The tekmarNet®4 Thermostat 537 provides operation for:

- One Stage Heat
- Room Temperature Limiting
- Equipment Exercising
- Freeze Protection
- Backlight
- Air Group Member
- Outdoor Temperature Display
- CSA C US Approved for use in USA
- Pulse Width Modulation
- One Stage Heat
- Requires 4 wires
- Communication
- tekmarNet® 4 Communication
- Auto Heating Cycle
- One Touch Overrides (User Switch)
- Intelligent Seekback (timer 033)
- Zone Post Purge
- Zone Synchronization

Features

Installation & Operation Manual

Zoning

D537

Provides operation for:

The tekmarNet®4 Thermostat 537
Congratulations on the purchase of your new tekmar thermostat. This manual will step through the complete installation, programming and sequence of operation for this control. At the back, there are tips for control and system troubleshooting.

### Preparation

**Tools Required**

- tekmar or jeweler screwdriver
- Phillips head screwdriver
- 2, #6 x 1" Wood Screws
- Wire Stripper
- Optional Adapter Plate 007 (for installation on 2" x 4" gang box)
- 18 AWG LVT Solid Wire
- 2, #6 x 1" Wood Screws

**Materials Required**

- 2, #6 x 1" Wood Screws
- Optional Adapter Plate 007 (for installation on 2" x 4" gang box)
- 18 AWG LVT Solid Wire

### Caution

Improper installation and operation of this control could result in damage to the equipment and possibly even personal injury or death. It is your responsibility to ensure that this control is safely installed according to all applicable codes and standards. This electronic control is not intended for use as a primary limit control. Other controls that are intended and certified as safety limits must be placed into the control circuit. This manual will step through the complete installation, programming and sequence of operation for this control. At the back, there are tips for control and system troubleshooting.

### Installation

Removing the Thermostat Base .......................... 3
Mounting the Thermostat Base .......................... 3
Preparing ............................................ 2
Installation ........................................... 2
Getting Started ........................................ 2

### Troubleshooting

- 15 Error Messages ..................................... 16-17
- 16 Troubleshooting .................................... 16
- 15 Floor Cooling ........................................ 14
- 14 Air Group Operation ................................ 13
- 13 Heating Operation ................................... 13
- 15 Scenes (System Override) .......................... 15
- 16 Frequently Asked Questions ..................... 18
Job Record ............................................. 19
Technical Data ........................................ 19
Limited Warranty and Product ......................... 20

### Contents

- Symbols Description .................................. 7
- Button Operation .................................... 7
- Display ............................................. 7
- User Interface ...................................... 6
- Switch Settings .................................... 6
- Cleaning the Thermostat ............................. 4
- Troubleshooting ...................................... 4
- Mounting the Thermostat Base ........................ 3
- Removing the Thermostat Base ..................... 3
- Preparation .......................................... 2
- Installation .......................................... 2
- Getting Started ...................................... 2
Choose the placement of the thermostats early in the construction process to enable proper wiring during rough-in.

Consider the following:

- Interior Wall:
  - Keep dry. Avoid potential leakage onto the control.
  - Relative Humidity max 92% up to 104°F (40°C), 50% RH above 104°F (40°C).
  - Keep dry. Avoid potential leakage onto the control.
  - Interior Wall.

- Venting:
  - Avoid undue exposure to extreme temperature readings.
  - No direct sun, or other cause for inaccurate temperature readings.
  - No draft, direct sun, or other cause for inaccurate temperature readings.

- Non-condensing environment:
  - Relative Humidity max 92% up to 104°F (40°C), 50% RH above 104°F (40°C).

- Equipment, appliances, or other sources of electrical interference.
  - Easy access for wiring, viewing, and adjusting the display screen.
  - No draft, direct sun, or other cause for inaccurate temperature readings.

- Mounting the Thermostat Base:

  - Use standard 4 conductor, 18 AWG wire.
  - Strip wire to 3/8” (10 mm) for all terminal connections.
  - The maximum length of wire is 500 feet (150 m).
  - Approximately 5 feet (1.5 m) off the finished floor.

- Installing the Thermostat Base:

  - Place a small slot screwdriver or similar tool into the slot located on the top of the thermostat.
  - While pushing down against the plastic.
  - Insert the thermostat away from the box.

- Removing the Thermostat Base:

  - 1. Push down against the plastic.
  - 2. Pull the thermostat away from the box.

Consider the following:

- Use the upper and lower screw holes to fasten the adapter plate and thermostat.
- Feed the wiring through the openings in the back of the thermostat to the adapter plate.
- Fasten the base of the thermostat to the box.
- Mount the thermostat to the box.
If a switch box was not used, mount the thermostat directly to the wall. Feed the wiring through the openings in the back of the thermostat.

Use screws in the screw holes to fasten the thermostat to the wall. At least one of the screws should enter a wall stud or similar rigid material.

1. Remove the front cover from the thermostat.
2. Use an electrical test meter to measure (ac) voltage between the R and C terminals. The reading should be 24 V (ac) ± 10%.
3. Install the front cover.

**Thermostat Wiring**

The thermostat operates a single heating system zone.

Connect IN4, C, R, and W terminals on the thermostat to the IN4, C, R, and W terminals on the IN4 Wiring Center or Zone Manager.

**Testing the Thermostat Wiring**

Testing the Power

1. Remove the front cover from the thermostat.
2. Use an electrical test meter to measure (ac) voltage between the R and C terminals. The reading should be 24 V (ac) ± 10%.
3. Install the front cover.
Mounting the Thermostat

To place the thermostat back on the mounting base:

1. Place thermostat bottom tabs on matching mounting base notches.
2. Pivot top of the thermostat towards wall, ensuring wires clear obstructions.
3. The top clasp makes a clicking sound when properly closed.

Testing the Heat Relay

1. Remove the front cover from the thermostat.
2. Press the button and set the heating temperature below the current room temperature. There should be no H1 symbol on the display.
3. Set the electrical test meter to continuity.
4. Place probes between R (3) and W (4). There should be no continuity. If there is continuity then there may be a wiring fault or the relay may be faulty.
5. Press the button and set the heating temperature above the current room temperature.
6. There should be continuity between the R (3) and W (4) terminals.

Testing the tekmarNet® 4 Bus

1. Remove the front cover from the thermostat.
2. To test for short circuits:
   - Disconnect the tN4 bus wires on one end.
   - Install wire nuts on each wire to ensure the wire ends are not touching.
   - Disconnect the tN4 bus wires on the other end.
   - Measure for continuity using an electrical meter.
   - If continuity is present, there is an open circuit fault along the wires. It is recommended to replace the tN4 bus wires.
3. To test for open circuits:
   - Disconnect the tN4 bus wires on one end and connect them together.
   - Disconnect the tN4 bus wires on the other end.
   - Use an electrical test meter to measure for continuity.
   - If there is no continuity, there is an open circuit fault along the wires. It is recommended to replace the tN4 bus wires.

Temperature

- The “Hi” symbol is shown on the display when communication is present. If the thermostat is connected in a network and the communication is missing, there may be an open or short circuit on the tN4 and C bus wires.
- Make sure the display does not show “WMSD.”
- Press the button and set the heating temperature above the current room temperature. If there is continuity then there may be a wiring fault on the relay or the relay may be faulty.
- There should be no H1 symbol on the display.
- Place probes between R (3) and W (4). There should be no continuity. If there is continuity then there should be no H1 symbol above the current room temperature. Set the button and set the heating temperature above the current room temperature. If there is continuity then there may be a wiring fault on the relay or the relay may be faulty.
- There should be no H1 symbol on the display.
- Disconnect the tN4 bus wires on one end and connect them together.
- Disconnect the tN4 bus wires on the other end.
- Use an electrical test meter to measure for continuity.
- If there is no continuity, there is an open circuit fault along the wires. It is recommended to replace the tN4 bus wires.
- There should be no H1 symbol on the display.
### Switch Settings

<table>
<thead>
<tr>
<th>Switch</th>
<th>Position</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OFF</td>
<td>SETBACK</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>The thermostat follows a programmable setback schedule as a schedule member if available. Requires the installation of a Timer 033 to use this feature.</td>
</tr>
<tr>
<td>2</td>
<td>OFF</td>
<td>SCENE</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>The thermostat responds to changes in the scene (system wide manual overrides). Requires the installation of a User Switch 479 to use this feature.</td>
</tr>
<tr>
<td>3</td>
<td>OFF</td>
<td>LOCK ACCESS LEVEL</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Locked to 'User' access level. Set to Lock when installation is completed.</td>
</tr>
<tr>
<td>4</td>
<td>NOT USED</td>
<td>UNLOCK ACCESS LEVEL</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Unlock to allow 'User' and &quot;Installer&quot; access level. Set to Unlock during installation process. Unlock is set to &quot;ON&quot; if &quot;Installer&quot; access level is set to Unlock. Requires the installation of a TekmarNet® reset control to be set to &quot;Unlocked&quot; (Installer access level).</td>
</tr>
</tbody>
</table>

### Cleaning the Thermostat

The thermostats exterior can be cleaned using a damp cloth. Moisten the cloth with water and wring out prior to wiping the control. Do not use solvents or cleaning solutions.

Most applications do not require changing the thermostat from the factory, and switches are set to "ON" unless noted. Details about switch position and action are provided in the table.
Heat is turned on.
Operating at the occupied (day) temperature.
Operating at the unoccupied (night) temperature.
Operating at the Away scene temperature.
The air group is cooling.
Heating can start once the cooling is finished.
The heating system has been shut off for the summer.

WARNING SYMBOL
Indicates an error is present.

Communication is present.
Programmable schedule.

Locked to 'User' access level.

Heat is turned on.

Lock

Symbols Description

Press the ▼ or the ▲ button to select the room temperature.

Button Operation

Display

User Interface
### Settings (1 of 5)

Press the **▲** and **▼** buttons for 2 seconds to change from one step to the next. Release both buttons once the step has been reached. Press the **▲** or the **▼** button to change the setting, if available. Press and hold down both the **▲** and **▼** buttons for 2 seconds to go to the next step, OR After 10 seconds of no button activity, the display goes back to normal operation. **Note:** Set switch setting #3 and tekmarNet® system control to Unlock to change Access level to Installer.

<table>
<thead>
<tr>
<th>Display</th>
<th>Range</th>
<th>Access</th>
<th>Description</th>
<th>Set to</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Adjust" /></td>
<td>40 to 95°F (4.5 to 35.0°C) Default = 70°F (21.0°C)</td>
<td>Installer User</td>
<td>SET ROOM HEAT * Set the room heating temperature while in the * event.</td>
<td></td>
</tr>
<tr>
<td><img src="image2.png" alt="Adjust" /></td>
<td>40 to 95°F (4.5 to 35.0°C) Default = 65°F (18.5°C)</td>
<td>Installer User</td>
<td>SET ROOM HEAT ( ) Set the room heating temperature while in the ( ) event.</td>
<td></td>
</tr>
<tr>
<td><img src="image3.png" alt="Adjust" /></td>
<td>40 to 95°F (4.5 to 35.0°C) Default = 62°F (16.5°C)</td>
<td>Installer</td>
<td>SET ROOM HEAT AWAY Set the room heating temperature while in the Away scene.</td>
<td></td>
</tr>
</tbody>
</table>

Continued on next page.
## Settings (2 of 5)

<table>
<thead>
<tr>
<th>Display</th>
<th>Range</th>
<th>Access</th>
<th>Description</th>
<th>Set to</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Display" /></td>
<td><img src="image" alt="Range" /></td>
<td><img src="image" alt="Access" /></td>
<td>BACKLIGHT</td>
<td>Select the backlight operation. Off = Permanently Off 30 = Temporary on for 30 seconds On = Permanently On On + ⭐ = On during ⭐ and off during ⚫</td>
</tr>
<tr>
<td><img src="image" alt="Display" /></td>
<td><img src="image" alt="Range" /></td>
<td><img src="image" alt="Access" /></td>
<td>TEMPERATURE UNITS</td>
<td>Press the ▲ or the ▼ button to change from °F to °C and vice versa.</td>
</tr>
<tr>
<td><img src="image" alt="Display" /></td>
<td><img src="image" alt="Range" /></td>
<td><img src="image" alt="Access" /></td>
<td>DEVICE TYPE</td>
<td>Display alternates between the Device Type (large number) with Software Version (upper right corner) and the thermostat address.</td>
</tr>
<tr>
<td><img src="image" alt="Display" /></td>
<td><img src="image" alt="Range" /></td>
<td><img src="image" alt="Access" /></td>
<td>MAXIMUM SET ROOM HEAT ⭐</td>
<td>Set the maximum room heating limit while in the ⭐ event.</td>
</tr>
</tbody>
</table>

Continued on next page.
<table>
<thead>
<tr>
<th>Display</th>
<th>Range</th>
<th>Access</th>
<th>Description</th>
<th>Set to</th>
</tr>
</thead>
<tbody>
<tr>
<td>[MAX]</td>
<td>40 to 95°F (4.5 to 35.0°C) Default = 85°F (29.5°C)</td>
<td>Installer</td>
<td><strong>MAXIMUM SET ROOM HEAT</strong> Set the maximum room heating limit while in the event.</td>
<td></td>
</tr>
<tr>
<td>[MIN]</td>
<td>40 to 95°F (4.5 to 35.0°C) Default = 45°F (7.0°C)</td>
<td>Installer</td>
<td><strong>MINIMUM SET ROOM HEAT</strong> Set the minimum room heating limit.</td>
<td></td>
</tr>
<tr>
<td>[SCHEDULE]</td>
<td>1, 2, 3, 4 Default = 1</td>
<td>Installer</td>
<td><strong>SCHEDULE</strong> Thermostat can follow schedule master 1, 2, 3, or 4. Available when: • Switch setting 1 is set to Setback (On Position).</td>
<td></td>
</tr>
<tr>
<td>[HEAT SUPPLY]</td>
<td>OFF or On Default = On</td>
<td>Installer</td>
<td><strong>HEAT SUPPLY PUMP</strong> During heating, select whether or not the system supply pump should turn on or be off to allow a zone group pump per manifold. Available when: • A reset control is present on the tekmarNet® system.</td>
<td></td>
</tr>
</tbody>
</table>

Continued on next page.
**Settings (4 of 5)**

<table>
<thead>
<tr>
<th>Display</th>
<th>Range</th>
<th>Access</th>
<th>Description</th>
<th>Set to</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="SUPPLY OFF" /></td>
<td>OFF or On Default = OFF</td>
<td>Installer</td>
<td>HEAT SUPPLY PUMP DELAY During heating, select whether or not the system supply pump should be delayed by 3 minutes before coming on (for thermal motor or wax actuator). Available when: • A reset control is present on the tekmarNet® system.</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="SYn(Synchronize) CYC" /></td>
<td>Auto, SYn(Synchronize) Default = Synchronize</td>
<td>Installer</td>
<td>HEAT CYCLES PER HOUR Select either Auto cycle or Synchronize with other thermostats on the tekmarNet® system. Choose Synchronize when zone heated using a boiler. Choose Auto when zone is non-hydronic heating. Available when: • No reset control on the tekmarNet® system.</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Rir6 OFF" /></td>
<td>OFF, 1 to 16</td>
<td>Installer</td>
<td>AIR GROUP Select if this thermostat should be an air group member. Select off if the thermostat is not an air group member. Select 1 though 16 to select the air group number. Available when: • The thermostat is connected to other thermostats using tekmarNet®.</td>
<td></td>
</tr>
</tbody>
</table>

Continued on next page.
### Settings (5 of 5)

<table>
<thead>
<tr>
<th>Display</th>
<th>Range</th>
<th>Access</th>
<th>Description</th>
<th>Set to</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>tekmarNet® ADDRESS</strong></td>
<td>** Installer**</td>
<td>The address is shown in the large number field. “Auto” is shown in the upper number field when using automatic addressing. Press the ▲ or the ▼ button to manually select an address. The address can be returned to automatic “Auto” addressing when address set above 24.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>01 to 24 (no reset control), b:01 to b:24 (reset control - boiler), 1:01 to 1:24 (reset control - mixing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>FLOOR COOLING</strong></td>
<td>** Installer**</td>
<td>Select if the thermostat should operate the heating relay W for radiant floor cooling. Available when: • Connected to a tekmarNet® heat pump or chiller system control.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF or On Default = OFF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ESCAPE</strong></td>
<td>** Installer**</td>
<td>Press the ▲ or the ▼ button to return to normal operation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>** User**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sequence of Operation

The thermostat operates the heating system to maintain the Set Room Heat temperature. An H1 symbol is shown on the display when the thermostat is heating an indirect Domestic Hot Water (DHW) tank.

Freeze Protection

An F1 symbol is shown on the display when the thermostat is heating an indirect Domestic Hot Water (DHW) tank.

Flushing

The flushing feature is for open-loop systems that use a domestic hot water tank as a heat source. Flushing ensures that fresh potable water is circulated through the system once each day. If the thermostat is connected to a tekmarNet® reset control with the Flushing feature turned on, the thermostat display will display the "FLUSH" icon for the duration of the flushing operation.

Warm Weather Shut Down

When the outdoor air temperature exceeds the Warm Weather Shut Down (WWSD) temperature, the heating system is shut off.

DHW Tank Priority

When a tekmarNet® reset control is heating an indirect Domestic Hot Water (DHW) tank, the DHW Tank Priority feature is engaged. This feature allows the heating system to maintain the Set Room Heat temperature while preventing the DHW tank from losing heat.

Hydronic System Supply Pump

When connected to a tekmarNet® system control, the thermostat's Heat Supply Pump setting affects how the primary pump or mix pump on the system control operates. When connected to the boiler bus, the boiler system pump is operated. When connected to the mix bus, the mix system pump is operated. When connected to a tekmarNet® system control, the thermostat's Heat Supply Pump setting should be set to Off.

Exercise

The thermostat exercises the heat relay for 10 seconds every 3 days. Exercise helps prevent zone valves or zone pumps from failing due to precipitate buildup. During exercising, the thermostat shows "TEST" on the display.

Warm Weather Shut Down

When the outdoor air temperature exceeds the Warm Weather Shut Down temperature, the heating system is shut off.

DHW Tank Priority

When a tekmarNet® reset control is heating an indirect Domestic Hot Water (DHW) tank, the DHW Tank Priority feature is engaged. This feature allows the heating system to maintain the Set Room Heat temperature while preventing the DHW tank from losing heat.

Flushing

The flushing feature is for open-loop systems that use a domestic hot water tank as a heat source. Flushing ensures that fresh potable water is circulated through the system once each day. If the thermostat is connected to a tekmarNet® reset control with the Flushing feature turned on, the thermostat display will display the "FLUSH" icon for the duration of the flushing operation.

Warm Weather Shut Down

When the outdoor air temperature exceeds the Warm Weather Shut Down temperature, the heating system is shut off.

DHW Tank Priority

When a tekmarNet® reset control is heating an indirect Domestic Hot Water (DHW) tank, the DHW Tank Priority feature is engaged. This feature allows the heating system to maintain the Set Room Heat temperature while preventing the DHW tank from losing heat.

Exercise

The thermostat exercises the heat relay for 10 seconds every 3 days. Exercise helps prevent zone valves or zone pumps from failing due to precipitate buildup. During exercising, the thermostat shows "TEST" on the display.
Air Group Operation

Section B

In order to prevent heating and cooling at the same time, this thermostat can operate together with other thermostats on a tekmarNet® system to form an air group. In an air group, one thermostat is assigned as the air group master. The air group master operates the cooling equipment for the group. This thermostat can be set to be a member of the air group. Together with other thermostats on a tekmarNet® system, to form an air group.

In order to prevent heating and cooling at the same time, this thermostat can operate as an air group member. When operating as an air group, the air temperature readings of all the air group members are communicated to the air group master and a temperature average is determined. If only a floor sensor is installed, the floor cooling setpoint is 67°F (19.5°C).

The thermostat has the option to support radiant floor cooling when connected to a heat pump control using tekmarNet® communication. The floor cooling setting must be set to On and the heating system must be in Warm Weather Shut Down (WWSD). The thermostat can start operation.

When the heat pump system control operates in cooling mode, all thermostats set for floor cooling on the tekmarNet® bus all activate the first stage heating contact (H1) to allow chilled water into the system. The thermostat continues to operate the cooling until either the room temperature reaches the Set Heat temperature (H1) or reaches a minimum temperature of 74°F (23.3°C). If the Set Room Heat temperature is adjusted while the air group is cooling, the snowflake icon is flashed to alert the user that the cooling will not operate until the Set Heat temperature is adjusted.

When the air group master in cooling operation, the air group member thermostats do not operate the heating system for air heating.

Floor Cooling

Section C

The thermostat supports radiant floor cooling when connected to a heat pump control using tekmarNet® communication. The floor cooling setting must be set to On and the heating system must be in Warm Weather Shut Down (WWSD). If only a floor sensor is installed, the floor cooling setpoint is 67°F (19.5°C).
Lowering the room temperature setting reduces the amount of fuel required to heat the building resulting in energy savings. This thermostat can follow a programmable schedule in order to automatically lower the room temperature setting. A schedule master such as a Timer 033 is required in order to gain programmable schedule functionality.

When operating on a programmable schedule, a symbol is shown, as well as a or . The or symbol indicates the current operating temperature.

<table>
<thead>
<tr>
<th>Scene Display</th>
<th>Room Temperature Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unoccupied Temperature.</td>
<td>3</td>
</tr>
<tr>
<td>Away Temperature.</td>
<td>Away</td>
</tr>
<tr>
<td>Operates at the occupied temperature.</td>
<td>1</td>
</tr>
<tr>
<td>Follows Programmable Schedule or</td>
<td></td>
</tr>
</tbody>
</table>

If a symbol does not appear, there is no schedule available.

Section E

When a programmable schedule is selected, there is a time delay for the temperature to change from the temperature to the temperature. The thermostat uses Optimum Start to predict the heat up and cool off rate of the room. The Optimum Start feature allows the room to reach the set room temperature by the time set in the programmable schedule.

Scenes provide an easy way to save energy while away on vacation, or override a pre-set schedule when plans change. The thermostat can follow a programmable schedule in order to autonomously lower the building resulting in energy savings.

Scenes (System Override)

Scenes provide an easy way to save energy while away on vacation, or override a pre-set schedule when plans change. The thermostat can follow a programmable schedule in order to autonomously lower the building resulting in energy savings.

<table>
<thead>
<tr>
<th>Scene</th>
<th>Action</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Away Temperature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operates at the occupied temperature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmable Schedule at occupied temperature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unoccupied Temperature. No Schedule.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmable Schedule at unoccupied temperature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupied Temperature. No Schedule.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When a programmable schedule is selected, there is a time delay for the temperature to change from the temperature to the temperature. The thermostat uses Optimum Start to predict the heat up and cool off rate of the room. The Optimum Start feature allows the room to reach the set room temperature by the time set in the programmable schedule.

Scenes provide an easy way to save energy while away on vacation, or override a pre-set schedule when plans change. The thermostat can follow a programmable schedule in order to autonomously lower the building resulting in energy savings.

Scene Display Room Temperature Setting

<table>
<thead>
<tr>
<th>Scene Display</th>
<th>Room Temperature Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unoccupied Temperature.</td>
<td>3</td>
</tr>
<tr>
<td>Away Temperature.</td>
<td>Away</td>
</tr>
<tr>
<td>Operates at the occupied temperature.</td>
<td>1</td>
</tr>
<tr>
<td>Follows Programmable Schedule or</td>
<td></td>
</tr>
</tbody>
</table>

If a symbol does not appear, there is no schedule available.

While in the Away scene, the room temperature cannot be changed using the or .
## Error Messages (1 of 2)

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONTROL ERROR</strong></td>
<td>The thermostat was unable to correctly read settings from memory and has reloaded the factory default settings. The thermostat does not operate the heating system while this error message is present. Error clears once all adjust menu settings in the Installer access level (unlocked) have been checked. Set thermostat’s switch setting #3 to unlock and unlock the tekmarNet® system control. Then press and hold ▲ and ▼ buttons together for 2 seconds to enter the adjust menu. Continue until all settings have been reviewed.</td>
</tr>
<tr>
<td><img src="image" alt="ED1" /></td>
<td></td>
</tr>
<tr>
<td><strong>BUS ERROR</strong></td>
<td>The tekmarNet®4 communication bus has either an open or a short circuit. The result is that there are no communications. Check for loose wires. Check for short circuits between the TN4 and C wires on the House Control, Wiring Center, or Zone Manager. Check for correct polarity between the C and R wires. Error clears automatically once wiring fault has been corrected. If the thermostat is intentionally removed from the tekmarNet® bus, press the ▲ and ▼ buttons together to clear the error message.</td>
</tr>
<tr>
<td><img src="image" alt="Err" /></td>
<td></td>
</tr>
<tr>
<td><strong>DEVICE LIMIT</strong></td>
<td>The number of devices on the tekmarNet® bus has exceeded 24. Devices include tekmarNet® Thermostats and Setpoint Controls. The device count must be lowered to 24 or less. If possible, move devices to other tekmarNet® buses. Error clears automatically once the number of devices on the tekmarNet® bus is at 24 or lower.</td>
</tr>
<tr>
<td><img src="image" alt="LIM" /></td>
<td></td>
</tr>
<tr>
<td>Error Message</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ADDRESS ERROR</td>
<td>This thermostat and another device have been manually given the same tekmarNet® address. Error clears automatically once this thermostat is given a new manually set address or if the thermostat is set to automatic addressing.</td>
</tr>
<tr>
<td>ROOM SENSOR SHORT CIRCUIT</td>
<td>The built-in air temperature sensor has a short circuit fault. This error cannot be field repaired. Contact your wholesaler or tekmar sales representative for details on repair procedures.</td>
</tr>
<tr>
<td>ROOM SENSOR OPEN CIRCUIT</td>
<td>The built-in air temperature sensor has an open circuit fault. This error cannot be field repaired. Contact your wholesaler or tekmar sales representative for details on repair procedures.</td>
</tr>
<tr>
<td>AIR GROUP MEMBER ERROR</td>
<td>The thermostat has been selected to join an air group as a member, yet there is no air group master thermostat. Error clears once the thermostat detects an air group master or the air group is set to OFF.</td>
</tr>
<tr>
<td>Symptom</td>
<td>Look for...</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>No Heat</td>
<td>H1 Symbol H1 symbol indicates heat is on. Check if zone valve or zone pump is operating.</td>
</tr>
<tr>
<td></td>
<td>WWSD Flashing WWSD Increase WWSD setting on tekmarNet® reset control.</td>
</tr>
<tr>
<td></td>
<td>Away Flashing Away Change User Switch to Normal scene 1.</td>
</tr>
<tr>
<td></td>
<td>Optimum start “learns” the heat up rate of the room and starts the heating early.</td>
</tr>
<tr>
<td></td>
<td>Installer can increase the Maximum Set.</td>
</tr>
<tr>
<td></td>
<td>Installer can decrease the Minimum Set.</td>
</tr>
<tr>
<td></td>
<td>Pressing button does not increase temperature.</td>
</tr>
<tr>
<td></td>
<td>Pressing button does not decrease temperature.</td>
</tr>
<tr>
<td></td>
<td>Flushing Max temperature not increase button does not increase. Pressing ↗.</td>
</tr>
</tbody>
</table>
## tekmarNet® Thermostat 537: One Stage Heat

### Job Record

<table>
<thead>
<tr>
<th>Item Setting</th>
<th>Setting</th>
<th>Item Setting</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Room Heat</td>
<td>$\geq 98\text{(^{\circ})F}$ (36.7\text{(^{\circ})C})</td>
<td>Min Room Heat</td>
<td>$\leq 72\text{(^{\circ})F}$ (22\text{(^{\circ})C})</td>
</tr>
<tr>
<td>24 V (ac) 2 A</td>
<td>Relay</td>
<td>Power Supply</td>
<td>24 V (ac) 2 A</td>
</tr>
<tr>
<td>24 V (ac) ± 10% 50/60 Hz, 1.8 VA Standby, 56 VA Fully Loaded, NEC / CEC Class II</td>
<td></td>
<td></td>
<td>24 V (ac) 2 A</td>
</tr>
<tr>
<td>Altitude 9,840 feet (3000 m), Installation Category II</td>
<td></td>
<td></td>
<td>Altitude 9,840 feet (3000 m), Installation Category II</td>
</tr>
<tr>
<td>Relative Humidity 92% to 104°F (40\text{(^{\circ})C}) and 50% above 104°F</td>
<td></td>
<td></td>
<td>Relative Humidity 92% to 104°F (40\text{(^{\circ})C}) and 50% above 104°F</td>
</tr>
<tr>
<td>CSA C, meets Class II, ICES and FCC Part 15</td>
<td></td>
<td></td>
<td>CSA C, meets Class II, ICES and FCC Part 15</td>
</tr>
<tr>
<td>Dimensions 2-7/8&quot; H x 2-7/8&quot; W x 13/16&quot; D (73 x 73 x 21 mm)</td>
<td></td>
<td></td>
<td>Dimensions 2-7/8&quot; H x 2-7/8&quot; W x 13/16&quot; D (73 x 73 x 21 mm)</td>
</tr>
<tr>
<td>White PVC plastic, NEMA Type 1</td>
<td></td>
<td></td>
<td>White PVC plastic, NEMA Type 1</td>
</tr>
</tbody>
</table>

### Technical Data

- **Packaged weight**: 0.8 lb. (380 g)
- **Ambient conditions**: Indoor use only, 32 to 122°F (0 to 50°C).
- **Approvals**: CSA C, US, meets Class II, ICES and FCC Part 15
- **Dimensions**: 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
- **Enclosure**: White PVC plastic, NEMA Type 1
- **Package weight**: 0.8 lb. (380 g)
- **Power supply**: 24 V (ac) ± 10% 50/60 Hz, 1.8 VA Standby, 56 VA Fully Loaded, NEC / CEC Class II
- **Relay**: 24 V (ac) 2 A
- **Units**: Max Room Heat

---

**Requirements**

- **Floor Cooling**: tekmarNet Address
- **Air Group**: Set Room Heat Away
- **Backlight**: Max Room Heat
- **Heat Cycles Per Hour**: 1
- **Heat Supply Pump Delay**: Max Room Heat
- **Max Room Heat**: $\geq 98\text{\(^{\circ}\)F}$ (36.7\text{\(^{\circ}\)C})
- **Min Room Heat**: $\leq 72\text{\(^{\circ}\)F}$ (22\text{\(^{\circ}\)C})

---

**Technical Location**

**Thermostat Location**

**Job Site Location**

---

**Jobsite Location**
Limited Warranty and Product Return Procedure

Product Warranty Return Procedure

All Products that are believed to have defects in workmanship or materials must be returned, together with a written description of the defect, to the tekmar Representative assigned to the territory in which such Product is located. If the Product is returned within twenty-four (24) months from the production date, or twelve (12) months from the documented date of installation if the Product was installed within twenty-four (24) months from the production date, the tekmar Limited Warranty is in effect, notwithstanding any other warranty or representation, express or implied, made by the Purchaser. All Products that are returned after the warranty period have been damaged by negligence by persons other than tekmar, accident, fire, Act of God, abuse or misuse; or have been damaged by modifications, alterations or attachments made subsequent to purchase which have not been authorized by tekmar; or if the Product was not installed in compliance with tekmar’s instructions and/or the local codes and ordinances; or if due to defective installation of the Product; or if the Product was not used in compliance with tekmar’s instructions and/or the local codes and ordinances.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHICH THE GOVERNING LAW ALLOWS PARTIES TO CONTRACTUALLY EXCLUDE, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, DURABILITY OR DESCRIPTION OF THE PRODUCT, ITS NON-INFRINGEMENT OF ANY RELEVANT PATENTS OR TRADEMARKS, AND ITS COMPLIANCE WITH OR NON-VIOLATION OF ANY APPLICABLE ENVIRONMENTAL, HEALTH OR SAFETY LEGISLATION; THE TERM OF ANY OTHER WARRANTY NOT HEREBY CONTRACTUALLY EXCLUDED IS LIMITED SUCH THAT IT SHALL NOT EXCEED TWENTY-FOUR (24) MONTHS FROM THE PRODUCTION DATE OR TWELVE (12) MONTHS FROM THE DOCUMENTED DATE OF INSTALLATION IF THE PRODUCT WAS INSTALLED WITHIN TWENTY-FOUR (24) MONTHS FROM THE PRODUCTION DATE.

The liability of tekmar under this warranty is limited. The Purchaser, by taking receipt of any tekmar product ("Product"), acknowledges the terms of the Limited Warranty in effect at the time of such receipt. Any representations or warranties about the Products made by Purchaser to its customers which are different from or in excess of the tekmar Limited Warranty are the Purchaser’s sole responsibility and obligation. Purchaser shall indemnify and hold tekmar harmless from and against any and all claims, liabilities and damages of any kind or nature which arise out of or are related to any such representations or warranties made by Purchaser to its customers.

The pass-through Limited Warranty does not apply to any returned or defective Product that has been damaged by negligence by persons other than tekmar, accident, fire, Act of God, abuse or misuse; or has been damaged by modifications, alterations or attachments made subsequent to purchase which have not been authorized by tekmar; or if the Product was not installed in compliance with tekmar’s instructions and/or the local codes and ordinances; or if due to defective installation of the Product; or if the Product was not used in compliance with tekmar’s instructions and/or the local codes and ordinances.

The liability of tekmar under this warranty is limited. The Purchaser, by taking receipt of any returned or defective Product, acknowledges the terms of the Limited Warranty in effect at the time of such receipt. Any representations or warranties about the Products made by Purchaser to its customers which are different from or in excess of the tekmar Limited Warranty are the Purchaser’s sole responsibility and obligation. Purchaser shall indemnify and hold tekmar harmless from and against any and all claims, liabilities and damages of any kind or nature which arise out of or are related to any such representations or warranties made by Purchaser to its customers.