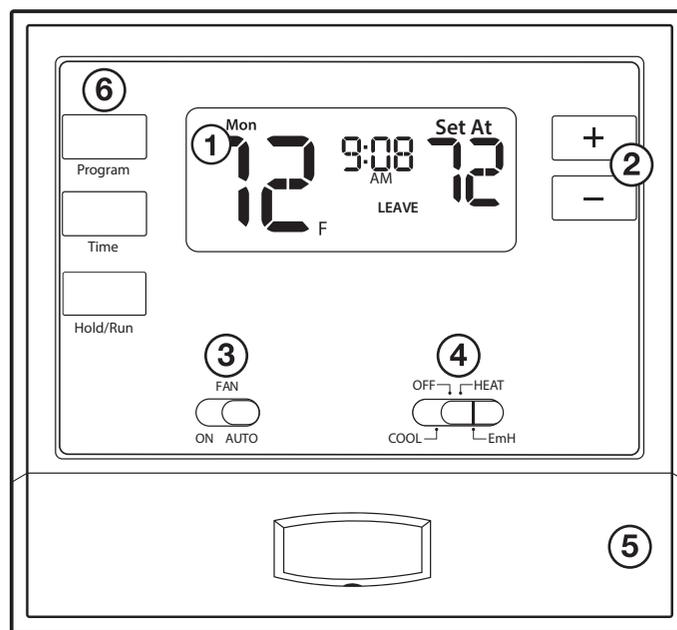
① LCD Display

② Temperature Setpoint Buttons

③ Fan Switch

④ System Switch

⑤ Easy change battery door

⑥ User Buttons

Getting to know your thermostat

Sun Mon Tue Wed Thu Fri Sat ② **Set At** ⑦
88:88 AMPM
LOW ③ WAKE
⑥ HOLD LEAVE
RETURN SLEEP COOL ON ⑤
① F STAGE 1&2 ④ EmHEAT ON
⑧
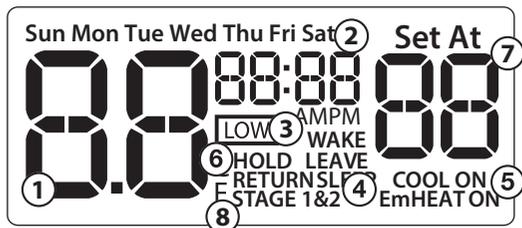
① **Indicates the current room temperature**

② **Time and day of the week**

③ **Low Battery Indicator:** Replace batteries when this indicator is shown.

④ **Program Time Periods:** This thermostat has 4 programmable time periods per day.

⑤ **System Operation Indicators:**
The COOL ON, HEAT ON will display when COOL or HEAT is on.

Note: The Compressor delay feature is active if these are flashing.

⑥ **Hold** is displayed when the thermostat program is permanently overridden.

⑦ **Setpoint:** Displays the user selectable setpoint temperature.

⑧ **Stages:** Indicates the stages of heat that are active.

💡 Important

The low battery icon is displayed when the AA battery power is low. Whenever the thermostat detects low battery voltage from the AA batteries, the low battery icon will begin flashing on the screen ftor 21 days (if the batteries are not changed). If the batteries are not changed 22 days after the thermostat detects low battery voltage, the thermostat screen will only show the flashing battery icon until buttons are pressed. If the batteries are not changed 43 days after the thermostat detects low battery voltage, the thermostat screen will only show the flashing battery icon until buttons are pressed and the set points will offset to 85°F/29°C in cooling and 55°F/13°C in heating. At this stage, set point changes can be made temporarily but, the set points will change back to defaulted values after a 4-hour period. The thermostat will continue to perform this low battery flashing, temperature offset condition until the internal voltage threshold is reached. When the thermostat internal voltage threshold is reached, all relays will be opened and the thermostat will become inoperable until new batteries are installed.


Wiring

⚠ Caution: Electrical Hazard

Failure to disconnect the power before beginning to install this product can cause electrical shock or equipment damage.

⚠ Warning:

All components of the control system and the thermostat installation must conform to Class II circuits per the NEC Code.

Wiring

1. If you are replacing a thermostat, make note of the terminal connections on the thermostat that is being replaced. In some cases the wiring connections will not be color coded. For example, the green wire may not be connected to the G terminal.

2. Loosen the terminal block screws. Insert wires then retighten terminal block screws.

3. Place nonflammable insulation into wall opening to prevent drafts.

💡 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.

Terminal Designations

	Heat Pump System 1 HEAT 1 COOL / 2 HEAT 1 COOL	Conventional System 1 HEAT 1 COOL / 2 HEAT 1 COOL
R	Transformer Power	Transformer Power
C	Transformer Common	Transformer Common
B	Changeover Valve Energized in HEAT	Energized in HEAT
O	Changeover Valve Energized in COOL	Energized in COOL
G	Fan Relay	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

Tech Settings

Technician Setup Menu

This thermostat has a technician setup menu for easy installer configuration. To setup the thermostat for your particular application:

The Technician Setup Menu

1. To enter all other steps press and hold ⊞ and ⊟ buttons together for 3 seconds. This 3 second delay is designed so that homeowners do not accidentally access the installer settings.

2. Use ⊞ and ⊟ buttons to set.

3. Press the Program button to advance to the next step.

4. Press the time button to go back to the previous stop.

5. Press the Hold/Run button to exit.

Swing Setting Tip

Temperature swing, sometimes called differential or cycle rate, can be customized for this individual application. For most applications choose a swing setting that is as long as possible without making the occupants uncomfortable.

Tech Settings		LCD Will Show	Adjustment Options	Default
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.	CAL 0	You can adjust the room temperature display to read 4° above or below the factory calibrated reading.	0
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 on.	Cd ON	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

Swing Setting Tip

Temperature swing, sometimes called differential or cycle rate, can be customized for this individual application. For most applications choose a swing setting that is as long as possible without making the occupants uncomfortable.

| Tech Settings		LCD Will Show	Adjustment Options	Default
F or C	Select F for Fahenheit temperature read out or select C for Celsius read out.	FC F	F for Fahrenheit C for Celsius	F
Dual Fuel Auxiliary for Heat Pump Will only appear if Heat pump setting is turned ON.	For Dual Fuel applications (Gas/Fossil fuel Auxiliary Heat), turn this setting ON to LOCKOUT the Heat Pump (Y) when Auxiliary Heat (W2) is on. If desired- This can also be used with Electric Auxiliary.	AG OF	**OFF** Will allow Y(1st stage of Heat) and W2 (Aux Heat) to run together if called for. **ON** Will de-energize Y terminal 45 seconds after a call for Auxiliary Heat (W2).	OFF
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.	CO 0.8	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.	0.8
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.	HE 0.8	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.	0.8
Cooling Setpoint Limit	This feature allows you to set a minimum cool setpoint value. The setpoint temperature cannot be lowered below this value.	44 CL	Use the ⊞ and ⊟ key to select the minimum cool setpoint.	44
Heating Setpoint Limit	This feature allows you to set a maximum heat setpoint value. The setpoint temperature cannot be raised above this value.	90 HL	Use the ⊞ and ⊟ key to select the maximum heat setpoint.	90

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 Factory-supplied jumper

2H/1C Heat Pump System - Factory Default Setting

Note: In many systems with no emergency heat relay a jumper can be used between E and W2.
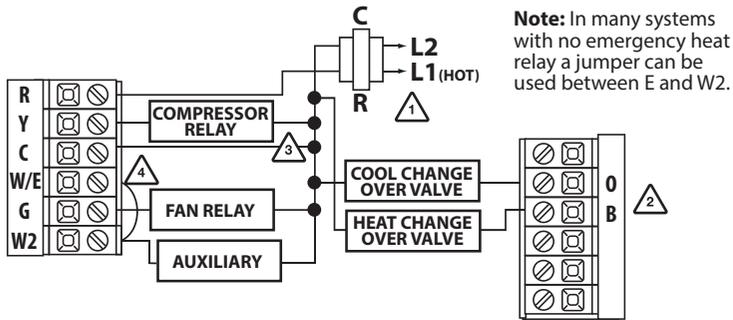
Typical 2H/1C Heat Pump System with separate emergency heat
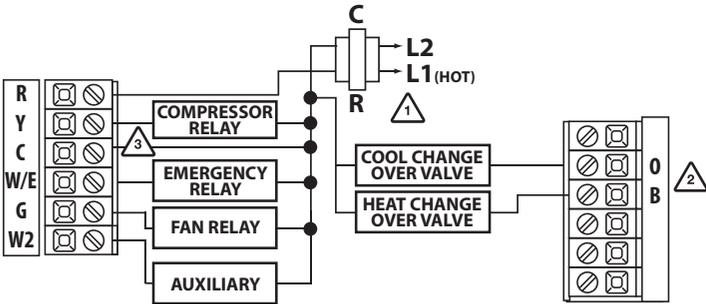
Conventional System 1H/1C, 2H/1C (Heat pump set to "OFF" in tech settings)

Note: This thermostat is only compatible with ONE transformer systems.
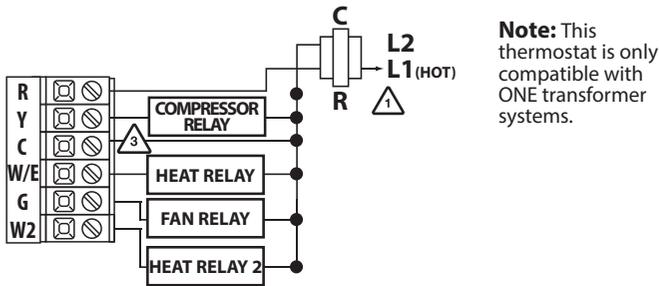
Temporary and Permanent Hold Feature   (If using programming)

Temporary Hold: If you press the + or − at this time until the next scheduling period starts. The temperature will remain at this setpoint temporarily until next time period.

Permanent Hold: If you press the **HOLD** button on the left of your screen, you will see **HOLD** appear to the right of the ambient temperature in the display. The thermostat will now permanently stay at this setpoint and can be adjusted using the + or − keys.

To Return to Running Schedule: Press the **RUN** button on the left of your screen to exit either temporary or permanent hold.

About The Badge

All of our thermostats use the same universal magnetic badge. Visit the company website to learn more about our free private label program.

Use the bevel on lower ridge
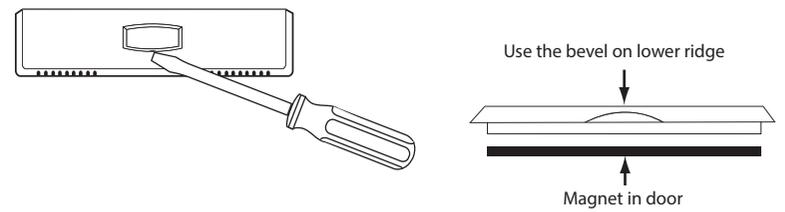
Magnet in door

Gently slide a screwdriver into the bottom edge of the badge. Gently turn the screwdriver counter clockwise. The badge is held on by a magnet in the well of the battery door. The badge should pry off easily. **DO NOT USE FORCE.**

Tech Settings		LCD Will Show	Adjustment Options	Default
Morning Recovery	This feature will start heating early to bring the building temperature to its programmed setpoint by the beginning of the WAKE, OCCUPIED time period.	REC ON	Use the + or − key to turn on or off.	ON
Program Options	You can configure this thermostat to have 7 Day or 5+1+1 programming.	5d Pr	Use the + and − key to select **7d** for 7 Day or **5d** for 5+1+1 programmable.	5d

Conventional & Heat Pump
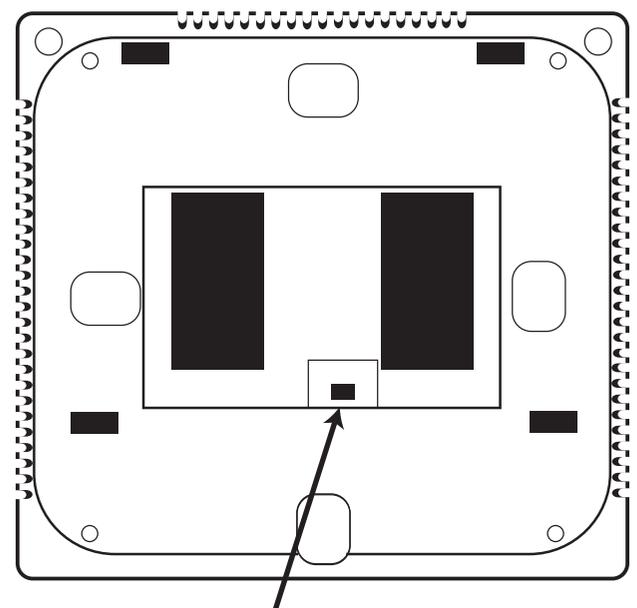
Conventional/Heat Pump Switch

The switch converts the thermostat between conventional and heat pump operation.

Heat Pump: Configures the thermostat for heat pump operations.

Conventional: Configures the thermostat for conventional operations.

Set Time

1. Press **TIME**

2. Day of the week will be flashing. Use the [**+**] or [**–**] key to select the current day of the week.

3. Press **PROGRAM**

4. The current hour is flashing. Use the [**+**] or [**–**] key to select the current hour. Make sure the correct a.m. or p.m. choice is selected.

5. Press **PROGRAM**

6. Minutes are now flashing. Use the [**+**] or [**–**] key to select current minutes.

8. Press the **TIME** button in order to go back a step.

7. Press **HOLD/RUN** when completed.

All of our programmable thermostats are shipped with an energy saving pre-program. You can customize this default program by following the steps on page 14.

Your thermostat can be programmed to have all the weekdays the same, a seperate program for Saturday, and a seperate program for Sunday. There are four time periods for each program **(WAKE, LEAVE, RETURN, SLEEP).**

Factory Default Program				
Day of the Week	Events	Time	Setpoint Temperature (HEAT)	Setpoint Temperature (COOL)
Weekday	Wake	6 AM	70°F (21°C)	75°F (24°C)
	Leave	8 AM	62°F (17°C)	83°F (28°C)
	Return	6 PM	70°F (21°C)	75°F (24°C)
	Sleep	10 PM	62°F (17°C)	78°F (26°C)
Saturday	Wake	6 AM	70°F (21°C)	75°F (24°C)
	Leave	8 AM	62°F (17°C)	83°F (28°C)
	Return	6 PM	70°F (21°C)	75°F (24°C)
	Sleep	10 PM	62°F (17°C)	78°F (26°C)
Sunday	Wake	6 AM	70°F (21°C)	75°F (24°C)
	Leave	8 AM	62°F (17°C)	83°F (28°C)
	Return	6 PM	70°F (21°C)	75°F (24°C)
	Sleep	10 PM	62°F (17°C)	78°F (26°C)

You can use the table below to plan your customized program schedule.

Custom Program				
Day of the Week	Events	Time	Setpoint Temperature (HEAT)	Setpoint Temperature (COOL)
Weekday	Wake			
	Leave			
	Return			
	Sleep			
Saturday	Wake			
	Leave			
	Return			
	Sleep			
Sunday	Wake			
	Leave			
	Return			
	Sleep			

Set Program Schedule

To customize your program schedule, follow these steps

Weekday:

1. Select **HEAT** or **COOL** with the system switch. **Note:** You have to program heat and cool each seperately.

2. Press **PROGRAM**

3. Monday-Friday is displayed and **WAKE** is shown. You are now programming the wake time period for the weekday setting.

4. Time is flashing. Use the [**+**] or [**–**] key to make your time selection for the weekday **WAKE** time period.

5. Press **PROGRAM**

6. The setpoint temperature is flashing. Use the [**+**] or [**–**] key to make your setpoint selection for the weekday wake period.

7. Press **PROGRAM**

8. Repeat steps 4 thru 7 for weekday **LEAVE** time period, for weekday **RETURN** time period, and for weekday **SLEEP** time period.

Saturday:

Repeat steps 4 thru 7 for the Saturday **WAKE** time period, **LEAVE** time period, **RETURN** time period, and for the Saturday **SLEEP** time period.

Sunday:

Repeat steps 4 thru 7 for the Sunday **WAKE** time period, **LEAVE** time period, **RETURN** time period, and for the Sunday **SLEEP** time period.

> If using 7-Day Programming use previous steps for every individual day.