**Installation, Operation & Application Guide**

**Parts Diagram**

**Specifications**

**Electrical rating:** 24 VAC/VDC (18-30 VAC/VDC)
- 1 amp maximum per terminal
- 4 amp maximum total load

**Temperature control range:** 40°F to 90°F (7°C to 32°C)

**System configurations:** 2-stage heat, 2-stage cool

**Timing:** Backlight operation: 13 seconds after mode change or button press

**Temperature Differential**
- ±1°F (±0.5°C)

**Configuration Mode**

**Remote Sensor Installation (Optional)**

1. Remove cover from remote sensor housing.
2. Select an appropriate location for mounting the remote sensor.
3. Mount remote sensor using hardware provided.
4. Install two strand shielded wire between remote sensor and thermostat. Shielded wire must be used. Do not run remote sensor wire in conduit with other wires.
   - Wire 1 should run between the S1 terminal on the thermostat and the S1 terminal on the remote sensor
   - Wire 2 should run between the S2 terminal on the thermostat and the S2 terminal on the remote sensor
5. Disable the main sensor (R12) on the thermostat by cutting it from the circuit board.

**Terminal Designator Descriptions**

<table>
<thead>
<tr>
<th>Terminal Designator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>24 VAC Common</td>
</tr>
<tr>
<td>R</td>
<td>Tenant Override</td>
</tr>
<tr>
<td>G</td>
<td>Fan</td>
</tr>
<tr>
<td>Y1</td>
<td>Cool 1</td>
</tr>
<tr>
<td>Y2</td>
<td>Cool 2</td>
</tr>
<tr>
<td>W1</td>
<td>Heat 1</td>
</tr>
<tr>
<td>W2</td>
<td>Heat 2</td>
</tr>
<tr>
<td>O</td>
<td>Override</td>
</tr>
</tbody>
</table>

**Configuration Mode Settings**

- **Heat Pump and Non Heat Pump**
  - Press the \( \uparrow \) or \( \downarrow \) button to configure as heat pump, or non-heat pump system. Set to "O" for all Daikin WSHOP, PTAC, PTHP and UV units.
  - Press the SW5 button to advance to the next screen.
  - Note: The SW5 button will return you to the previous screen.
  - To exit configuration mode, slide the Mode switch to Heat or Cool.

**Wiring Diagram**

**Non-Programmable, Auto or Manual Changeover (P/N 668375401)**

**Two Stage Heat/Two Stage Cool, Night Setback and Override Feature**

**MicroTech III Unit Control Board**

Low Voltage Terminal Strip (Circuit 1)

**Tools required for installation:** Drill with 3/16" bit, hammer, screwdriver

**Reset**

**Alarm Output**

**Override (Optional)**

**Note:** An additional conductor is required between "O" terminals for the override feature to work.

**Electrical Shock Hazard** – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker off to the OFF position before removing the existing thermostat:

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. Remove cover of old thermostat. This should expose the wires.
3. Label the existing wires with the enclosed wire labels before removing wires.
4. After labeling wires, remove wires from wire terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following sections for instructions on how to install this thermostat.

**To Install Thermostat**

**Electrical Shock Hazard – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker off to the OFF position before removing the existing thermostat:**

- **IMPORTANT:** Thermostat installation must conform to local and national building codes and ordinances.

  - **Note:** Mount the thermostat about five feet above the floor. Do not mount the thermostat or duct.

**Troubleshooting**

- **System is not cooling:** Check connections and ensure all wires are connected properly.
- **System is not heating:** Check circuit breaker and ensure all wires are connected properly.

**Configuration Mode**

The configuration mode is used to set the Daikin Auto-changeover Electronic Thermostat to match your heating/cooling system. To configure the Daikin Auto-changeover Electronic Thermostat, perform the following steps:

1. Remove the cover of the thermostat by gently pulling on one of the corners.
2. Simultaneously hold the SW5 and SW6 buttons in for 5 seconds while the Daikin Auto-changeover Electronic Thermostat is in OFF mode.
3. Press the \( \uparrow \) or \( \downarrow \) button to change settings within each screen.
4. Press the SW5 button to advance to the next screen.

**Temperature Range**

- 40°F to 90°F (7°C to 32°C)
- ±1°F (±0.5°C)

**Configuration Options**

- 2 Heat/2 Cool, Auto or Manual Changeover, Hardwired
- 24 VAC Common
- TENN Override
- Fan
- Cool 1
- Cool 2
- Heat 1
- Heat 2
- Alarm Output
- 24 VAC

**Specifications**

- **Electrical Rating:** 24 VAC/VDC (18-30 VAC/VDC)
- **Temperature Control Range:** 40°F to 90°F (7°C to 32°C)
- **System Configurations:** 2-stage heat, 2-stage cool
- **Timing:** Backlight operation: 13 seconds after mode change or button press
- **Temperature Differential:** ±1°F (±0.5°C)

**Tools Required**

- Drill with 3/16" bit, hammer, screwdriver

**Package Contents**

- Thermostat base cover
- Wire labels
- Hardware
- Installation Manual

**Note:** Mount the thermostat about five feet above the floor. Do not mount the thermostat or duct.

**ELECTRICAL SHOCK HAZARD – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker off to the OFF position before removing the existing thermostat:**

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. Remove cover of old thermostat. This should expose the wires.
3. Label the existing wires with the enclosed wire labels before removing wires.
4. After labeling wires, remove wires from wire terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following sections for instructions on how to install this thermostat.

**To Remove Existing Thermostat**

**Electrical Shock Hazard – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker off to the OFF position before removing the existing thermostat:**

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. Remove cover of old thermostat. This should expose the wires.
3. Label the existing wires with the enclosed wire labels before removing wires.
4. After labeling wires, remove wires from wire terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following section for instructions on how to install this thermostat.

**To Install Thermostat**

**Electrical Shock Hazard – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker off to the OFF position before removing the existing thermostat:**

**Important Safety Information**

- **WARNING:** Always turn off power at the main supply before installing, cleaning, or removing thermostat.
- **This thermostat is for 24 VAC/VDC applications only; do not use on voltages over 30 VAC/VDC
- **Do not short across terminals of system control to test operation; this will damage your thermostat and void your warranty**
- **All wiring must conform to local and national electrical and building codes**
- **Use this thermostat only as described in this manual**

**Package Contents/Tools Required**

- Thermostat on base, thermostat cover, wiring labels, screws and wall anchors
- Installation, Operation and Application Guide

**Tools required for installation:** Drill with 3/16" bit, hammer, screwdriver

**Troubleshooting**

- **System is not cooling:** Check connections and ensure all wires are connected properly.
- **System is not heating:** Check circuit breaker and ensure all wires are connected properly.

**Configuration Mode**

The configuration mode is used to set the Daikin Auto-changeover Electronic Thermostat to match your heating/cooling system. To configure the Daikin Auto-changeover Electronic Thermostat, perform the following steps:

1. Remove the cover of the thermostat by gently pulling on one of the corners.
2. Simultaneously hold the SW5 and SW6 buttons in for 5 seconds while the Daikin Auto-changeover Electronic Thermostat is in OFF mode.
3. Press the \( \uparrow \) or \( \downarrow \) button to change settings within each screen.
4. Press the SW5 button to advance to the next screen.

**Note:** The SW5 button will return you to the previous screen.

5. To exit configuration mode, slide the Mode switch to Heat or Cool.

**Configuration Mode Settings**

- **Heat Pump and Non Heat Pump**
  - \( \uparrow \) or \( \downarrow \) button to configure as heat pump, or non-heat pump system. Set to "O" for all Daikin WSHOP, PTAC, PTHP and UV units.
  - Press the SW5 button to advance to the next screen.

**Temperature Scale (F or C)**

- Select Fahrenheit or Celsius.
- Press the \( \uparrow \) or \( \downarrow \) button to select.
- Press the SW5 button to advance to the next screen.

**Temperature Management**

- **1st Stage Temperature Differential**
  - \( (1°F \text{ to } 3°F) \) (0.5°C to 1.5°C)
  - Set the number of degrees between your "setpoint" temperature and your "turn-on" temperature.
  - Press the \( \uparrow \) or \( \downarrow \) button to set differential value.
  - Press the SW5 button to advance to the next screen.

- **2nd Stage Temperature Differential**
  - \( (1°F \text{ to } 5°F) \) (0.5°C to 3°C)
  - Set the number of degrees between when stage 1 turns on and when stage 2 turns on.
  - Press the \( \uparrow \) or \( \downarrow \) button to set differential value.
  - Press the SW5 button to advance to the next screen.
6. Minimum Deadband (2°F to 9°F; 1°C to 4°C)
Set the minimum separation between heat setpoint and cool setpoint in Auto Changeover Mode. Press the \( \bigcirc \) or \( \bigtriangledown \) button to set deadband. Press the SW3 button to advance to the next screen.

7. Select whether the outputs for heating and cooling are staged off independently or are satisfied simultaneously.
1 = outputs staged off independently
2 = outputs satisfied simultaneously
Press the \( \bigcirc \) or \( \bigtriangledown \) button to set deadband. Press the button is advance to the next screen.

8. Minimum Cool Setpoint (65°F to 75°F) (19°C to 24°C)
Adjust to control the minimum cool set temperature allowed. Press the \( \bigcirc \) or \( \bigtriangledown \) button to select. Press the SW3 button to advance to the next screen.

9. Maximum Heat Setpoint (80°F to 90°F) (13°C to 32°C)
Adjust to control the maximum heat set temperature allowed. Press the \( \bigcirc \) or \( \bigtriangledown \) button to select. Press the SW3 button to advance to the next screen.

10. Room temperature offset (+9°F to -9°F) (+4.5°C to -4.5°C)
Adjust to calibrate displayed room temperature to match actual room temperature.
\( \bigcirc \) Note: When not set to 0, ROOM will display. Press the \( \bigcirc \) or \( \bigtriangledown \) button to select. Press the SW3 button to advance to the next screen.

11. Maximum compressor cycles allowed per hour, (2-6)
- 1 = as many as needed, and 2-6 = maximum cycles/hour
Press the \( \bigcirc \) or \( \bigtriangledown \) button to select. Press the SW3 button to advance to the next screen.

12. Status Indicator Light (L10 0, 1, 2)
1 = Status indicator never on
2 = Status indicator on with first stage
3 = Status indicator on with second stage
Press the \( \bigcirc \) or \( \bigtriangledown \) button to select.
\( \bigcirc \) Note: Red light indicates heating cycle and green light indicates cooling cycle. Slide the Mode switch to Heat or Cool to exit configuration.

Testing the Thermostat

Once the thermostat is installed, it should be thoroughly tested.

**Cool Test**
1. Slide Mode switch to Cool mode.
2. Adjust the set temperature so it is 5 degrees below room temperature.
3. Air conditioning should come on within a few seconds. Status indicator may come on.
4. Adjust the set temperature 2 degrees above the room temperature and the A/C should shut off. There may be a fan delay on your system.

**Heat Test**
1. Slide Mode switch to Heat mode.
2. Adjust the set temperature so it is 5 degrees above the room temperature.
3. Heat should come on within a few seconds. Status indicator may come on.
4. Adjust the set temperature so it is 2 degrees below the room temperature and the heat should shut off. There may be a fan delay on your system.

**Fan Test**
1. Slide Fan switch to On position.
2. Indoor fan turns on.
3. Slide Fan switch to Auto position.
4. Indoor fan turns off.

Mode of Operation

The Daikin Auto-changeover Electronic Thermostat is a two-stage heat, two-stage cool thermostat. The thermostat activates the first stage of heating when the room temperature is below the heat set temperature (by the differential temperature). The second stage of heating will be activated if the room temperature continues to drop. The heat outputs are staged off (configurable, setting 7) as the room temperature increases.

When the room temperature is greater than the cool set temperature (by the differential temperature), the cooling device is activated. The second stage of cooling will be activated if the room temperature continues to rise. The cool outputs are staged off (configurable, setting 7) as the room temperature drops.

The thermostat has the following operating modes: OFF, Heat, Cool and Auto. In OFF mode, the thermostat will not turn on or heating or cooling devices. In the Heat mode, the thermostat controls the heating system. In the Cool mode, the thermostat controls the cooling system. In the Auto mode, the thermostat operates as an auto-changeover thermostat. It will turn on heating or cooling as required. The indoor fan can be turned on in all operating modes using the Fan switch.

Pressing the \( \bigcirc \) or \( \bigtriangledown \) buttons simultaneously for 2 seconds causes the thermostat to output to the “O” terminal for 5 seconds. “O” will show on the display. This will result in the unit going into a right set-back override.

Pressing the \( \bigcirc \) or \( \bigtriangledown \) buttons simultaneously for 10 seconds causes the thermostat to output to the “O” terminal for 15 seconds. “O” will show on the display. This will result in the unit being reset.

Operating Modes

These are the possible operating modes of the Daikin Auto-changeover Electronic Thermostat.

**Off Mode**
In off mode, the thermostat will not turn on the heating or cooling appliances.

Note 1: The indoor fan can be activated in every mode by sliding the Auto/On fan switch to the On position.

Note 2: Off mode is used to enter the configuration setup (by pressing SW5 and SW6 simultaneously for 5 seconds).

**Cool Mode**
In cool mode, the thermostat controls the cooling system.

**Heat Mode**
In heat mode, the thermostat controls the heating system.

**Auto-changeover Mode**
This mode in the thermostat will automatically change from heat mode to cool mode, or vice versa. Pressing the \( \bigcirc \) or \( \bigtriangledown \) button in Auto mode causes the thermostat to display the heat set temperature then the cool set temperature. The set temperature that is displayed can be changed using the the \( \bigcirc \) or \( \bigtriangledown \) buttons.

**Override**
Press \( \bigcirc \) and \( \bigtriangledown \) buttons simultaneously for 2 seconds to override night setback. When override is activated, \( \bigcirc \) will be displayed.

**Reset**
Press \( \bigcirc \) and \( \bigtriangledown \) buttons simultaneously for 10 seconds to reset the control board. “O” will be displayed.

Troubleshooting

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No display</td>
<td>Check for 24 VAC/VDC at thermostat; display is blank when 24 VAC/VDC is not present</td>
</tr>
<tr>
<td>System fan does not come on properly</td>
<td>Verify wiring is correct</td>
</tr>
<tr>
<td>Thermostat turns on and off too frequently</td>
<td>Check configuration (see “Configuration Mode,” Setting 2)</td>
</tr>
<tr>
<td>Fan runs continuously</td>
<td>Check fan and Auto mode switch, ON position runs indoor fan continuously</td>
</tr>
<tr>
<td>Room temperature is not correct</td>
<td>Verify wall hole is plugged with putty or insulation, calibrate thermostat (see “Configuration Mode,” Setting 10)</td>
</tr>
<tr>
<td>ROOM displays</td>
<td>_room temperature offset is not zero (see “Configuration Mode,” Setting 10)</td>
</tr>
<tr>
<td>Status indicator</td>
<td>Green light – Cooling operation</td>
</tr>
<tr>
<td>EIR displays</td>
<td>Sensor error – check S1 &amp; S2 connections, check remote sensor wire and connections, use shielded wire for remote sensor</td>
</tr>
<tr>
<td>Problem not listed above</td>
<td>Press the Restart button once; display will be refreshed and anti-short cycle timing will be reset to zero</td>
</tr>
</tbody>
</table>

Daikin Training and Development

Now you have made an investment in modern, efficient Daikin equipment, its care should be a high priority. For training instructions on all Daikin HVAC products, please visit us at www.DaikinApplied.com and click on Training, or call 540-246-9454 and ask for the Training Department.

Warranty

All Daikin equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Representative for warranty details. Refer to Form 933-452085Y. To find your local Daikin Representative, go to www.DaikinApplied.com.

Aftermarket Services

To register your local parts office, visit www.DaikinApplied.com or call 800-379PARTS (800-377-2787). To find your local service office, visit www.DaikinApplied.com or call 800-452-1142. This document contains the most current product information as of the printing. For the most up-to-date product information, please go to www.DaikinApplied.com.

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