

2 HEAT/1 COOL HEAT PUMP THERMOSTAT

The TH144HP Professional Series thermostats use state-of-the-art adaptive controllers for maximum comfort and efficiency.

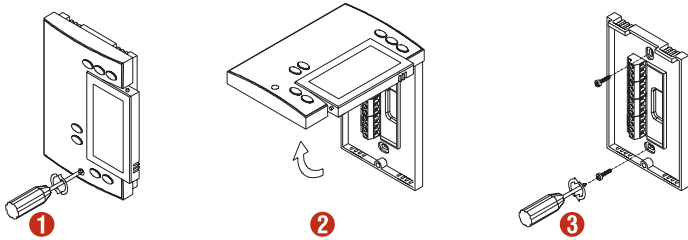
1. INSTALLATION

1.1 Find a location for the thermostat

Choose a location about 1.5 meters (5 feet) above the floor, with good air circulation. The thermostat must be installed on an inside wall. Avoid locations where there are:

- air drafts (e.g. top of a staircase, air outlet, etc.)
- dead air spots (e.g. behind a door)
- direct sunlight
- concealed chimneys or stove pipes

1.2 Separate the thermostat from the mounting plate



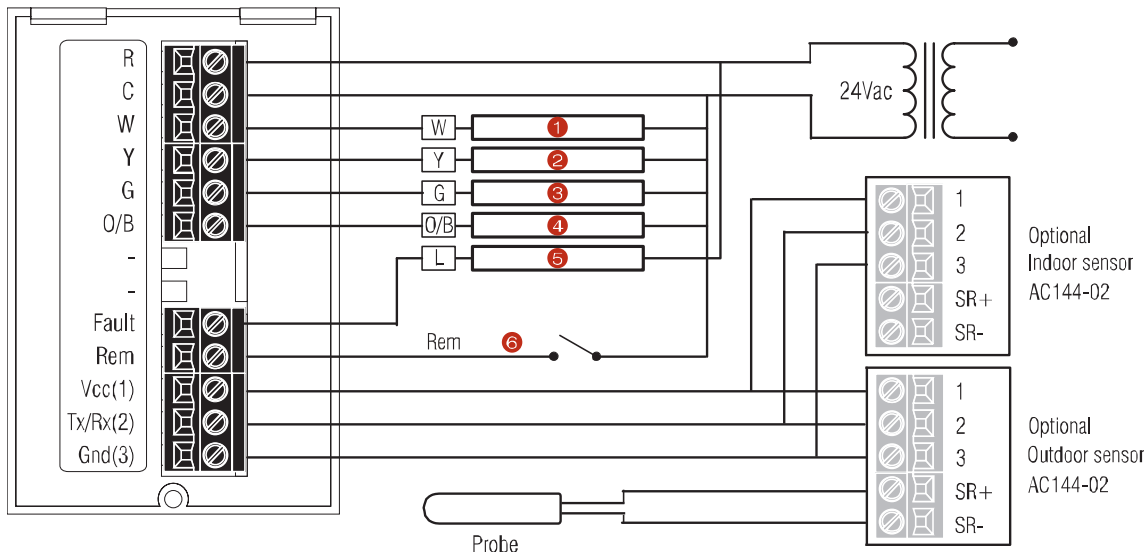
1 Unscrew the thermostat from the mounting plate.

2 Lift the lower part to separate the thermostat from the mounting plate.

3 Mount the plate on the wall using the screws supplied.

1.3 Connect your thermostat

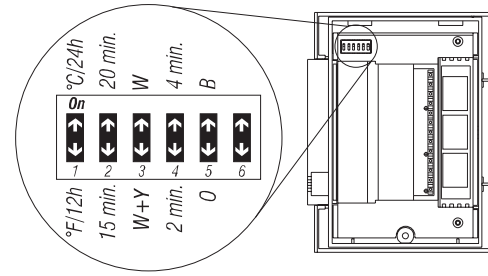
Connect the wires to the mounting plate while referring to the wiring diagram shown below.



- 1 Aux. Heat Relay
 - 2 Compressor Relay
 - 3 Fan Relay
 - 4 Reversing Valve
 - 5 Fault
 - 6 Remote Unoccupied Contact
- Opened: Normal operation*
Closed: Unoccupied setpoint

2. CONFIGURE YOUR THERMOSTAT

Set the desired configuration for the thermostat using the dip switches located on the back of the unit.



1 12 h / °F or 24 h / °C Temperature & hour display

Use switch #1 to select the display format. The TH144HP offers a choice between 12 h/°F or 24 h/°C.

2 15 min. or 20 min. Optimal cycle

The adaptive control algorithm of the TH144HP adapts the regulation cycles to your system's capacity. Select 15 minutes for residential or light commercial applications (OFF position) or select 20 minutes for heavy commercial applications (ON position).

3 W or W+Y Compressor sequence

If switch #3 is set to **W**, the thermostat will turn the compressor off with a call for Aux. Heat.
If switch #3 is set to **W+Y**, the compressor will stay on with a call for Aux. Heat.

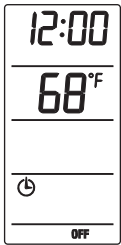
4 2 min. or 4 min. Short cycle protection

The TH144HP will protect your compressor from short cycling by setting a minimum ON and OFF operating time. This ensures that the thermostat will not start or stop a cycle if the minimum operating time has not been reached in each cycle. Select 2 minutes for residential applications or 4 minutes for heavy commercial installations.

5 O or B Reversing valve polarity

If your heat pump reversing valve is to be energized on a call for cool, set the switch to the **O** position. If your heat pump reversing valve is to be energized on a call for heat, set the switch to the **B** position.

3. FIRST-TIME INSTALLATION



When you first power on the thermostat, the unit runs a sequence of tests and a complete reset to zero, which lasts approximately 10 seconds. It is normal for the displayed temperature to be higher than the room temperature if you have manipulated the thermostat. It will return to normal a short while after the installation is completed.

If you have a programmable thermostat, set the clock and day using the *Hour*, *Minute* and *Day* buttons.

4. SAVING THE SETPOINTS

The **Comfort** ☀️, **Economy** (☾) and **Unoccupied** (■) settings represent the temperatures that you wish to have during the day, at night or while you are away. Since your thermostat controls both heating and cooling, your setpoints must be chosen accordingly.

Default Setpoints:

| | Comfort | Economy | Unoccupied |
|------|-------------|-------------|-------------|
| HEAT | 70°F (21°C) | 62°F (17°C) | 50°F (10°C) |
| COOL | 78°F (25°C) | 82°F (28°C) | 95°F (35°C) |

To modify the heating and cooling settings

- Set your thermostat to the heating mode (HEAT) using the *Heat/Cool* button.
- To program the Comfort setting, select the desired temperature setpoint using the ▲ ▼ buttons and press the Comfort (☀️) button until the Comfort icon is displayed (app. 3 seconds).
- To program the Economy setting, select the desired temperature setpoint using the ▲ ▼ buttons and press the Economy (☾) button until the Economy icon is displayed (app. 3 seconds).
- To program the Unoccupied temperature, select the desired temperature setpoint using the ▲ ▼ buttons and press the Unoccupied (■) button until the Vacation icon is displayed (app. 3 seconds).
- Set your thermostat to the cooling mode (COOL) using the *Heat/Cool* button and repeat operations b through d.

NOTE: You cannot program your cool setpoints lower than your Comfort heat setpoint. If this should happen, the thermostat will automatically set your cool setpoint 1 degree higher than your Comfort heat setpoint.

5. SELECT THE HEATING, COOLING OR AUTOMATIC MODE

Use the *Heat/Cool* button to select one of the following modes.

EMERGENCY HEAT: Controls only the auxiliary heat stage.

HEAT: Controls the heating unit(s) according to the displayed setting.

COOL: Controls the cooling unit(s) according to the displayed setting.

OFF: Disables the heating and cooling units. The fan functions are still enabled. No setpoint changes are allowed in this mode.

AUTO: Analyzes the temperature pattern and automatically alternates from the heating mode to the cooling mode.

6. REMOTE UNOCCUPIED INTERFACE

The TH144HP incorporates a remote interface to switch between the actual setpoint and the Unoccupied setpoint (■). A dry contact coming from a telephone interface (Aube's CT240/CT241), a central timer or an alarm system can be connected between terminals **REM** and **C** of the thermostat. A closed contact sets the Unoccupied setpoint. Refer to section 4 to save the Unoccupied setpoint.

7. BALANCE POINT TEMPERATURE (CUT-OFF)

This configuration is used to cut the heat pump compressor at a defined temperature when the system efficiency or the comfort is affected. The balance point cut-off function can only be activated if an outdoor temperature sensor (AC144-02) is connected to the thermostat.

To set the balance point temperature

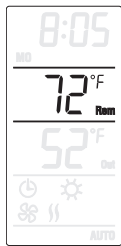
Hold the *Heat/Cool* button until the temperature of your thermostat disappears and the temperature of the balance point appears. You can then change the temperature with the ▲ ▼ buttons. To return to normal operation, press the *Heat/Cool* button.

8. REMOTE SENSORS (option)

Remote sensors (part AC144-02) can be connected to the thermostat in order to detect a room temperature or an outdoor temperature. Refer to the wiring diagram to connect the sensors. The wire distance between the thermostat and the remote interface should not exceed 500 feet. The wire distance between the remote interface and the probe should not exceed 200 feet. A 22 AWG or larger wire should be used. A standard 4-wire thermostat or alarm system cable is recommended. Refer to the remote sensor user guide for installation guidelines.

8.1 Remote indoor sensor

The AC144-02 transmits temperature readings to the thermostat from the room in which it is installed. The temperature is read from the AC144-02 housing sensor or the connected temperature probe.



The thermostat uses this temperature reading for temperature control. It overrides the thermostat's sensor. The <Rem> icon as well as the temperature are displayed on the screen.

Connecting the sensor automatically enables remote operations. To revert to local temperature control, disconnect the AC144-02 wires from the thermostat and power off for 5 seconds and then return power.

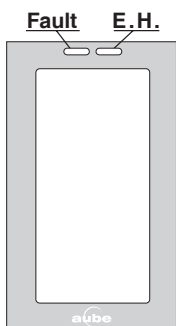
8.2 Remote outdoor sensor

The AC144-02 transmits the outdoor temperature readings to the thermostat using its connected outdoor probe (installed outdoors).

The <Out> icon and outdoor temperature are displayed on the LCD.



9. INDICATOR LIGHTS



There are two lights located on the top of the LCD.

Red light (Fault): Turns on when the system is in fault condition.

Yellow light (E.H.): Turns on during a heating call to remind you that you are in Emergency Heat mode.

10. TAMPER-PROOF COVER BOX COMPATIBILITY

Due to its adaptive controller algorithm, the TH144HP thermostat can be installed in any tamper-proof cover box without affecting its overall performance.

11. TECHNICAL SPECIFICATIONS

| | |
|---------------------|---|
| Models: | TH144HP-N-2H1C / TH144HP-P-2H1C |
| Power supply: | 24 VAC |
| Maximum charge: | 1.5 A/30 VAC per output |
| Remote input: | 24 VAC, 10 mA |
| Heat setting range: | 40 °F to 82 °F (5 °C to 28 °C) |
| Cool setting range: | 60 °F to 95 °F (15 °C to 35 °C) |
| Anticipation: | Electronic anticipation independent from the charge |
| Controller: | Dead band adaptive |
| Regulation cycles: | 15 or 20 minutes (at 50% operation) |

12. ACCESSORIES

| | |
|----------|---|
| AC144-02 | Remote temperature interface with 10-foot indoor/outdoor probe. |
|----------|---|

WARRANTY

AUBE TECHNOLOGIES INC. TWO (2) YEAR LIMITED WARRANTY

This product is guaranteed against workmanship defects for a two-year period following the initial date of purchase. During this period, AUBE Technologies Inc. will repair or replace, at our option and without charge, any defective product which has been used under normal conditions.

The warranty does not cover delivery costs and does not apply to products poorly installed or randomly damaged following installation.

This warranty cancels and replaces any other manufacturer's express or implied warranty as well as any other company commitment. AUBE Technologies Inc. cannot be held liable for related or random damages following the installation of this product.

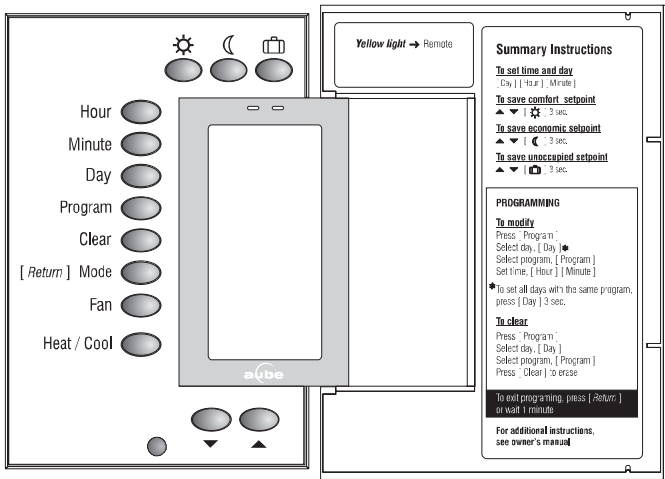
The defective product as well as the purchase invoice must be returned to the place of purchase or mailed, prepaid and insured, to the following address:



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Saint-Jean-sur-Richelieu, Quebec
Canada J2X 5K8

Tel.: (450) 358-4600
1-800-831-AUBE
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1. SETTING THE REAL-TIME CLOCK

Use the *Hour*, *Minute* and *Day* buttons to set the clock.

2. OPERATING MODES

The thermostat offers two operating modes: Manual and Automatic.

MANUAL

This mode allows you to maintain a constant temperature.

- To activate this mode, press the *Mode* button to display the Manual icon.
- Set the desired temperature using the buttons or select the preprogrammed settings (, or).

AUTOMATIC

This mode executes your programming.

- To activate this mode, press the *Mode* button to display the Auto icon.
- The Comfort () or Economy () icon indicates which program setting is active.

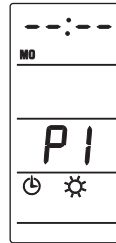
3. SCHEDULE PROGRAMMING

The thermostat allows 4 settings for each day of the week (P1 to P4). There are no pre-set programs. Programs 1 and 3 (P1, P3) will change the temperature setpoint to your Comfort setting (). Programs 2 and 4 (P2, P4) will change the temperature setpoint to your Economy setting ().

NOTE: For temperature increases (P1 and P3), allow at least 15 minutes per 2 °F. For example, if you have lowered the temperature by 6 °F overnight and you wake up at 7 a.m., change the setting at 6:15 a.m.

To reduce your energy costs, you must lower the temperature for a period of 2 to 3 times the delay required to bring the temperature back to your comfort level.

a) To program your schedule



- Press the *Program* button to access the programming mode.
- Press the *Day* button to select the day to be programmed. You can select all days of the week by pressing on the *Day* button until all days of the week appear on the LCD screen.
- Press the *Program* button to select P1, P2, P3 or P4.
- Press the *Hour* and *Minute* buttons to program the time.
- When you have completed your programming, press the *Return* button to exit this function.

b) To erase a program

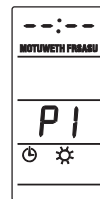
Select the program using the *Program* and *Day* buttons, and press the *Clear* button. The time zone displays --:-- when the program is inactive.

c) Quickly scroll through hours/minutes

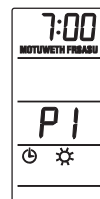
You can scroll quickly through the hours and minutes when programming the time by holding down the *Hour* or *Minute* button.

Example

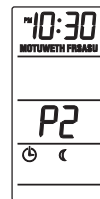
Comfort period from 7:00 a.m. to 10:30 p.m.
Economy period from 10:30 p.m. to 7:00 a.m.
The schedule is identical for every day of the week.



- Press the *Program* button to access the programming mode.
- Press and hold the *Day* button until all days of the week appear.



- Press the *Hour* button to enter 7:00 a.m. for P1.



- Press the *Program* button again to select P2 and press the *Hour* and *Minute* buttons to enter 10:30 p.m.
- Press the *Return* button to exit the programming mode and return to normal operation.

3. TEMPORARY OR PERMANENT TEMPERATURE BYPASS

This operation allows you to temporarily modify the room temperature while you are in Automatic mode. Press the buttons to select the desired temperature or the pre-set buttons to select the Comfort, Economy or Unoccupied settings you have programmed. This temperature will be maintained for 2 hours. To permanent bypass, set your thermostat in Manual mode using the *Mode* button.