



ATA21S01 and ATA21S02 TH158 MICROPROCESSOR HEAT PUMP THERMOSTAT

INSTALLATION INSTRUCTIONS

1. Install the TH158 with the two furnished mounting screws to a standard 4-11/16" x 2-1/8" square device box with a 2" x 4" adapter ring.
2. For wall installations, mount the thermostat on an inside wall approximately 5 feet above the floor. The location should provide circulation at average room temperature. Avoid direct sunlight or sources of hot or cold air in the room or wall.
3. Remove the cover. Mount thermostat base assembly to the outlet box using the screws provided, tighten the screws evenly but do not over tighten. Connect wires as shown in the appropriate wiring diagram for your thermostat style.
4. To use a remote sensor on units with local sensing capability, remove jumper JP-1 to disable local sensing. Failure to remove JP-1 will cause improper operation of the thermostat.
5. Connection of a 24 VAC setback signal will force the control into un-occupied mode (see diagram). Pressing an arrow key or the mode buttons on the thermostat cover will disable the setback input for one hour.
6. Reinstall the cover assembly. Install cover locking screw provided. Remove the LCD plastic protective film to complete the installation.
7. Checkout: After wiring and installation are complete, energize the system and check the operation. Adjust the thermostat as necessary to complete at least one cycle. Be sure the thermostat and all other equipment are functioning correctly.



CAUTION

Use copper wire only, insulate or wire nut all un-used leads. Care should be used to avoid electrostatic discharge to the microprocessor.

This unit has configuration jumpers. You may need to re-configure this thermostat for your application. See page 2.



WARNING

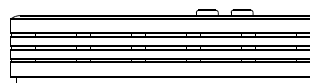
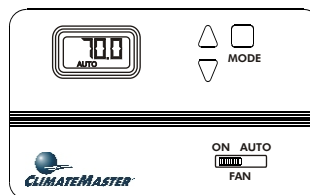
READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE THIS THERMOSTAT.

Failure to observe safety information and comply with instructions could result in PERSONAL INJURY, DEATH AND/OR PROPERTY DAMAGE.

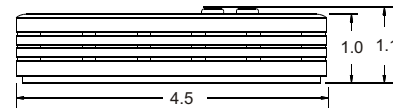
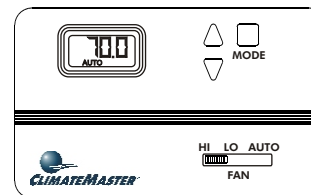
To avoid electrical shock or damage to equipment, disconnect power before installing or servicing.

To avoid potential fire and/ or explosion do not use in potentially flammable or explosive atmospheres.

Retain these instructions for future reference. This product, when installed, will be part of an engineered system whose specifications and performance characteristics are not designed or controlled by ClimateMaster. You must review your application and national and local codes to assure that your installation will be functional and safe.



ATA21S01



ATA21S02

THERMOSTAT OPERATION

MODE BUTTON OPERATION

OFF All thermostat outputs are off, fan is still operational if ON, HI or LO is selected.

AUTO The thermostat automatically selects heating or cooling mode depending upon the relationship of the set point and room temperature. The appropriate HEAT or COOL indicator is enabled in addition to AUTO if demand exists. A 3°F dead-band is provided to prevent short cycling between heating and cooling modes. After change-over the control point automatically shifts so that the control off point equals the set point temperature.

COOL The thermostat operates as a cooling only thermostat.

HEAT The thermostat operates as a heating only thermostat.

If constructed without a mode button, the thermostat operates in AUTO mode.

FAN/ SYSTEM SWITCH OPERATION

Fan speed is determined by manual selection from system switch ON, HI, LO and/ or AUTO. In ON, HI or LO the fan output is continuous. In AUTO the output cycles with demand. In AUTO and with the MODE in OFF all outputs are off.

SETBACK OPERATION

Unit operates in setback mode when the circuit is closed between terminal #7 and 24 VAC1. When operating in setback mode the control points are 50°F or 60°F for heating and 90°F or 85°F for cooling dependent on dip switch configuration. Fan operation in setback is cycled with demand. See dip switch configuration diagram. Pressing the mode, up or down buttons will override setback for 1 hour.

REMOTE PROBE OPERATION

An optional remote temperature probe can be used. Remove jumper JP1 from the circuitboard for proper operation.

REVERSING VALVE OUTPUTS

After a call for heat, the Reversing Valve Heat Output is continuously active until there is a demand for cool. After a call for cooling, the Reversing Valve Cool Output is continuously active until there is a heat demand.

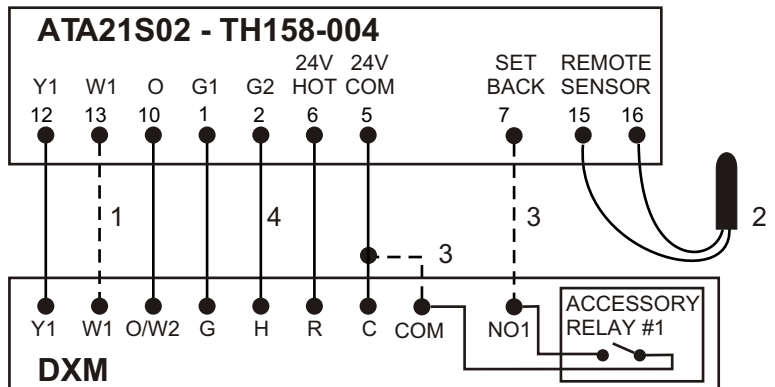
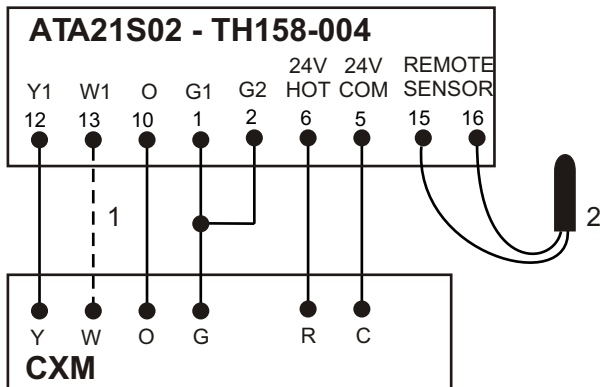
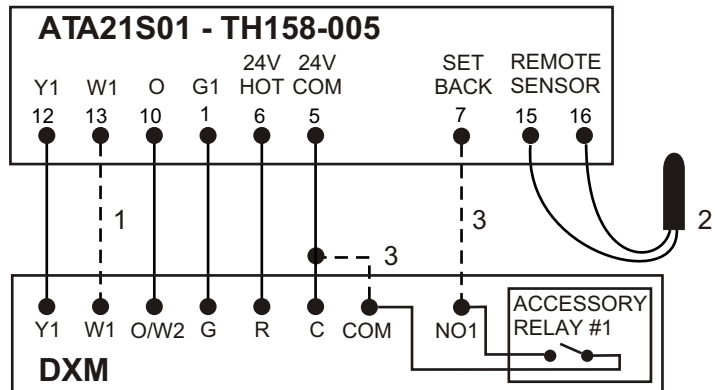
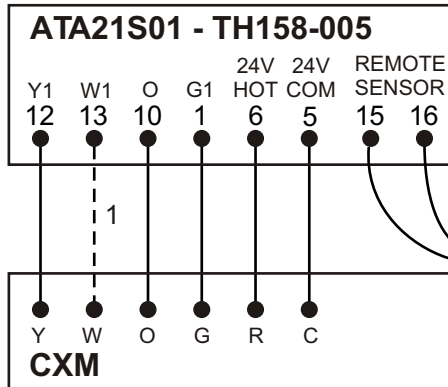
COMPRESSOR OUTPUT

Compressor Output is active anytime there is a demand.

STAGED HEAT OUTPUT

Staged Heat Output is active 3°F below first stage heat ON.

POWER-UP: Outputs may take up to two minutes to respond to changes or on initial power-up.



NOTES:

1. Optional connection to pin "13" for heating stage 2 operation. Heating stage 2 provides supplemental electric heat with compressor.
2. Optional remote room sensor. Jumper JP1 must be removed for remote sensing. See FIGURE 1.
3. Optional connection for setback operation. DXM dip switches must be configured for Accessory Relay #1 to operate in "Digital NBS" mode.
4. DXM dip switch 2.7 must be configured for "HIGH FAN MODE".

ELECTRICAL RATINGS

| Voltage Rating | Fan Switch | Thermostatic Switching |
|----------------|------------|------------------------|
| | Pilot Duty | |
| 24 VAC | 10 VA | 10 VA |

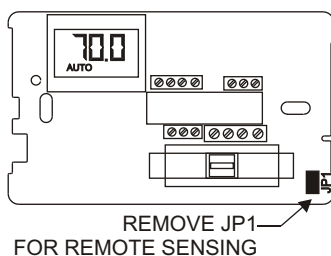
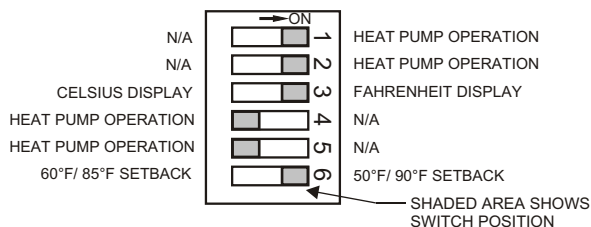


FIGURE 1



NO OTHER CONFIGURATION OPTIONS ARE AVAILABLE FOR THE DIP SWITCH

NOTE: Thermostat power must be cycled for changes in dip switch configuration to take effect.

DIP SWITCH CONFIGURATION

THERMOSTAT OUTPUT OPERATION

- O** Cycles on with cooling demand. Output is held on until the thermostat calls for heating.
- B** Cycles on with heating demand. Output is held on until the thermostat calls for cooling.
- Y1** Cycles on with heating or cooling demand
- W1** Cycles on 3°F below first call for heat

NOTES:

1. Some models do not include wire leads. Refer to terminal designations.
2. Specific model configuration may vary the number of connections available.

FAN OPERATION

Models with ON-AUTO Switch Selection:

- G1** If AUTO position is selected then G1 cycles with demand.
- If LO position is selected then G1 is fan continuous.

Models with HI-LO-AUTO Switch Selection:

- G1** If AUTO position is selected then G1 cycles with demand.
- If LO position is selected then G1 is fan continuous.
- G2** If HI position is selected then G2 is on continuous.

NOTE:

1. When thermostat is operating in setback, fan operation is cycled.