Congratulations

on the purchase of your tekmar programmable thermostat. This thermostat combines easy-to-use programming with advanced features to increase both comfort and energy efficiency.
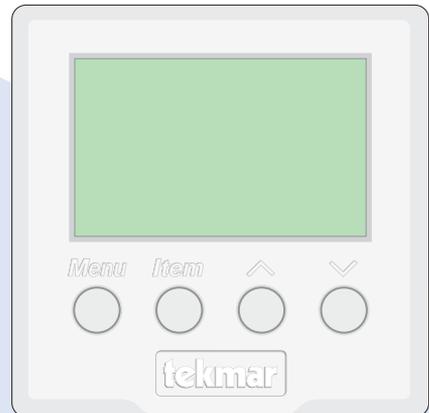
Your tekmar thermostat features:

- **User friendly 4-button interface with backlit LCD display**
- **Multiple program schedules**
- **Options to control floor and air temperature for enhanced comfort**

Please refer to page 6 for schedule details to ensure your new thermostat is operating as efficiently as it was designed to.
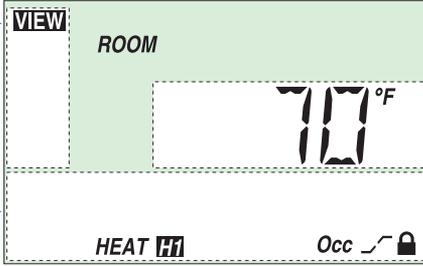
Table of Contents

Display

Menu Field
Displays the current menu →

Status Field
Displays the current status of the control's inputs, outputs and operation →

VIEW *ROOM*

70.0 °F

HEAT **H1**   *Occ* ⌐ 🔒

← **Item Field**
Displays the selected item

← **Number Field**
Displays the current value of the selected item

Menu   Item   ∧   ∨

Symbols

HEAT	**MODE OF OPERATION**	Displays selected mode of operation (*OFF, HEAT*).
H1	**HEAT**	Indicates the stage of heat that is operating.
🔒	**LOCK**	Displays when in the User access level. Also indicates when an item is visible but not adjustable.
⌐	**EARLY START**	Indicates the thermostat is in early start. With schedules active, this intelligent feature learns room warming/cooling patterns and ensures area is up to proper temperature for each event.
Sleep Wake *UnOcc*	**SCHEDULED EVENT**	Indicates the current scheduled event.
OVR TMPY	**TEMPORARY OVERRIDE**	Indicates that the temperature has been temporarily adjusted from the scheduled event temperature.
⚠	**WARNING**	Indicates an error is present.

User Interface

Access Levels

This thermostat has two access levels:

- USER (User) 🔓
- INST (Installer) 🔒

This brochure covers all features available in the USER level. Only qualified service people should adjust the INST settings.

Menu

All of the items displayed by the thermostat are organized into four menus:

- View
- Adjust
- Time
- Schedule

Item

Each menu has several items. The abbreviated name of the selected item will be displayed in the Item Field of the display. To view the next available item, press and release the *Item* button.

Adjustment

To make an adjustment to a setting in the thermostat:

1. Use the *Menu* button to select the appropriate menu.
2. Use the *Item* button to select the desired item.
3. Use the *Up* or *Down* button to adjust the setting.
4. To cycle backwards through a menu, hold *Item* and press ⌃.

Default Item

When you display an item in the **VIEW** menu for more than 5 seconds it becomes the default item. After you navigate other menus, the display reverts back to the default item after 60 seconds of button inactivity.

When **TIME** is selected, it will be displayed indefinitely until *Menu* is pressed.

Viewing Current Temperatures

Use the **VIEW** menu to view the current temperatures being sensed by the thermostat. To view the available temperatures, use the *Menu* button to go to the **VIEW** menu. Use the *Item* button to cycle through temperatures.

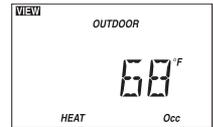## Room Temperature

This is the current air temperature of the room being controlled.
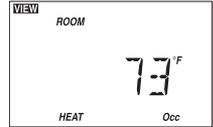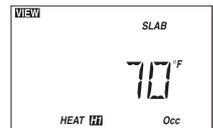

Outdoor Temperature

If an outdoor sensor is connected to the thermostat, this is the current outdoor air temperature.
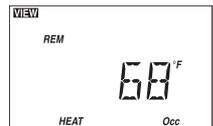

Floor Temperature

If a floor sensor is connected to the thermostat, this is the current floor temperature.

Remote Temperature

If a remote sensor is connected to the thermostat, this is the current temperature at the remote sensor location.

Viewing the Current Time

To view the current time:

1. Use the *Menu* button to select the **TIME** menu.

Note: Time can only be viewed when schedules are in use.

Setting Time and Day

1. Use the *Menu* button to select **TIME**. The current time and day displays. If the clock has not been set, the time will flash.

2. Use the *Item* button to advance to the minutes adjustment. The minutes begins to flash. Press the ⌃ or ⌄ buttons to adjust.

3. Use the *Item* button to advance to the hour adjustment. The hour begins to flash. Press the ⌃ or ⌄ buttons to adjust.

4. Use the *Item* button to advance to the next item. The day begins to flash. Press the ⌃ or ⌄ buttons to adjust.
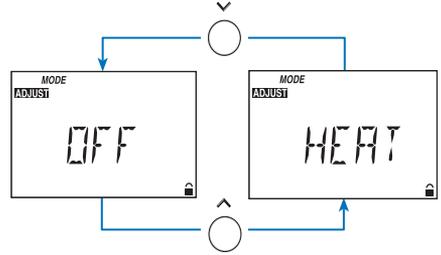
Mode of Operation

The **510 thermostat** has two modes of operation:

- Off: Does not provide heating.
- Heat: Provides heating only.

To choose the Mode of Operation:

1. Use the *Menu* button to select the **ADJUST** menu.
2. Use the *Item* button to select *MODE.*
3. Use the ⌃ or ⌄ button to select the desired mode of operation.

510 Thermostat *MODE* options

Schedules

By default, this thermostat uses four adjustable 'events' on a 24 hour cycle. Each event is a time of day requiring a room temperature change. This optimizes system efficiency by reducing room temperatures when the building is less likely to be occupied.

Although default schedule settings are recommended, they are fully adjustable. Please refer to the "**Advanced Schedule Settings**" section on Page 9 for more detailed settings.

Displays the current event when a schedule is active
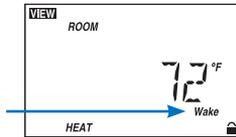
Default Schedule Settings

| Schedule Mode	Event	Time
4 events per day	Wake	6:00 AM
	Unoccupied	8:00 AM
	Occupied	6:00 PM
	Sleep	10:00 PM
or		
2 events per day	Occupied	6:00 AM
	Unoccupied	10:00 PM

Adjusting Room Temperatures

Desired room temperatures are easily adjustable, even on a schedule with multiple events.
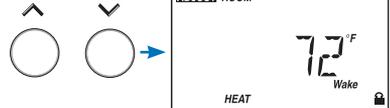
To change the desired room temperature:

Menu

MODE
ADJUST

HEAT

1. Use the *Menu* button to select **ADJUST**.

2. Use the *Item* button to select the *ROOM* item.

Item

ADJUST *ROOM*

70°F

Wake

HEAT

   When using a schedule, press *Item* to select the event you would like to change (**Wake, UnOcc, Occ or Sleep**).

3. Use the ⌃ or ⌄ buttons to change the desired temperature.

ADJUST *ROOM*

72°F

Wake
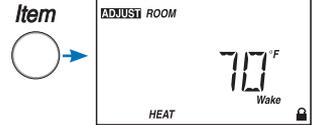
HEAT

Adjusting Floor Minimum Temperatures

If a floor (Slab) sensor is installed, you can set the minimum floor temperature.

Caution: Setting a high floor minimum temperature can result in overheating the room.

1. Use the *Menu* button to select **ADJUST**.

Item

ADJUST   SLAB

MIN

70°F

2. Use the *Item* button to select *SLAB MIN.*

3. Use the ⌃ or ⌄ buttons to change the desired temperature.
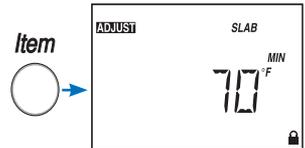
To set the minimum floor warming temperatures on a schedule, follow the 'Adjusting Schedule Temperatures' steps listed above (*ROOM* is now *SLAB* for this adjustment).

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Temporary Override (Schedule Only)

A temporary override changes the desired room temperature for a short period of time. After 3 hours, the original schedule resumes normal operation. If you would like to temporarily change the desired room temperature:

1. Use the *Menu* button to select **VIEW**.

2. *ROOM* should be displayed. If not, press the *Item* button to select *ROOM.*

3. Use the ⌃ or ⌄ button to override the current set temperature. The menu changes to **ADJUST** and 'OVR Tmpy' will flash indicating a temporary change. Continue pressing the ⌃ or ⌄ button to adjust the desired temperature.

4. Wait 10 seconds. Screen will return to default with '*OVR Tmpy*' displayed at bottom.

5. To cancel the temporary hold before it expires, press the *Menu* button until '*OVR Tmpy'* is removed.
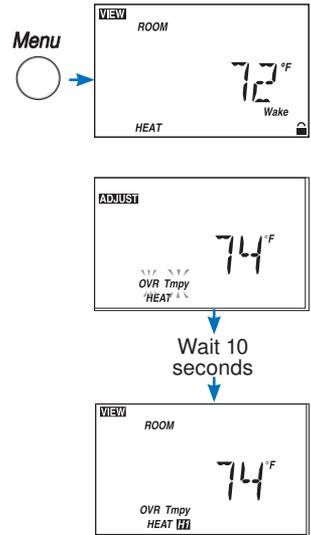
Permanent Override

Note: A permanent override stays in effect until a new override is selected. A permanent override does not change the existing schedule.

1. Press and release the *Menu* button until the Schedule (SCHD) Menu is displayed.
2. Use the ⌃ or ⌄ button to select the desired permanent override.

To cancel a permanent override, use the following procedure.

1. Press and release the *Menu* button until the Schedule (SCHD) is displayed.
2. Use the ⌃ or ⌄ button to select the None setting.

Extended Absences/ Vacation

If you are going away for an extended period of time, an Away Override can be used. This reduces energy use by setting heating temperature to 62°F and cooling temperature to 82°F. These temperature settings are not adjustable.

To select Away Override:

1. Use the Menu button to select the **SCHD** menu.

2. Press the ⌃ button until **AWAY** is selected.

   To cancel the Away Override, simply select **SCHD** and press ⌄ button until NONE is shown.
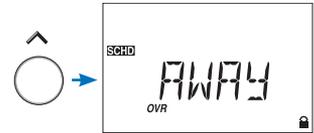
Advanced Schedule Settings

Schedule Mode

The schedule allows for either 2 or 4 temperature changes per day. These changes are called 'events'.

To select the schedule mode:
1. Press *Menu* button to select **SCHD**.
2. Press *Item* button to display *MODE*.
3. Press the ⌃ or ⌄ buttons to select schedule mode.
   - NONE - no schedule will be used
   - 2 - 2 events can be programmed (Occ and UnOcc)
   - 4 - 4 events can be programmed (Occ, UnOcc, Sleep, Wake)

Cycle Period

The cycle period can be changed to either 24 hour or 7 day.

To select the cycle period:
1. Press *Menu* button to select **SCHD**.
2. Press the *Item* button to display *CYC*.
3. Press the ⌃ or ⌄ buttons to select the desired schedule cycle.
   - 24hr - All days have the same schedule.
   - 7day - Each day of the week has its own individual schedule.

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Setting the Schedule

To set the schedule:
1. Use the *Menu* button to select SCHD.
2. Use the *Item* button to select the first event of the schedule.
3. Use the ⌃ or ⌄ button to set the start time of the event.
   • If you wish to skip the event, select "– –:– –" as the time. "– –:– –" is found between 11:50 PM and 12:00 AM.
4. Use the *Item* button to advance to the next available event.
5. Repeat steps 3 and 4 for each available event.
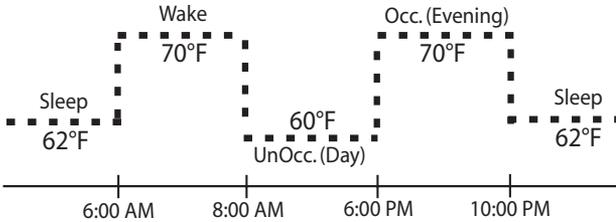
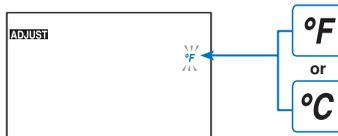Schedule operation with 4 events and suggested start times

Units of Temperature

You can display temperatures in either Fahrenheit (°F) or in Celsius (°C).

To change the units of temperature:
1. Use the *Menu* button to select the ADJUST menu.
2. Use the *Item* button until the units flash.
3. Use the ⌃ or ⌄ button to select Fahrenheit (°F) or Celsius (°C):

Backlight

The thermostat's display has a backlight. By default the backlight is temporarily On. You can also set the backlight to be either permanently On or permanently Off.

To change the backlight setting:

1. Use the *Menu* button to select the **ADJUST** menu.
2. Use the *Item* button to select LITE.
3. Use the ∧ or ∨ button to select a setting:
- **OFF** Backlight stays off.
- **ON Tmpy** (Temporary): Backlight stays on for 30 seconds after a button is pressed.
- **ON**: Backlight stays on permanently.
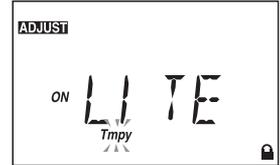
Cleaning the Thermostat

Clean the thermostat's exterior using a damp cloth. Moisten the cloth with water and wring out prior to wiping the thermostat. Do not use solvents or cleaning solutions.

Error Messages

When the thermostat encounters a problem, a Warning Symbol appears and a description of the error message is displayed. To troubleshoot how to correct the error, please refer to the Data Brochure or contact a qualified installer.

An electronic version of the Data Brochure D 510 is available on the tekmar website: www.tekmarcontrols.com.

Warning Symbol

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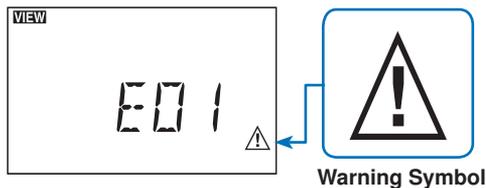
Limited Warranty and Product Return Procedure

Limited Warranty *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 Product sale and acknowledges that it has read and understands same.*

The tekmar Limited Warranty to the Purchaser on the Products sold hereunder is a manufacturer's pass-through warranty which the Purchaser is authorized to pass through to its customers. Under the Limited Warranty, each tekmar Product is warranted against defects in workmanship and materials if the Product is installed and used in compliance with tekmar's instructions, ordinary wear and tear excepted. The pass-through warranty period is for a period of twenty-four (24) months from the production date if the Product is not installed during that period, or twelve (12) months from the documented date of installation if installed within twenty-four (24) months from the production date.

The liability of tekmar under the Limited Warranty shall be limited to, at tekmar's sole discretion: the cost of parts and labor provided by tekmar to repair defects in materials and / or workmanship of the defective product; or to the exchange of the defective product for a warranty replacement product; or to the granting of credit limited to the original cost of the defective product, and such repair, exchange or credit shall be the sole remedy available from tekmar, and, without limiting the foregoing in any way, tekmar is not responsible, in contract, tort or strict product liability, for any other losses, costs, expenses, inconveniences, or damages, whether direct, indirect, special, secondary, incidental or consequential, arising from ownership or use of the product, or from defects in workmanship or materials, including any liability for fundamental breach of contract.

The pass-through Limited Warranty applies only to those defective Products returned to tekmar during the warranty period. This Limited Warranty does not cover the cost of the parts or labor to remove or transport the defective Product, or to reinstall the repaired or replacement Product, all such costs and expenses being subject to Purchaser's agreement and warranty with its customers.

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 by Purchaser to its customers.

The pass-through Limited Warranty does not apply if the returned Product 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.

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 EXTEND BEYOND TWENTY-FOUR (24) MONTHS FROM THE PRODUCTION DATE, TO THE EXTENT THAT SUCH LIMITATION IS ALLOWED BY THE GOVERNING LAW.

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 tekmar receives an inquiry from someone other than a tekmar Representative, including an inquiry from Purchaser (if not a tekmar Representative) or Purchaser's customers, regarding a potential warranty claim, tekmar's sole obligation shall be to provide the address and other contact information regarding the appropriate Representative.