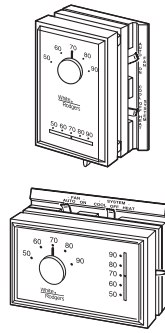


Installation Instructions for:	
Horizontal Snap-Action	1F56N-444
Vertical Snap-Action	1E56N-444



YOUR THERMOSTAT REPLACES

System	Models
Standard Heating & Cooling Systems – 4 or 5 wires Standard Heat Only Systems Standard Central Air Conditioning Gas or Oil Heat Hydronic (Hot Water) Zone Heat – 2 wires Electric Furnace Heat Pump (No Aux or Emergency Heat)	All Models
Heat Pump (with Aux or Emergency Heat) Baseboard Electric Heating or Line Voltage (120 or 240 Volt)	None
Millivolt Heat Only Systems – Floor or Wall Furnaces Hydronic (Hot Water) Zone Heat – 3 wires	All Models

1 PREPARATIONS

Assemble tools required: power drill, flat blade screwdriver, wire cutter/stripper, level.

Failure to follow and read all instructions carefully before installing or operating this control could cause personal injury and/or property damage.

2 THERMOSTAT FEATURES

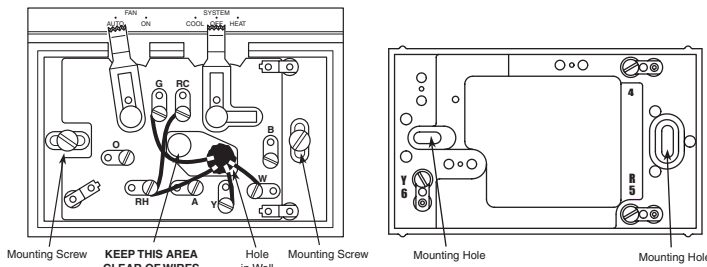


Figure 1. Thermostat subbase and wallplate

3 REMOVING OLD THERMOSTAT

⚠ CAUTION

To prevent electrical shock and/or equipment damage, disconnect electrical power to the system at the main fuse or circuit breaker until installation is complete.

Before removing wires from old thermostat's switching subbase, label each wire with the terminal designation it was removed from.

- Remove Old Thermostat:** A standard heat/cool thermostat consists of three basic parts:
 - The cover, which may be either a snap-on or hinge type.
 - The base, which is removed by loosening all captive screws.
 - The switching subbase, which is removed by unscrewing the mounting screws that hold it on the wall or adaptor plate.

Make a note here of the anticipator setting on the old thermostat for future reference and use in step 5.

The heat anticipator pointer, if adjustable, will be set at one of a series of numbers representing the current rating of the primary control in your furnace. The number will be one of the following: .2, .4, .8, etc. or 0.2, 0.4, 0.8, etc.

3 REMOVING OLD THERMOSTAT (cont'd)

If no heat anticipator/indication is showing, do not be concerned; move on to the next step.

ATTENTION! This product does not contain mercury. However, this product may replace a unit which contains mercury.

Do not open mercury cells. If a cell becomes damaged, do not touch any spilled mercury. Wearing non-absorbent gloves, take up the spilled mercury and place into a container which can be sealed. If a cell becomes damaged, the unit should be discarded.

Mercury must not be discarded in household trash. When the unit this product is replacing is to be discarded, place in a suitable container. Refer to www.white-rodders.com for location to send product containing mercury.

4 MOUNTING AND WIRING

⚠ WARNING

Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.

Do not short out terminals on gas valve or primary control to test. Short or incorrect wiring will damage thermostat and could cause personal injury and/or property damage.

Thermostat installation and all components of the system shall conform to Class II circuits per the NEC code.

- Remove base from subbase:** Loosen the screws on the base and remove.
- Mount switching subbase:** Use the screws provided to mount the subbase or wallplate to wall (see Fig. 1).
- Attach wires to appropriate terminals:**
 - For two wire systems (Heat Only or Cool Only).** Replace subbase with wallplate. If you have a two-wire **Heat Only** system, attach one wire to **R** and one to wire **W**. If you have a two-wire **Cool Only** system, attach one wire to **R** and one to wire to **Y**. Tighten any unused terminals securely. (see Fig. 5 and 6).
 - If your system has more than two wires:** Use the cross reference chart to determine correct wire connections. If you have a four-wire heat/cool system leave the factory installed jumper between **RC** and **RH** attached (see Fig 2.). If your system has five wires remove the factory installed jumper between **RC** and **RH** (see Fig 3.).
 - Electric heat or single stage heat pump systems:** These thermostats are configured from the factory to operate a heat/cool, fossil fuel (gas, oil, etc.) forced air system. This is correct for any system that DOES NOT require the thermostat to energize the fan on a call for heat. If your system is an electric heat or heat-pump system that REQUIRES the thermostat to turn on the fan on a call for heat, remove the yellow factory-installed jumper wire from the **Y** terminal and connect it to the **A** terminal. This will allow the thermostat to energize the fan immediately on a call for heat. If you are unsure if the heating system requires the thermostat to control the fan, contact a qualified heating and air conditioning service person. For single stage heat pump applications (no auxiliary heat), install a short jumper wire (not included) across terminals **W** and **Y**. If the system has a reversing valve connection energized in Cooling, attach it to **O**. If the system has a reversing valve connection energized in Heating, attach it to **B** (see Fig. 4). This thermostat will not provide multi-stage heating or cooling.
- Mount Thermostat Base:** Gently push excess wire back into the wall opening and plug hole with a fire-resistant material, such as fiberglass insulation to prevent drafts from affecting thermostat operation. Mount the thermostat base to the subbase using the three captive screws on the thermostat base. (See Fig. 1) Tighten the screws securely. Proceed to Step #5.

⚠ CAUTION

Take care when securing and routing wires so they do not short to adjacent terminals or rear of thermostat. Personal injury and/or property damage may occur.

TERMINAL CROSS REFERENCE CHART

New Thermostat Terminal Designation	Other Manufacturers' Terminal Designation				
RH	4	RH	M	R5	R
RC	R	R	V	–	–
G	G	G	F	G	G
W	W	W	H	4	W
Y	Y	Y	C	Y6	Y

* These are four-wire, single-transformer systems. Factory installed jumper wire between the RH and RC terminals must remain in place.

5 SET HEAT ANTICIPATOR

Set anticipator to match the setting of your old thermostat you noted in Step 3, or, the anticipator should be set to match the current rating stamped on your main heating control. The heat anticipator is adjustable from 0.15 to 1.2 amps. Adjust the anticipator by rotating the contact arm (see fig. 5). The anticipator setting is indicated by the numbers on the base that the pointer points to. If you are unsure where to set the anticipator contact the heater manufacturer for a recommended setting.

Move the pointer **counterclockwise to lengthen** heating system cycles; move **clockwise to shorten** heating cycles. Adjustments should not be greater than 1/2 marking at a time.

For millivolt operation, rotate contact arm to Millivolt Link.

Snap on Cover: Carefully align the cover with the base and snap the cover onto the base.

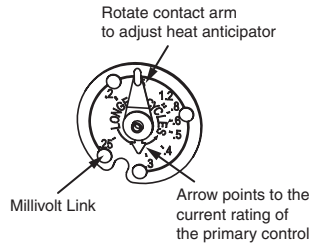


Figure 5. Anticipator adjustment

6 NEW THERMOSTAT OPERATION

Thermostat on Subbase. After power is turned on, use the system switch to select either heating or cooling, or to turn the heating/cooling system off. Use the fan switch to control fan operation. When the fan switch is in the **AUTO** position, the fan will cycle with the heating or cooling system (the fan will not run if the system switch is in the **OFF** position and the fan switch is in the **AUTO** position). When the fan switch is in the **ON** position, the fan will run continuously, regardless of system switch position (even if the system switch is set to **OFF**, the fan will run if the fan switch is in the **ON** position).

Thermostat on wallplate. For heat only move the temperature lever to the highest temperature. For cool only move the temperature lever to the lowest temperature.

7 SPECIFICATIONS

ELECTRICAL DATA

Switch Rating..... 24 VAC (30 VAC max.)
 Heating..... 0.15 to 1.2 Amps
 Cooling..... 0 to 1.5 Amps

Anticipator Rating:

Heating..... Adjustable from 0.15 to 1.2 Amps
 Cooling..... Fixed

THERMAL DATA:

Temperature Range..... 50°F to 90°F (10°C to 32°C)
 Operating Humidity Range..... 0 – 90% noncondensing

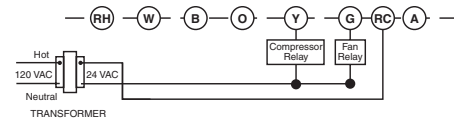


Figure 2. Typical wiring for single transformer heating/cooling system

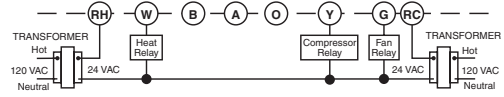


Figure 3. Typical wiring for two-transformer heating/cooling system

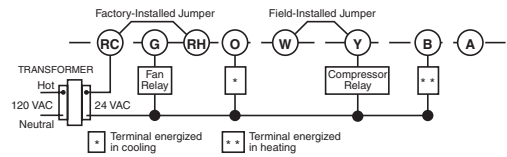


Figure 4. Typical wiring for single transformer, single stage heat pump system

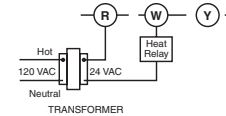


Figure 5. Typical wiring for single transformer heating system

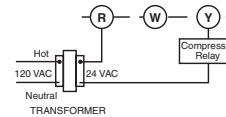


Figure 6. Typical wiring for single transformer cooling system

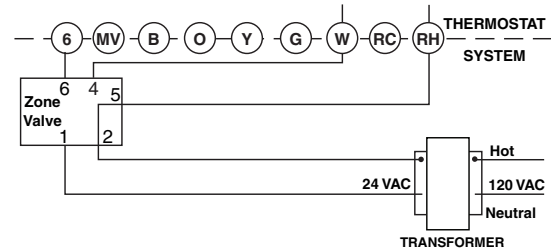


Figure 7. Typical wiring diagram heat only, 3-wire zone valve systems

8 TROUBLESHOOTING

Symptom	Possible Cause	Corrective Action
No Heat/No Cool/No Fan (common problems)	<ol style="list-style-type: none"> 1. Blown fuse or tripped circuit breaker. 2. Furnace power switch to OFF. 3. Furnace blower compartment door or panel loose or not properly installed. 	<p>Replace fuse or reset breaker. Turn switch to ON. Replace door panel in proper position to engage safety interlock or door switch.</p>
No Heat	<ol style="list-style-type: none"> 1. Pilot light not lit. 2. Broken or melted anticipator wire. 3. Loose connection to thermostat or system. 4. Thermostat or heating system requires replacement or service. 5. System Switch not set to Heat. 	<p>Re-light pilot. Excessive current or dead short in system. Have a qualified service person check the system before replacing thermostat. Verify thermostat and system wires are securely attached. Your furnace manufacturer or service person can describe how to test the heating system to verify it is operating correctly. If the heating system is capable of operation and the no heat condition persists, replace the thermostat. Set System Switch to Heat and raise temp above room temp.</p>
Intermittent Heat	<ol style="list-style-type: none"> 1. Furnace Lock-Out Condition 	<p>Many furnaces have safety devices that shut the system down when a lock-out condition occurs. If the heat works intermittently contact the furnace manufacturer or local service person for assistance.</p>
No Cool	<ol style="list-style-type: none"> 1. Loose connection to thermostat or system. 2. Thermostat or cooling system requires replacement or service. 3. System Switch not set to Cool. 	<p>Verify thermostat and system wires are securely attached. Your cooling system manufacturer or service person can describe how to test the cooling system to verify it is operating correctly. If the cooling system is capable of operation and the no cooling condition persists, replace the thermostat. Set System Switch to Cool and lower temp below room temp.</p>
Heat, Cool or Fan Runs Constantly.	<ol style="list-style-type: none"> 1. Possible short in wiring. 2. Possible short in thermostat. 3. Possible short in heat/cool/fan system. 	<p>Check each wire connection to the thermostat to verify it is neatly looped under the terminals. No extra wire should stick out from under the terminals.</p>
Furnace Cycles Too Fast or Too Slow Narrow or wide temperature swing	<p>See Step 5, Adjusting the Anticipator.</p>	<p>The anticipation setting is the only adjustment that effects the heating cycle rate. If an acceptable cycle rate is not achieved using the anticipator contact a local service person for additional suggestions. The location of the thermostat, size of the Heat/Cool System and current draw can influence the cycle rate.</p>
Cooling Cycles Too Fast or Too Slow (narrow or wide temperature swing)	<ol style="list-style-type: none"> 1. Poor thermostat location for sensing room temperature. 2. Cooling system over or undersized. 3. Excessive Current draw influencing thermostat. 	<p>The cycle rate for cooling can not be adjusted. The location of the thermostat, size of the Cool system and current draw can influence the cycle rate. Contact a local service person for suggestions.</p>
Thermostat Setting and Thermostat Thermometer Disagree	<ol style="list-style-type: none"> 1. Thermostat thermometer setting requires adjustment. 2. Thermostat setting lever requires calibration. 	<p>The thermometer can be adjusted by using a standard slotted screwdriver. Turn the thermometer pointer screw located inside the front cover to change the setting. For calibrating the setting lever contact a local heating and cooling service person.</p>
Adjusting Thermometer	<ol style="list-style-type: none"> 1. Thermostat thermometer disagrees with other room thermometers. 	<p>The thermometer on the thermostat is accurately calibrated at our factory but you can adjust it by using a standard slotted screwdriver. Turn the thermometer pointer screw located inside the front cover to change the setting.</p>

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Síntoma	Causa posible	Acción correctiva
<p>El sistema no calienta/ No funciona el ventilador (problemas comunes)</p> <p>El sistema no entra/ El sistema no funciona el ventilador</p> <p>1. El interruptor de alimentación del calefactor está en OFF. 2. El interruptor de activar el disyuntor. 3. La puerta o el panel del compartimento del soplador del calefactor están sueltos o no están debidamente instalados.</p>	<p>1. La luz piloto no está encendida. 2. Cable de anticipador roto o fundido. 3. La conexión al termostato o al sistema está suelta. 4. El termostato o sistema de calefacción requiere servicio técnico o debe cambiarse el termostato. 5. El interruptor System no está ajustado en Heat.</p>	<p>Vuelva a encender el piloto. Corriente excesiva o cortocircuito total en el sistema. Pida a un técnico calificado que revise el sistema antes de cambiar el termostato. Verifique que los cables del termostato y del sistema estén bien conectados. El fabricante o técnico de su calefactor pueden explicarle cómo probar el sistema de calefacción para verificar si está funcionando correctamente. Si el sistema de enfriamiento funciona y persiste la condición de no calor, cambie el termostato. Ajuste el interruptor System en Heat y suba la temperatura de referencia por encima de la temperatura ambiente. Muchos calefactores tienen dispositivos de seguridad que se cierran cuando se produce una condición de bloqueo. Si la calefacción funciona de manera intermitente, póngase en contacto con el fabricante del calefactor o con el personal técnico local para solicitar ayuda.</p>
<p>El sistema no calienta</p> <p>1. El sistema no entra</p> <p>1. La conexión al termostato o al sistema está suelta. 2. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 3. El interruptor System no está ajustado en Cool.</p>	<p>1. Posible cortocircuito en los cables. 2. Posible cortocircuito en el sistema. 3. Posible cortocircuito en el sistema de calor/frío/ventilador.</p>	<p>Revisa la conexión de cada cable al termostato para asegurarse de que esté debidamente enroscada debajo de las terminales. Los cables no deben sobresalir por debajo de las terminales. Vea el paso 5. Ajuste del anticipador.</p>
<p>El modo de calor, frío o ventilador funciona de manera constante</p> <p>1. El sistema no entra</p> <p>1. La conexión al termostato o al sistema está suelta. 2. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 3. El interruptor System no está ajustado en Cool.</p>	<p>1. Mala ubicación del termostato para detectar la temperatura ambiente. 2. Sistema de enfriamiento demasiado chico o demasiado grande. 3. La toma excesiva de corriente afecta el termostato.</p>	<p>La duración del ciclo de enfriamiento es fija y no se puede ajustar. La ubicación del termostato y el tamaño del sistema de enfriamiento pueden influir en la duración del ciclo. Póngase en contacto con personal de servicio local para que le sugiera otras soluciones.</p>
<p>Los ciclos del calefactor</p> <p>1. El sistema no entra</p> <p>1. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 2. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 3. El interruptor System no está ajustado en Cool.</p>	<p>1. Es necesario ajustar el termostato requiere calibración. 2. La palanca de ajuste del termostato requiere otros termostatos de la habitación.</p>	<p>El ajuste de anticipación es el único ajuste que afecta la velocidad del ciclo de calefacción. Si no se logra una velocidad de ciclo aceptable utilizando el anticipador, consulte a un técnico local. La ubicación del termostato, el tamaño del sistema de calor/frío y la toma de corriente pueden influir en la velocidad del ciclo.</p>
<p>Los ciclos de enfriamiento</p> <p>1. El sistema no entra</p> <p>1. Mala ubicación del termostato para detectar la temperatura ambiente. 2. Sistema de enfriamiento demasiado chico o demasiado grande. 3. La toma excesiva de corriente afecta el termostato.</p>	<p>1. El termostato del termostato no coincide con otros termostatos de la habitación.</p>	<p>El termostato puede ajustarse utilizando un desmontador ranurado común. Gire el tornillo indicador del termostato ubicado dentro de la cubierta delantera para modificar el ajuste. Para calibrar la palanca de ajuste, póngase en contacto con un técnico local especializado en sistemas de calefacción y enfriamiento.</p>
<p>El ajuste con el termostato coincide con el termostato</p> <p>1. El sistema no entra</p> <p>1. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 2. El sistema de enfriamiento requiere servicio técnico o debe cambiarse el termostato. 3. El interruptor System no está ajustado en Cool.</p>	<p>1. El termostato del termostato no coincide con otros termostatos de la habitación.</p>	<p>El termostato del termostato viene calibrado con precisión de fábrica pero puede ajustarlo utilizando un desmontador ranurado común. Gire el tornillo indicador del termostato dentro de la cubierta delantera para modificar el ajuste.</p>

5 AJUSTE DE ANTICIPADOR DE CALOR

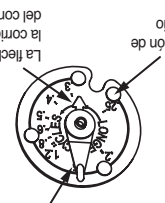
Ajuste el anticipador en el valor del termostato viejo que anotó en el paso 3, o bien en el valor de corriente nominal que figura en su control de calefacción principal. El anticipador de calor puede ajustarse de 0.15 a 1.2 A. Ajuste el anticipador girando el brazo de contacto (vea la figura 5). El ajuste del anticipador está indicado por los números de la base a los que apunta el indicador. Si no está seguro en qué valor ajustar el anticipador, consulte al fabricante del calefactor el valor recomendado.

Mueva el indicador en sentido antihorario para

alargar los ciclos de calefacción del sistema; muevalo en sentido horario para acortar los ciclos de calefacción. Los ajustes no deben ser de más de 1/2 marca a la vez.

Para el funcionamiento millivoltio, gire el brazo de contacto a Conexión de millivoltio.

Cubierta tipo broche: Alinee con cuidado la conexión de millivoltio



Gire el brazo de contacto para ajustar el anticipador de calor. La flecha apunta a la corriente nominal. Alinee con cuidado la conexión de millivoltio.

6 FUNCIONAMIENTO DEL NUEVO TERMOSTATO

Termostato montado en subbase. Una vez encendida la alimentación, utilice el interruptor del sistema para seleccionar calefacción o enfriamiento, o para apagar el sistema de calefacción/enfriamiento. Utilice el interruptor del ventilador para controlar el funcionamiento del ventilador. Cuando el interruptor del ventilador se encuentra en la posición **AUTO** el ventilador se encenderá y apagará con el sistema de calefacción o enfriamiento (no funciona si el interruptor del sistema está en la posición **OFF** y el interruptor del ventilador en la posición **AUTO**). Cuando el interruptor del ventilador está en la posición **ON** el ventilador funcionará de forma continua, independiente del ventilador está en la posición **OFF** y el interruptor del sistema (aunque el interruptor del sistema esté ajustado en **OFF**, el ventilador funcionará si el interruptor del ventilador está en la posición **ON**).

Termostato montado en pared. Para sólo calor, mueva la palanca de temperatura a la temperatura más alta. Para sólo frío, mueva la palanca de temperatura a la temperatura más baja.

7 ESPECIFICACIONES

DATOS ELÉCTRICOS	24 VCA (30 VCA máx.)
Calefacción	0.15 a 1.2 A
Enfriamiento	0 a 1.5 A
Características del anticipador:	Ajustable de 0.15 a 1.2 A
Enfriamiento	Fijo
DATOS TÉRMICOS:	50°F a 90°F (10°C a 32°C)
Rango de temperatura de referencia	0 a 90 % sin condensación

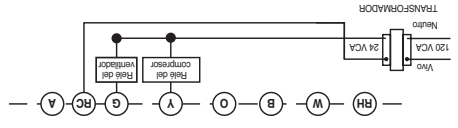


Figura 2. Diagrama de conexiones típico para sistemas de calor/frío de un solo transformador

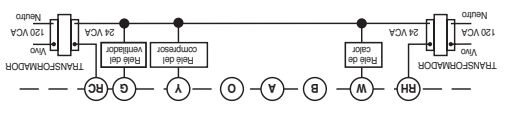


Figura 3. Diagrama de conexiones típico para sistemas de calor/frío de dos transformadores

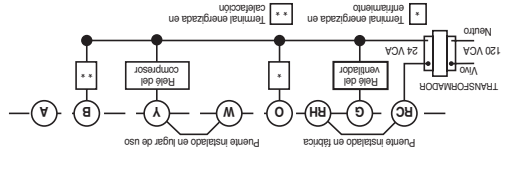


Figura 4. Conexión típica para sistemas de bomba de calor de un solo transformador y una sola etapa

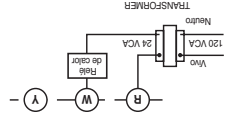


Figura 5. Conexión típica para sistemas de calor de un solo transformador

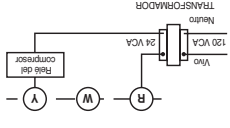


Figura 6. Conexión típica para sistemas de enfriamiento de un solo transformador

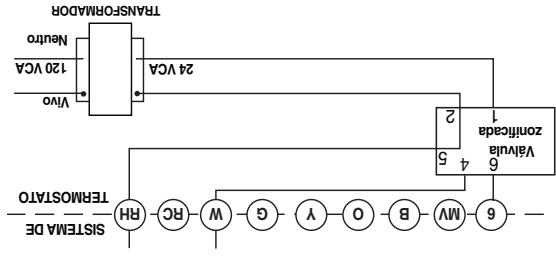


Figura 7. Conexión típica para sistemas de válvula zonificada de 3 cables de solo calor

