INSTALLATION MANUAL

PRO1 IAQ

TRUE COMFORT

This manual covers the following models:

- **T955**

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	Yes
Cool Only Systems	Yes
Millivolt	Yes

Power Type

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

Table of Contents

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 versión española de este manual puede ser descargada en www.pro1iaq.com

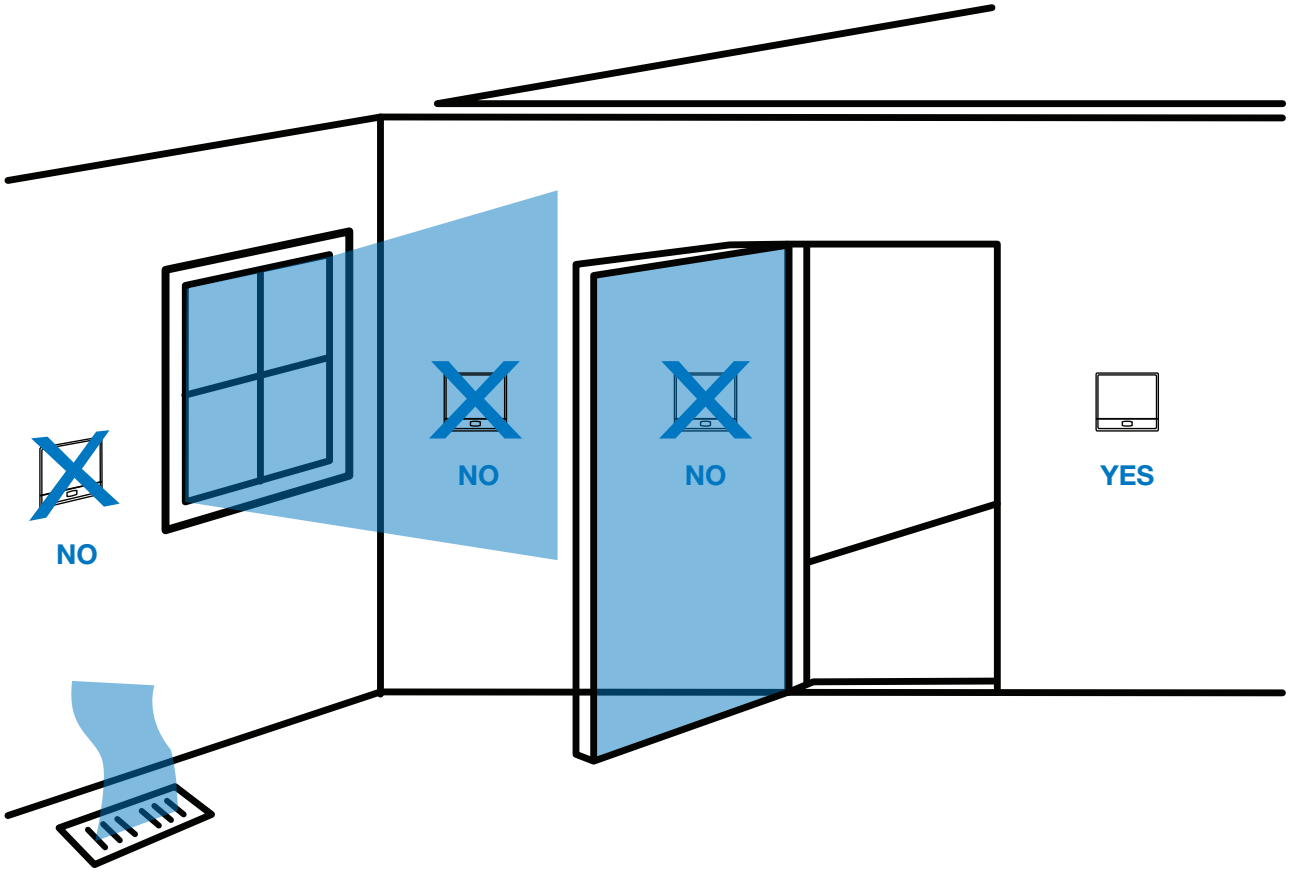
Need Help?

For assistance with this product please visit http://www.pro1iaq.com or call Pro1 Customer Care toll-free at 888-Pro1iaq (776-1427) during normal business hours (Mon-Fri 9 AM - 6 PM Eastern)

INSTALLATION TIPS

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.



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
- Where appliances could radiate heat

PRO1 Tip

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

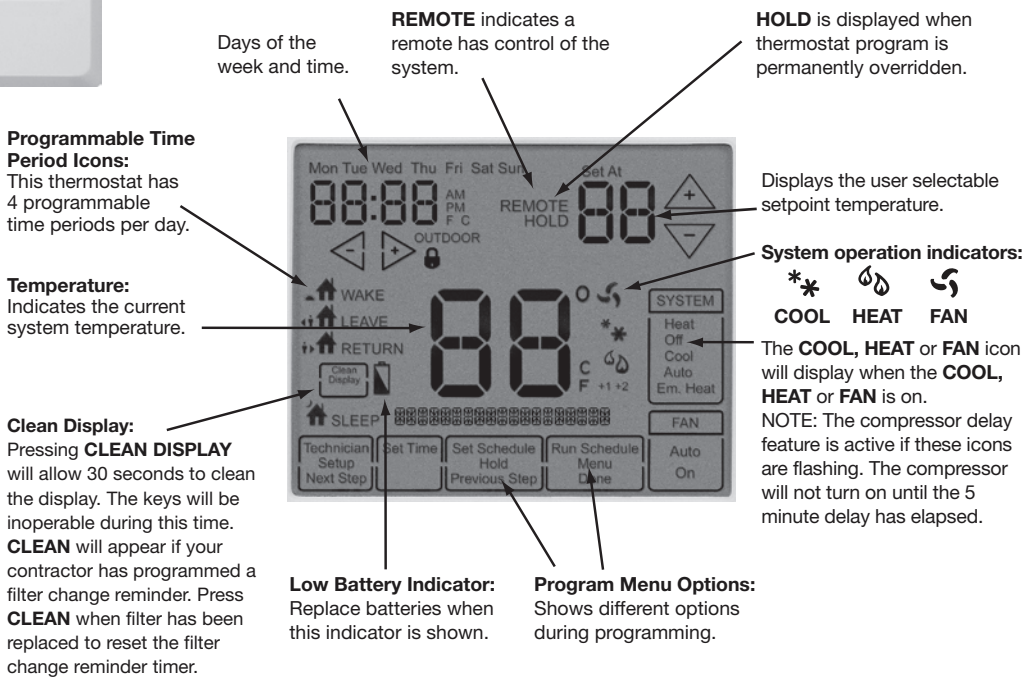
THERMOSTAT QUICK REFERENCE

Getting to know your thermostat

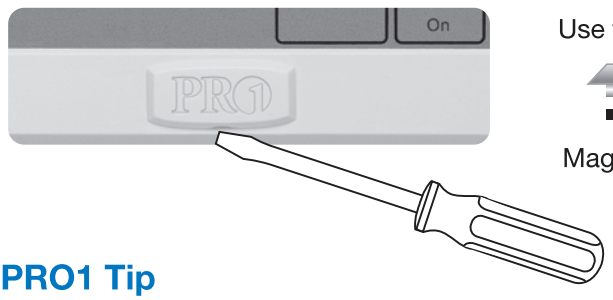
Important:
The low battery indicator is displayed when the AA battery power is low. If the user fails to replace the battery within 21 days, the thermostat display will only show the low battery indicator as a final warning before the thermostat becomes inoperable. The batteries are located on the back of the thermostat.

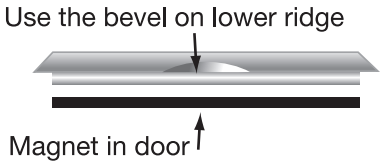
2. **Light Key** (Glow in the Dark)
3. **Fan Key**
4. **System Key**
5. **Temperature Setpoint Keys**
6. **Menu Key**
7. **Program Icons**

1 LCD



Removing the private label badge





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. The badge should pry off easily. **Do not use force.**

PRO1 Tip

All Pro1 thermostats use the same universal magnetic badge.
Visit our website at www.pro1iaq.com to learn more about our free private label program.

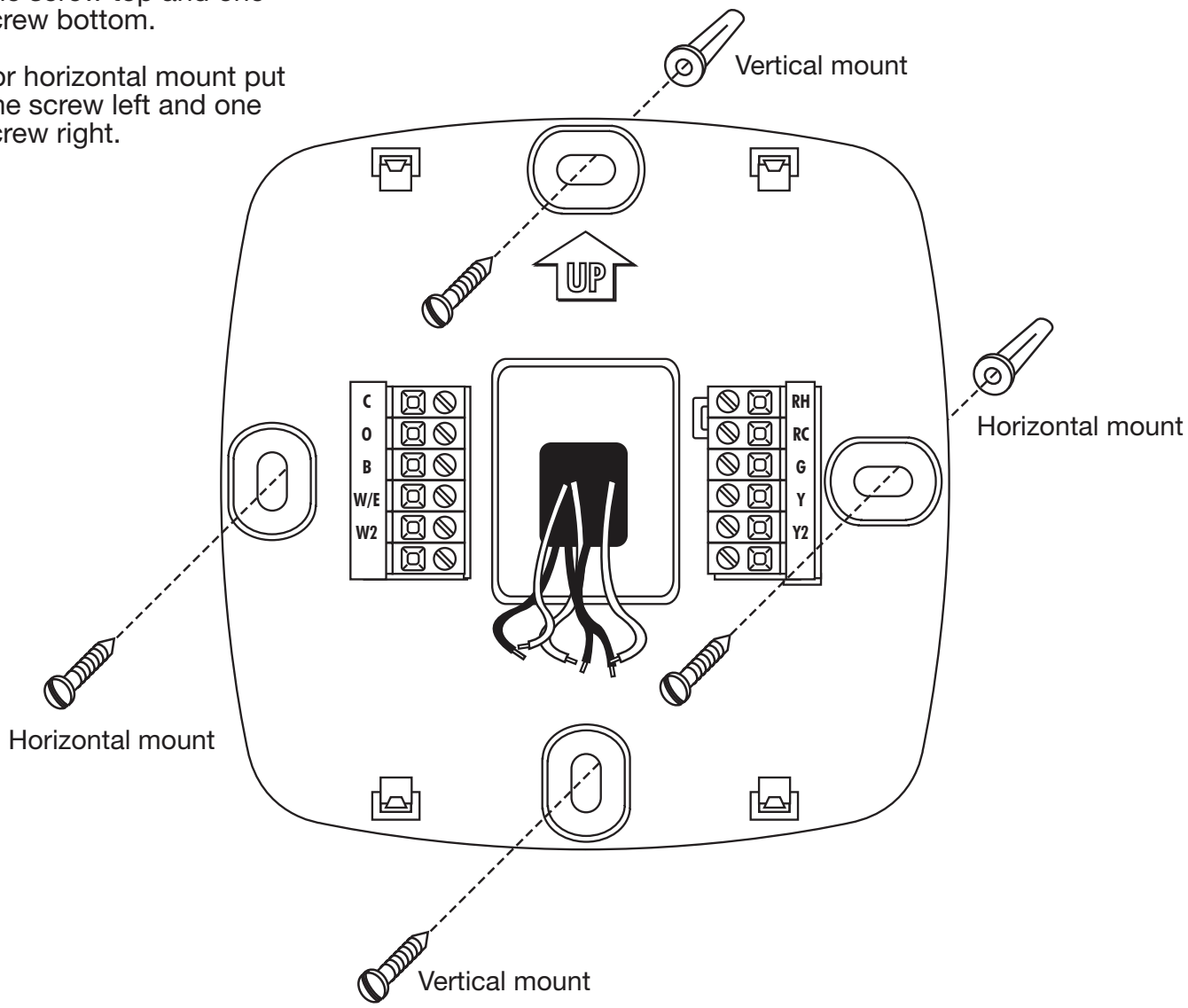
SUBBASE INSTALLATION

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

Mercury Notice:
All of Pro1's 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.



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.

Warning:

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

Wire specifications

Use shielded or non-shielded
18 - 22 gauge thermostat wire.

Terminal Designations

This thermostat is shipped from the factory to operate a conventional heating and cooling system. This thermostat will also operate a heat pump system. See the “heat pump” configuration step on page 8 of this manual to configure the thermostat for heat pump applications.

Terminal	2 Heat 2 Cool Conventional System	2 Heat 2 Cool Heat Pump System	3 Heat 2 Cool Heat Pump System
RC	Transformer power (cooling)	Transformer power (cooling)	Transformer power (cooling)
RH	Transformer power (heating)	Transformer power (heating)	Transformer power (heating)
C	Transformer common	Transformer common	Transformer common
B	Energized in heating	Heat pump changeover valve energized in heating	Heat pump changeover valve energized in heating
O	Energized in cooling	Heat pump changeover valve energized in cooling	Heat pump changeover valve energized in cooling
G	Fan relay	Fan relay	Fan relay
W/E	First stage of heat	Emergency heat relay	Emergency heat relay
Y	First stage of cool	First stage of heat & cool	First stage of heat & cool
Y2	Second stage of cool	Second stage of cool	Second stage of cool & second stage of heat
W2	Second stage of heat	Auxiliary heat relay, second stage of heat	Auxiliary heat relay, third stage of heat

PRO1 Tips:

C terminal

The **C** (common wire) terminal does not have to be connected when the thermostat is powered by batteries.

Note:

In many systems with no emergency heat relay a jumper can be installed between E and W2.

Technician Setup Menu

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

1. Press **MENU** button
2. Press and hold **TECHNICIAN SETUP** 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.

   Use the − or + keys to change settings and the **NEXT STEP** or **PREV STEP** key to move from one option to another. **Note:** Only press **DONE** key when you want to exit the Technician Setup options.

Tech Setup Steps

Filter Change Reminder	Room Temperature Calibration	Minimum Compressor On Time	Compressor Short Cycle Delay	Cooling Swing	Heating Swing	Keypad Lockout
This feature will flash **FILT** in the display after the elapsed run time to remind the user to change the filter. A setting of **OFF** will disable this feature.	This feature allows the installer to change the calibration of the room temperature display. For example, if the thermostat reads 70° and you would like it to read 72° then select +2.	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.	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.	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.	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.	Keypad lockout allows you to configure the thermostat so that none or some of the keys do not function.
LCD Will Show						
						
Adjustment Options						
You can adjust the filter change reminder from **OFF** to 2000 hours of runtime in 50 hour increments.	You can adjust the room temperature display to ready -4°F to +4°F above or below the factory calibrated reading.	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.	Selecting **ON** will not allow the compressor to be turned on for 5 minutes after the last time the compressor was on. Select **OFF** to remove this delay.	The cooling swing setting is adjustable from ±0.2°F to ±2°F. For Example: A swing setting of 0.5°F will turn the cooling on at approximately 0.5°F above the setpoint and turn the cooling off at approximately 0.5°F below the setpoint.	The heating swing setting is adjustable from ±0.2°F to ±2°F. For Example: A swing setting of 0.5°F will turn the heating on at approximately 0.5°F below the setpoint and turn the heating off at approximately 0.5°F above the setpoint.	Pick **PA** or **FU** **PA** = partial keypad lockout, which locks all the keys except the △ or ▽ keys. **FU** = Full keypad lockout, which locks out all the keys. Note: Keypad lockout instructions are below.
Factory Default Settings						
OFF	0 °F	OFF	ON	0.5 °F	0.4 °F	PA

Note: To lock the keypad hold down the △ and ▽ keys for 3 seconds. You will see a lock in the display. To unlock the keypad hold down the △ and ▽ keys for 3 seconds.

TECH SETUP STEPS CONTINUED ON THE NEXT PAGE

TECHNICIAN SETUP MENU

Tech Setup Steps (Continued from the previous page)

Heating Temperature Setpoint Limit	Cooling Temperature Setpoint Limit	°F or °C	12 or 24 Hour Clock	Morning Recovery	Program Options	Display Light
This feature allows you to set a maximum heat setpoint value. The setpoint temperature cannot be raised above this value.	This feature allows you to set a minimum cool setpoint value. The setpoint temperature cannot be lowered below this value.	Select **F** for Fahrenheit temperature read out or select **C** for Celsius read out	You can select either a **12** or **24** hour clock setting.	This feature turns your system on before the **WAKE** programming time to ensure the enviroment is at the **WAKE** setpoint when the **WAKE** time period begins. This recovery changes over time based on the previous day's experience.	You can configure this thermostat to have a 7 day program, a 5+1+1 program or nonprogrammable.	The display light can be configured to come on when any key is pressed or only when the light key is pressed.
LCD Will Show						
						
Adjustment Options						
Use the ◁ or ▷ key to select the maximum heat setpoint.	Use the ◁ or ▷ key to select the minmum cool setpoint.	°F for Fahrenheit °C for Celsius	Use the ◁ or ▷ key to select 12 or 24 hour clock.	Use the ◁ or ▷ key to turn on or off.	Use the ◁ or ▷ key to select **7d** for 7 day, **5d** for 5+1+1, or **0d** for nonprogammable.	**OFF** configures display light to come on only with the light key, which will save battery power. **ON** configures the display light to come on when any key is pressed.
Factory Default Settings						
90 °F	44 °F	°F	12 Hour Clock	ON	5d	ON

TECH SETUP STEPS CONTINUED ON THE NEXT PAGE

PRO1 Tip

The second stage will turn on at 2x the swing setting. The second stage will turn off when 1x the swing is reached. For example, if the swing setting is .8 degrees for heating and the thermostat is set at 70°F, the first stage will turn on at approximately 69.2°F. The second stage will turn on at 68.4°F. The second stage will turn off at 69.2°F and the first will turn off at 70.8°F. If third stage is used, it will turn on at 3x the swing and turn off at approximately 2x the swing.

TECHNICIAN SETUP MENU

Tech Setup Steps (Continued from the previous page)

Contractor Call Number	Beep	Heat Pump	System Switch	Fan Operation	Gas Auxiliary for Heat Pump	Cooling Fan Delay	Stages of Heat
Allows you to put your phone number in the display. You can choose **ON** or **OFF**	When any key is pressed an audible beep will sound. You can choose **ON** or **OFF**	When turned on the thermostat will operate a heat pump. **1.** EM.Heat will show as an option in the system switch. **2.** Y will be first stage of heat & cool, W/E will be emergency heat relay & W2 will be auxiliary heat relay.	You can configure the system switch for the particular application: Heat - Off - Cool, Heat - Off, Cool - Off, Heat - Off - Cool-Auto **Note: EM. Heat** will show if in heat pump mode.	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.	This option will turn the heat pump off 45 seconds after the auxiliary heat relay turns on. For 2 heat applications, the first stage will turn off 45 seconds after the auxiliary stage turns on. For 3 heat applications, the first and second stage will turn off 45 seconds after the auxiliary stage turns on.	The cooling fan delay setting will delay the fan from coming on in cool mode and keep running after the compressor shuts off for a short time to save energy in some systems.	You can configure the thermostat to operate a 3 stage heat pump system. 2H 2C = 2 heat, 2 cool 3H 2C = 3 heat, 2 cool This feature only shows if Technician Setup Step for **HEAT PUMP** is set to **ON**.
LCD Will Show							
							
Adjustment Options							
If selected **ON**, you will see the input screen after pressing next step. Use the ◁- or +▷ key to select the desired number and the **FAN** or **SYSTEM** key to move from one character to another. See note below on operation.	If **ON** is selected the beep will sound. If **OFF** is selected, there is no sound.	**OFF** configures the thermostat for non heat pump systems. **ON** configures the thermostat for heat pump systems.	Use the ◁- or +▷ key until the desired application is flashing.	**GAS** or **ELEC**	For heat pump systems that are "dual fuel" (use a gas furnace for auxiliary stage heat) you can turn this feature on to turn off the heat pump when the auxiliary stage of heating has been called for.	You can select the **Cooling Fan Delay** from **OFF**, **15**, **30**, **60** or **90** seconds. If **15**, **30**, **60** or **90** is selected the fan will not turn on for that many seconds when there is a call for cool and will run for that many seconds after satisfying a call for cool.	Use the -◁ or +▷ key to change between 2 heat and 3 heat. 2 heat will use **Y1** as first stage and **W2** as auxiliary. 3 heat will use **Y1** as first stage, **Y2** as second stage and **W2** as auxiliary.
Factory Default Settings							
OFF	ON	OFF	Heat - Off - Cool	GAS	OFF	OFF	2 Stages

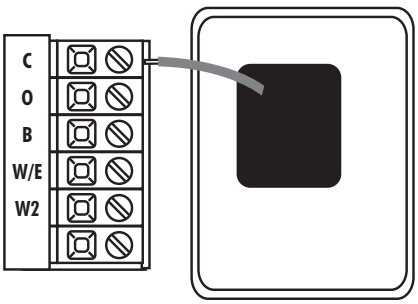
MOUNT THERMOSTAT & BATTERY INSTALLATION

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 thermostat is hardwired (**C** terminal connected).



On the back of the thermostat insert 2 AA Alkaline batteries (included).

PROGRAMMING THE THERMOSTAT

Set Time

Follow the steps below to set the day of the week and current time:

1. Press **MENU**
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

Programming

All programmable Pro1 thermostats are shipped with an energy saving pre-program. You can customize this default program by following the Set Program Schedule.

Your thermostat can be programmed to have each day of the week programmed uniquely (7 days), all the weekdays the same, a separate program for Saturday, and a separate program for Sunday (5+1+1), or non-programmable. This thermostat has a programmable fan feature, which allows you to run the fan continuously during any time period. 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 a.m.	70° F (21° C)	75° F (24° C)
	Leave	8 a.m.	62° F (17° C)	83° F (28° C)
	Return	6 p.m.	70° F (21° C)	75° F (24° C)
	Sleep	10 p.m.	62° F (17° C)	78° F (26° C)
Saturday	Wake	8 a.m.	70° F (21° C)	75° F (24° C)
	Leave	10 a.m.	62° F (17° C)	83° F (28° C)
	Return	6 p.m.	70° F (21° C)	75° F (24° C)
	Sleep	11 p.m.	62° F (17° C)	78° F (26° C)
Sunday	Wake	8 a.m.	70° F (21° C)	75° F (24° C)
	Leave	10 a.m.	62° F (17° C)	83° F (28° C)
	Return	6 p.m.	70° F (21° C)	75° F (24° C)
	Sleep	11 p.m.	62° F (17° C)	78° F (26° C)

PROGRAMMING THE THERMOSTAT

You can use the table below to plan your customized program schedule if using 5+1+1.

Programming Table

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 5+1+1 program schedule, follow these steps

Weekday:

1. Select **HEAT** or **COOL** using the **SYSTEM** key. **Note:** You have to program heat and cool each separately.
2. Press **MENU**
3. Press **SET SCHED**. Note: Monday-Friday is displayed and the **WAKE** icon 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. Note: If you want the fan to run continuously during this time period, select **ON** with the **FAN** key.
5. Press **NEXT STEP**
6. The setpoint temperature is flashing. Use the − or + key to make your setpoint selection for the weekday **WAKE** period.
7. Press **NEXT STEP**
8. Repeat steps 4 through 7 for weekday **LEAVE** time period, for weekday **RETURN** time period, and for weekday **SLEEP** time period.

Saturday:

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

Sunday:

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

PROGRAMMING THE THERMOSTAT

To customize your 7 day program schedule, follow these steps:

Monday

1. Select **HEAT** or **COOL** using the system key. You have to program heat and cool each separately.
2. Press **MENU**
3. Press **SET SCHED**
   Note: Monday is displayed and the **WAKE** icon is shown. You are now programming the **WAKE** time period for the Monday setting.
4. Time is flashing. Use the  or  key to make your time selection for the Monday **WAKE** time period. **Note:** If you want the fan to run continuously during this time period, select **ON** with the **FAN** key.
5. Press **NEXT STEP**
6. The setpoint temperature is flashing. Use the  or  key to make your setpoint selection for the Monday **WAKE** period.
7. Press **NEXT STEP**
8. Repeat steps 4 thru 7 for Monday **LEAVE** time period, for Monday **RETURN** time period, and for Monday **SLEEP** time period.

Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

Repeat steps 4 thru 7 for the remaining days of the week.

A Note About Auto Changeover:

Auto changeover will switch between heating and cooling as needed. It is very important to make sure the cooling setpoint temperature is at least 3º above the heating setpoint temperature and that the heating setpoint temperature is at least 3º below the cooling setpoint temperature.

A Note About Programmable Fan:

The programmable fan feature will run the fan continuously during any time period it is programmed to be on. This is the best way to keep the air circulated and to eliminate hot & cold spots in your building.

SPECIFICATIONS & CONTACT INFORMATION

Specifications

The display range of temperature	41ºF to 95ºF (5ºC to 35ºC)
The control range of temperature	44ºF to 90ºF (7ºC to 32ºC)
Load rating	1 amp per terminal, 1.5 amp maximum all terminals combined
Display accuracy	± 1ºF
Swing (cycle rate or differential)	Heating is adjustable from 0.2ºF to 2.0ºF Cooling is adjustable from 0.2ºF to 2.0ºF
Power source	18 to 30 VAC, NEC Class II, 50/60 Hz for hardwire (common wire) Battery power from 2 AA Alkaline batteries
Operating ambient	32ºF to +105ºF (0º to +41ºC)
Operating humidity	90% non-condensing maximum
Dimensions of thermostat	4.7”W x 4.4”H x 1.1”D

Contact Us

Pro1 IAQ Inc.
1111 S. Glenstone
Suite 2-100
Springfield, MO 65804

Toll-free: 1-888-Pro1iaq (776-1427)
Toll Number (Outside the USA): 330-821-3600
Web: http://www.pro1iaq.com
Hours of Operation: Monday - Friday 9 AM - 6 PM Eastern