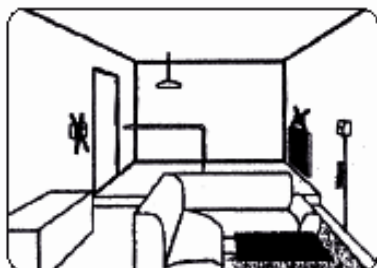


## D-500/502F PROGRAMMABLE THERMOSTAT USER'S GUIDE



### LOCATION FOR INSTALLATION

Look for a location, which has a constant temperature in the house and it is not near the door entry or air condition outlet (see example on Figure 1).



### INSTALLATION

1. Open the top housing as shown in Figure 1 and 2 with a screw driver:

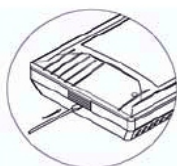


Figure 1



Figure 2

2. Be careful not to touch or move the slide switches on the front and the back cover. If the switches are moved from their original position, see NOTE ON INSTALLING THE FRONT LCD COVER on page 3.

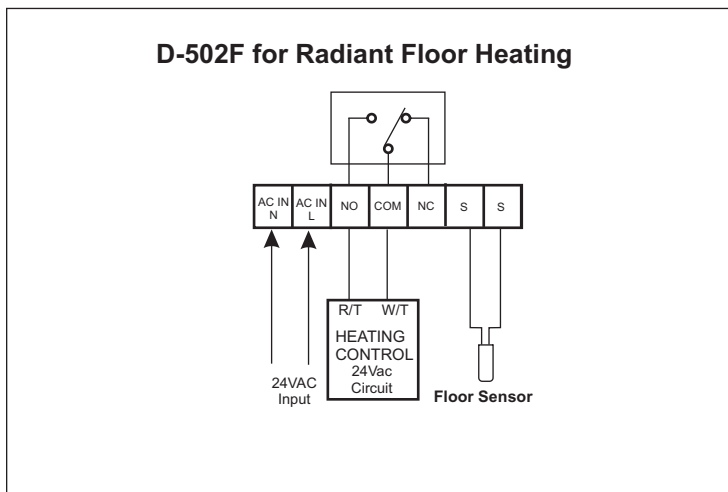
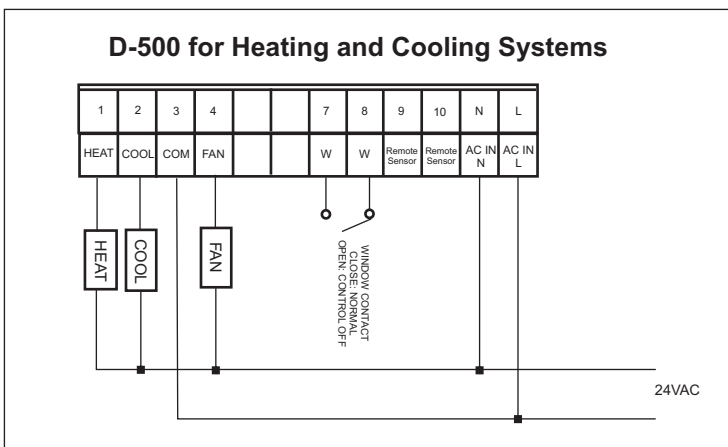
### USER SETTING

Press **SET** button for 6 seconds to enter the user setting mode, and set the flashing indication on LCD:

1. **C/F** selection: Press **+/-** to choose **F/C** setting. Then press **OK** to enter **24H/12H** setting.
2. **24H/12H** selection: Press **+/-** to choose **24H/12H** setting. Then press **OK** to enter **DATE** setting.
3. **DATE**: Press **+/-** to choose **YEAR**. Then press **OK** to enter Month setting.
4. **MONTH**: Press **+/-** to choose **MONTH**. Then press **OK** to enter **DAY** setting.
5. **DAY**: Press **+/-** to choose **DAY**. Then press **OK** to enter **CLOCK** setting.
6. **CLOCK**: Press **+/-** and **OK** to adjust current **HOURL** and **MINUTE**. Then press **OK** to enter **DIFFERENTIAL** setting.
7. **DIFFERENTIAL**: Press **+/-** to choose desired switching differential (1 or 2). Then press **OK** to enter **FILTER** setting.
8. **FILTER**: Press **+/-** to select filter hours from 100-hour to 9900-hour. Note: for fan coil system, replacing the filter after using for certain period of time in order to maintain the system performance. When this function is activated, LCD will display "Reminder" signal on main screen when the filter timer is expired. This function is not effective for the system without FAN.
9. Press **OK** to return to main screen and run the settings.

Note: During this user setting mode, if no key is pressed for 30 seconds, thermostat will take the latest setting and start to run the setting.

### WIRING DIAGRAM:



### PROGRAMMING THE THERMOSTAT

Note: During the program setting mode, the thermostat will return to normal operating mode if no key is pressed for 30 secs.

### KEY PAD DESCRIPTIONS

1. **SET** key: Use to enter program mode/view mode plus other functions.
2. **+/-** key: **+** key increase or skip to next step. **-** key decrease or return to previous step.
3. **OK** key: Press to enter setting or return to run the program.
4. **RESET** key: Press to reset the settings to factory default.
5. **Manual** Key: Override function control key.

Note: Override function is disabled if system switch is set to OFF.

### PROGRAM REVIEW

Note: Do not put system switch to OFF position.

1. Press **SET**.
  2. Press **OK** to review each Temperature/Time Setting (Program)
- Note: To exit program review mode, press **SET** key twice and then press **OK**

### C. PROGRAM SETTING:

Note: Do not put system switch to OFF position. (For model with system switch)

### D-500/D-502F Thermostat has 7-Day Programs with 6 Programs/day:

#### To set each daily program for all 7 days

1. Press **SET** to enter program setting, which starts with Mo-MORN (Monday-Morning).
2. Press **+/-** to adjust 1st Temperature setting (P 1 Temperature)
3. Press **OK** to select Mo-Morn Time setting (P 1 Time)
4. Press **+/-** to adjust Time setting
5. Follow procedures above to finish Temperature/Time setting for the rest of program period for all 7 days.
6. When finished all program setting, press **SET** twice and then press **OK** to start running the program.

### To use COPY function for setting daily program

1. Select any day of the week and complete entire Temperature/Time setting of that day. Take that day as **reference** for the **COPY** function. (Use the same programming procedure as above).
2. Press **SET** to enter program setting, and then press **SET** again, **From** should be flashing on LCD.
3. Press **+** to select the day that its entire daily Temperature/Time setting has previously been completed.
4. Press **OK** to confirm selected date of reference and enter next stage **copy programs to**. LCD should begin to flash **To** on screen after pressing **OK**.
5. Press **+** to select date that you want to copy programs to.
6. Press **OK** to confirm selected date. The selected date will stop flashing.
7. Press **+** to continue selecting more dates for copying programs to. Press **OK** to confirm each selection.
8. To delete selected date, press **-** and the last selected date should be flashing. Press **-** again to delete this date. Repeat pressing **-** to delete more dates (in reverse order of selection).  
Note: In COPY function mode, Date appears on LCD should always be in sequence starting from Monday (Mo)(except For Monday was chosen as reference, Tuesday (Tu) will appear, instead)
9. After COPY setting is finished, press **OK** twice to run the program.  
Note: During this mode, press **SET** key once to exit without updating any settings.

### THE BUILT-IN PROGRAMS

#### Mode 7-d P6 Factory Preset

Mon, Tue, Wed, Thu, Fri	Time	Temperature	
		Switch on heat	Switch on cooling
MORN(P1)	6:00	70 °F(21 °C)	75 °F(24 °C)
DAY(P2)	8:30	60 (15.5 )	85 (29.5 )
NOON(P3)	12:00pm	70 (21 )	75 (24 )
BREAK(P4)	2:00pm	60 (15.5 )	85 (29.5 )
EVEN(P5)	4:30pm	70 (21 )	75 (24 )
NIGHT(P6)	10:30pm	65 (18.5 )	80 (26.5 )
Saturday	Time	Temperature	
		Switch on heat	Switch on cooling
MORN(P1)	7:00	70 °F(21 °C)	75 °F(24 °C)
DAY(P2)	8:30	70 (21 )	75 (24 )
NOON(P3)	12:00pm	70 (21 )	75 (24 )
BREAK(P4)	2:00pm	70 (21 )	75 (24 )
EVEN(P5)	4:30pm	70 (21 )	75 (24 )
NIGHT(P6)	10:30pm	65 (18.5 )	80 (26.5 )
Sunday	Time	Temperature	
		Switch on heat	Switch on cooling
MORN(P1)	7:00	70 °F(21 °C)	75 °F(24 °C)
DAY(P2)	8:30	70 (21 )	75 (24 )
NOON(P3)	12:00pm	70 (21 )	75 (24 )
BREAK(P4)	2:00pm	70 (21 )	75 (24 )
EVEN(P5)	4:30pm	70 (21 )	75 (24 )
NIGHT(P6)	10:30pm	65 (18.5 )	80 (26.5 )

Note:

1. The ending time for any given date is at 11:59 for 12H-Format and 23:59 for 24H-Format. Hence, do not set 12:00 PM for NIGHT(P4) or 24:00 for NIGHT(P6).
2. Thermostat is designed to run programs in sequential order, do not set program either "overlap" in time sequence, or non-sequential time setting in program setting, this will contradict to thermostat's operational logic.

### OVERRIDE FUNCTION

**Note: Do not put system switch to OFF position**

**Your thermostat has four temperature override options: Temporary, Comfort, Permanent Hold, Hold Temperature Until (Vacation Hold).**

**A. Temporary Override-** Change current Temperature setting until next scheduled period time.

- 1.. Press **+** or **-** to adjust Temperature.(Temp. Set in flashing)
2. Wait for 10 seconds, thermostat will automatically run this temporary override function, or press **OK** to run the setting. (Users should read "Temporary Override" on LCD screen)
3. When **Temporary Override** is running, press **OK** to cancel Temporary Override function.

For the following 3 override functions, if there is no keypad input for 30 seconds, thermostat will resume operation.

**B. Comfort Override -** Change current temperature setting and hold new setting for certain hours. Thermostat will resume its original programmed setting when Comfort Override function is expired.

1. Press **MANUAL** key.
2. Press **+** or **-** to adjust Temperature. (Temp. Set in flashing)
3. Press **OK** to enter selection of duration of Comfort Override
4. Press **+** or **-** to adjust Time (minimum 1 hour).
5. Press **OK** to run Comfort Override.
6. When **Comfort Override** is running, Press **OK** to cancel this command.

**C. Permanent Hold Temperature -** Change current temperature setting and to execute new setting permanently until this command is cancelled by pressing **OK**.

1. Press **MANUAL** and then press **MANUAL** again to choose this override function.
2. Press **+** or **-** to adjust Temperature.(Temp. Set in flashing)
3. Press **OK** to run Permanent Hold Temperature function.(LCD display will indicate that it is running)
4. When Permanent Hold Temperature is running, press **OK** to cancel this command.

**D. Temperature Until (Vacation Hold) -** Change current temperature setting and execute new setting until certain date.



1. Press **MANUAL** key 3 times to choose this override function.
2. Press **+** or **-** to adjust Temperature. (Temp. Set in flashing)
3. Press **OK** to select desired duration of **Hold-Temperature Until**.
4. Press **+** to select **Month** first and then Press **OK** again to enter **Day** selection. Press **+** again to select desired **DAY**.
5. Press **'OK'** to run **Hold Temperature Until** function.
6. When **Hold Temperature Until** is running, press **OK** to cancel this command.

### HOW TO ERASE MEMORY BACKUP (EEPROM)

Press **OK** and **-** keys at the same time for 6 seconds, **Reset** will appear on LCD display, then press **Reset** button on the front housing with a pen to delete all previous settings in the memory. Thermostat will resume its factory preset programs.

## BACKLIGHT OPTION

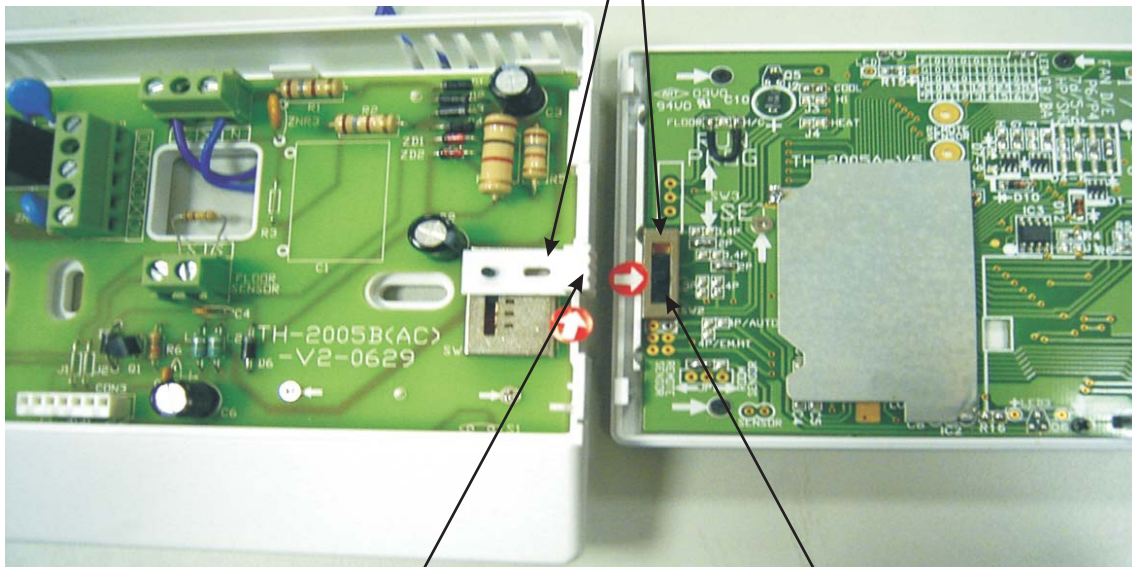
Press and hold **OK**, then press **+** key simultaneously to select different BackLight mode. Each press of **+** key will toggle between different modes in according to the Light Bulb symbol on the top left of LCD screen:

- No Light Bulb means BackLight is turned off
-  Backlight always ON
-  Auto: On for 25 seconds when any key is pressed.

## NOTE ON INSTALLING THE FRONT LCD COVER

In order for the thermostat to work properly, the slide switch on the front LCD cover must be aligned with the slide switch on the back cover. After installation, if the word "FLOOR" is displayed on the upper right corner of the LCD screen, then the front cover is properly aligned with the back cover. If the word "FLOOR" is missing on the upper right corner of the LCD screen, then remove the front cover and move the slide switch to the correct position as shown below:

After setting the correct slide switch position below, point the lever-stud of the slide switch on the front cover to the elliptical hole on the back cover when closing the front cover



Internal slide switch on the back cover should be set at the first position from the top (there are 4 positions)

Internal slide switch on the front cover should be set at the second position from the bottom (there are 4 positions)

## D-500

- Display Format: Liquid Crystal Display(LCD) with backlit
- Contact Rating: 7.5A
- System: Cool-Off-Heat-Auto (changeover)
- Fan Control: On/Auto
- Temperature Display Range: 32-122°F(0-50°C)
- Temperature Control Range:
  - Heat: 41°F to 95°F(5°C to 35°C)
  - Cool: 43°F to 97°F(6°C to 36°C)
- Remote control Cut-off of Heat/Cool/Fan output
- Accuracy:  $\pm 1^{\circ}\text{F}$
- Power Supply: 24 Vac, 50-60Hz
- Switching Differential: 1-2°F(0.5-1.0°C)
- Dimension: 138x 110 x 32 mm

## D-502F

- Display Format: Liquid Crystal Display(LCD) with backlit
- Floor Temperature Control Range: 41-113°F(5-45°C)
- Temperature Display Range: 32-140°F(0-60°C)
- Contact Rating: 16A
- Control Floor Temperature in Radiant Floor Heating System
- Remote control Cut-off heating output
- Accuracy:  $\pm 1^{\circ}\text{F}$
- Power Supply: 24 Vac, 50-60Hz
- Switching Differential: 1-2°F(0.5-1.0°C)
- Dimension: 138x 110 x 32 mm



For more product information, please visit:  
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