DG3000WHB-7B WATER RADIANT HEATING

TOUCH SCREEN THERMOSTAT

MANUAL

DG3000WHB-7B Thermostat for Radiant heating

Installation and operation instructions

DG3000WHB-7B is a 7 days programmable thermostat designed for water boiler and electric furnace application. This thermostat can be used for hot water radiant heating and electric cable heating system.

SPECIFICATION:

Power source …………………… 2 AA size 1.5V alkaline battery

Maximum resistive load……………… 250VAC 8A

Maximum inductive load………………250VAC 5A

Relay contact …………………………8A

Room temperature setting range………5℃ to 35℃ (41℉ to 95℉)

Accuracy…………………………… ±1℉ or ±0.5℃

Dimensions………………………… 115mm×90mm×32mm

Color……………………………….. White

FEATURE:

- Large, Clear Display with Backlighting
- Menu Driven Programming
- Optional programming Period: 7 individual day or Separate 5-day (weekday) and 1-day/1-day (Saturday/Sunday) programming with 4 separate time/temperature periods per day.
- Permanent user setting and program setting retention during power loss,
- Optional temperature display of Celsius or Fahrenheit scale
- Both Vacation mold and hold duration mode available for comfort and energy saving
- Display temperature recalibrates
- Anti-freezing protection
- Pump protection available

IMPORTANT SAFETY INFORMATION:

- Always turn off power at the main power source by unscrewing fuse or switching circuit breaker to the off position before installing, removing, cleaning, or servicing this thermostat.
- Read all of the information in this manual before installing this thermostat.
- Only a professional contractor should install this thermostat.
- All wiring must conform to local and national building and electrical codes and ordinances.
- Use this thermostat only as described in this manual.

KEYBOARD, DISPLAY AND SWITCH DESCRIOPTION
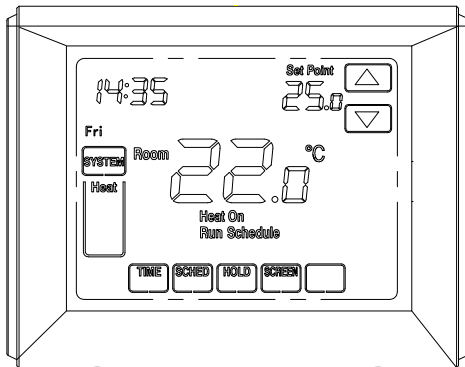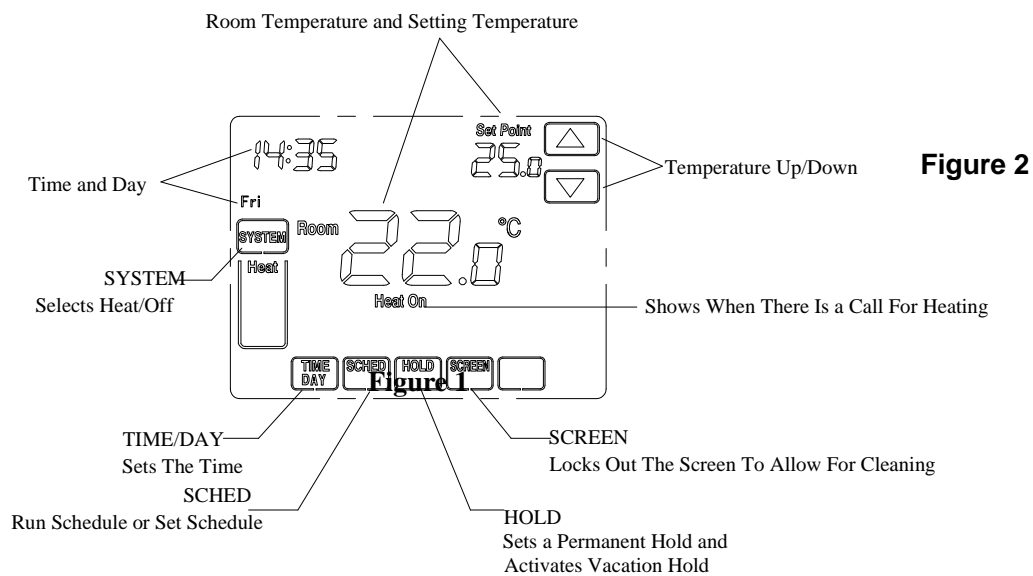
DG3000WHB-7B Touch Screen Thermostat

Figure 1

Room Temperature and Setting Temperature

Time and Day

Temperature Up/Down   **Figure 2**

SYSTEM
Selects Heat/Off

Shows When There Is a Call For Heating

Figure 1

TIME/DAY
Sets The Time

SCREEN
Locks Out The Screen To Allow For Cleaning

SCHED
Run Schedule or Set Schedule

HOLD
Sets a Permanent Hold and
Activates Vacation Hold

Home Screen Description

ATTACH THERMOSTAT BASE TO WALL

Two AA batteries

Screw for mounting thermostat to wall

Base

Control panel

Figure 3

Fixing screw
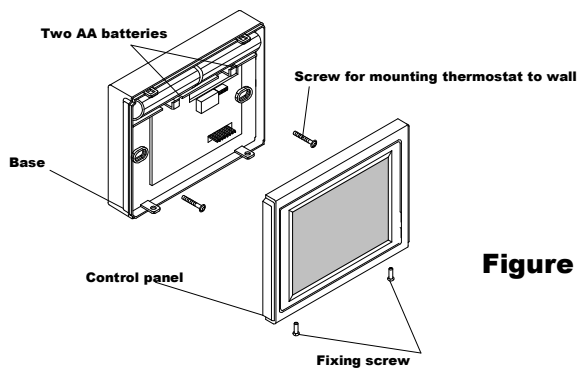
1. Remove 2 screws from the bottom of thermostat. Gently pull the control panel straight off the base. Forcing or prying on the thermostat will cause

damage to the unit.

2. Install two fresh "AA" alkaline batteries in battery compartment. Be sure to match

positive (+) ends of batteries with positive (+) battery terminals in the battery compartment.

3. Connect wires beneath terminal screws on power supply module using appropriate wiring schematic. See figure 4

4. Push power base into wall.

5. Using two mounting screws mount the power base to the wall. Place a level against bottom of base, adjust until level, and then tighten screws. (Leveling is for appearance only and will not affect thermostat operation.)

6. Replace control panel on the power base and fix power base and control panel by removed two screws in item 1
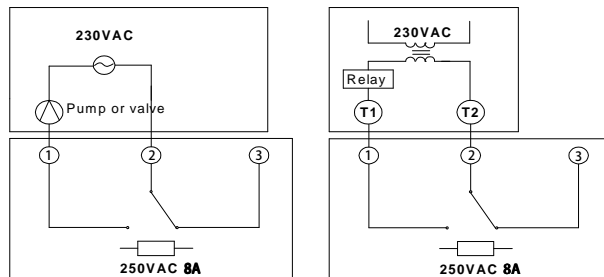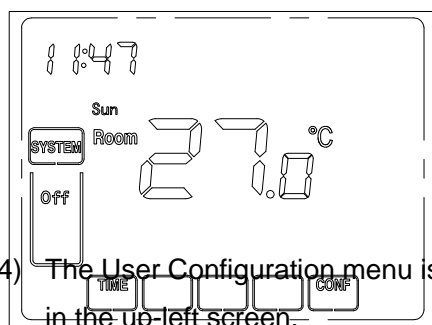
WIRING DIAGRAM

Figure 4

CHECK THERMOSTAT OPERATION

The unit will be controlled via air sensor in the thermostat and the thermostat will determine to activate/deactivate heating system by comparing set temperature with room temperature. Press Up and Down key to adjust thermostat setting above room temperature 1℃ in fast heating mode or 3℃ in slow heating mode, See configuration menu item 5. The heating should begin to operate immediately
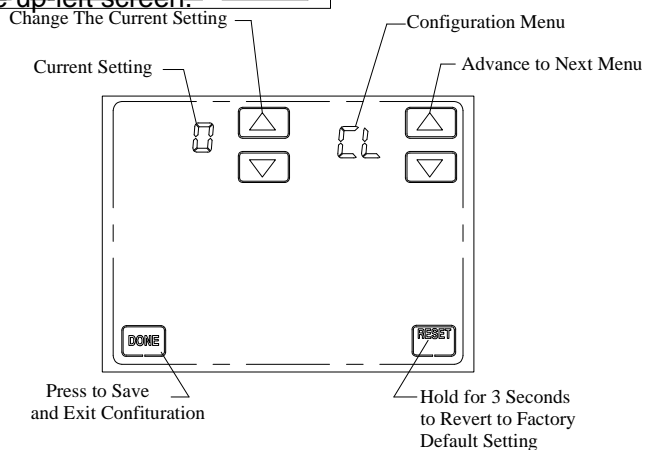
Configuration Menu

The configuration menu allows you to set certain thermostat operating characteristics to your system or personal requirements.

1) Press system button till "**Off"** flash in the display.

2) Press **DOWN** to make the thermostat turn off.

3) Press **CONF** to enter into configuration mode.

4) The User Configuration menu is displayed in the up-right screen. Current setting is displayed in the up-left screen.

Change The Current Setting

Configuration Menu

Current Setting

Advance to Next Menu

Press to Save and Exit Confituration

Hold for 3 Seconds to Revert to Factory Default Setting

5

5) Press **DONE** key to save the setting and exit configuration menu, Hold **RESET** key for 3 seconds display will flash 3 times and revert to factory default setting.

The configuration menu chart summarizes the configuration options. An explanation of each option as follows:

Item	Current Setting	Menu Item	Descriptions
1	-4 --- +4	CL (0)	Select temperature display adjustment higher or lower
2	20℃(68℉)—35℃(95℉)	AH(35℃)	Select maximum setting temperature for heating
3	5℃(41℉)—20℃(68℉)	AL(5℃)	Select minimum setting temperature limitation
4	℃/℉	FC(℃)	Select temperature display to℃ or ℉
5	FA/SL	HC(FA)	Select fast heating or slow heating
6	yES/nO	PP(NO)	Select pump protection YES Cancel pump protection NO
7	24/12	7E (24)	Selection of time scale
8	1/2/3	BL(1)	Select display backlight mode
9	3/7	PS(7)	Programming day in one week option
10	UnL/PAL/FUL	LO(UnL)	Select keypad Lockout function

1) Select temperature recalibrates Adjustment 4 LO to 4 HI –

You can adjust the room temperature display up to 4 higher or lower. Your thermostat was accurately calibrated at the factory but you have the option to change the display temperature to match your previous thermostat. The current or adjusted room temperature will be displayed on the right side of the display.

2) Select maximum temperature set point

This feature provides a maximum set point temperature f. The default setting is 35℃ (95℉), It can be changed between 20℃ (68℉) to 35℃ (95℉)

3) Select minimum temperature set point.

This feature provides a minimum set point temperature. The default setting is 5℃ (41℉), It can be changed between 5℃ (41℉) to 20℃ (68℉)

4) Select ℉ or ℃ readout.

Changes the display readout to Centigrade or Fahrenheit as required

5) Select fast heating or slow heating

Select FA to start heating immediately when the set point is 1℃ above the room temperature.
Select SL to start heating only when the set point is 3 ℃ above the room temperature.

6) **Select pump protection mode**

For hot water installations, it is recommended to activate the pump at least 15 second every 24 hours in order to avoid any seizing. Select yES will activate pump protection mode. Select nO will cancel the function.

7) **Selection of time scale**

12 indicates 12 hour clock and 24 indicates 24 hour clock

8) **Select display backlight mode**

The display backlight improves display contrast in low lighting conditions. Select 1 the light will be on when any button of the thermostat is touched. Select 2 the display will keep the light off. Select 3 the display will keep the light on continuously. Factory default is 1.

9) **Programming day in one week option**

There are 2 options for how to program the day in one week.

7: You can program in 7 individual days

3: You can program in 5 weekday and 1Saturday and 1Sunday.

10) Select keypad lockout on or off

UnL-unlock. All keys are available. Screen is unlocked

PAL-partially locked. All key functions are locked except SYSTEM key; temperature Up and Down keys and the **CANCEL** key. Enter Configuration setup to unlock the screen

FUL-fully locked. Screen is fully locked except SYSTEM key. Enter Configuration setup to unlock the screen

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Operation Your Thermostat

Setting System Key

Heat-thermostat controls your heating system.

Off-Heating system is off

Setting Temperature Override

Your thermostat has three temperature override options: Hold Temperature Until, Permanent Hold and Vacation Hold
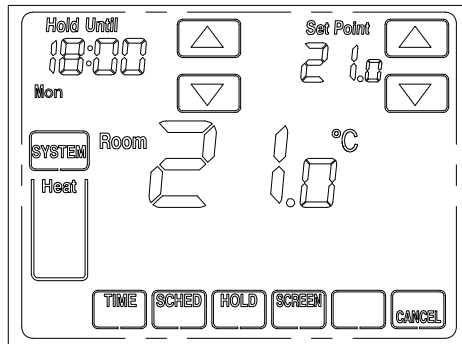
● **Hold Temperature Until (Temporary Hold)**

Holds temperature temporarily until next scheduled period time or until the time the user sets.

1) Press **Up** or **Down** arrow next to the temperature you want to adjust. "Hold Until" time appears on the screen. The Hold Temperature until time defaults to the start time of the next scheduled period.

2) Press **Up** or **Down** arrow next to the Time key to set desired time for the thermostat to

resume schedule

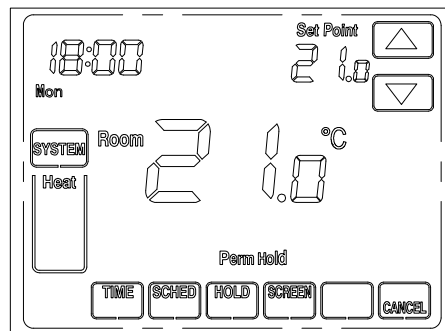3) Press the **CANCEL** or **SCHED** key to cancel "**Hold Until**" and resume schedule

Note: Once "**Hold Until**" time is reached, the thermostat shows "**Run Schedule"** on the screen to indicate that temporary hold has ended.

●   **Permanent Hold**

Permanent Hold changes the temperature setting until permanent Hold is cancelled

1) Press **HOLD** key. "**Permanent Hold**" appears on the screen.

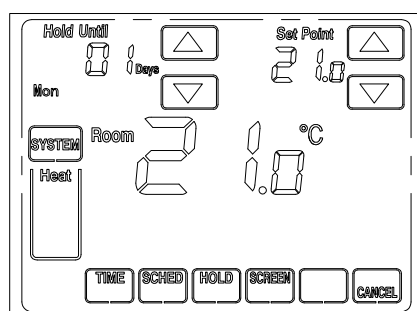2) Press **Up** or **Down** arrow next to the temperature you want to set during "Hold'

3) Press **CANCEL** or **SCHED** key to cancel "**Permanent Hold**" and resume the schedule

● **Vacation Hold**

Changes temperature setting for a designated number of days

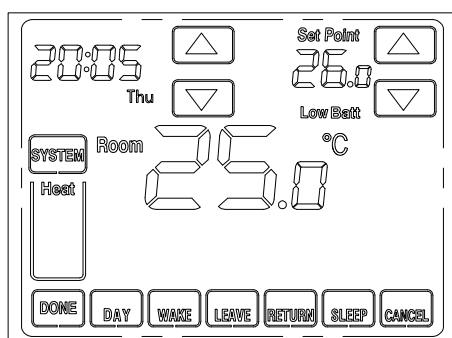1) Press the **HOLD** key. "Permanent Hold" appears on the screen.

2) Press **HOLD** key again. Screen shows "**Hold Until**" one day

3) Press **Up** and **Down** arrow key next to the day to change the number of days you desire thermostat to override the schedule

4) Press **Up** and **Down** arrow key next to the temperature to set the desired temperature while away on holiday

5) To cancel the Vacation Hold override early, press the **CANCEL** or **SCHED** key.

Note: When the number of days of Vacation Hold expires, the screen shows Run Schedule to indicate that Vacation Hold has ended.

Replacing Your Batteries

Low Batt warning flashes on the screen for approximately 30 days when your thermostat runs out of batteries. Replace the batteries when **Low batt** warning flashes

Screen Locked

You can fully or partially lockout the keys on the touch screen interface. See Configuration menu item 13 for information on turning these features on or off. If the thermostat shows your thermostat screen is either fully or partially locked.
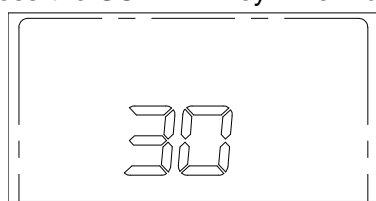
In partially locked mode, all key functions are locked except temperature SYSTEM key; Up and Down keys and the **CANCEL** key. Users can temporarily change the set temperature until next scheduled period reached.   The next scheduled period start time shows on screen. To cancel temperature override and begin following schedule, press **CANCEL** key. To unlock screen, press **SYSTEM** key to **Off** and enter into the configuration menu to change the keypad unlock.

In fully locked mode, only **SYSTEM** key is active and all of the other keys are locked. To unlock screen, press **SYSTEM** key to Off and enter into the configuration menu to change the keypad unlock.

Cleaning Your Thermostat Screen

The thermostat has a touch screen interaction. Follow these steps to clean the screen without making thermostat changes:

1) Press the **SCREEN** key. Thermostat locks out all touch keys for 30 seconds to allow for

cleaning.

2) Use damp cloth slightly moistened with water or house hold glass cleaner to clean the screen

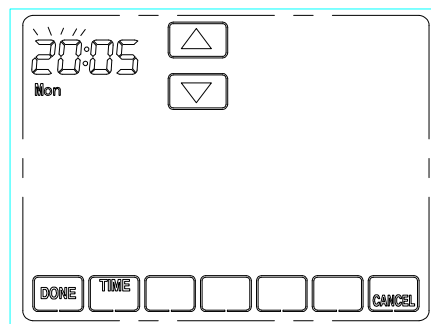3) Repeat the above steps, as necessary

IMPORTANT

Do not spray any type of liquid directly on the thermostat itself. If using household glass cleaner, spray cleaner on cloth. Then use a cloth to clean the thermostat screen

4) Press the **DONE** key to return to the Home Screen and normal operation.

Planning your program

● **Set Current Time and Day**

1) Press **TIME** button once. The display will show the hour flashing

2) Press and hold either Up and Down key until you reach the correct hour

3) Press **TIME** once again. The display will show minutes flashing

4) Press and hold either Up and Down key until you reach the correct minutes

5) Press **TIME** once again. The display will show day of the week flashing

6) Press and hold either Up and Down key until you reach the correct day of the week

7) Press **DONE** to confirm setting and return to schedule running. Press **CANCEL** to cancel setting and return to schedule running

● **Factory Pre-Program**

Look at the factory preprogrammed times and temperatures shown in the sample schedule. If this program will suit your needs, simply keep the thermostat in Run Schedule mode.

	Wake Up (Morning)		Leave For Work (Day)		Return Home (Evening)		Go To Bed (Night)	
Heating Program	6:00	21℃	8:00	17℃	17:00	21℃	22:00	17℃

- **Planning Your Program**

The Heating schedule below allow you to pencil in your own program times and temperatures. The thermostat comes configured for 7 day programming and can also be configured for 5+1+1 programming

Factory setting are listed on Monday, Saturday and Sunday. If you are re-programming a 5+1+1 day schedule, pencil in your own times and temperatures directly below the factory times and temperatures.

If you are re-programming a 7 day fill in all lines with the times and temperature you want.

Worksheet for Re-Programming 5+1+1 and 7 Day program

Heating Program	Wake Up (Morning)		Leave For Work (Day)		Return Home (Evening)		Go To Bed (Night)	
Mon	6:00	21℃	8:00	17℃	17:00	21℃	22:00	17℃
Tue								
Wed								
Thu								
Fri								
Sat	6:00	21℃	8:00	17℃	17:00	21℃	22:00	17℃
Sun	6:00	21℃	8:00	17℃	17:00	21℃	22:00	17℃

- **Enter the Heating Program**

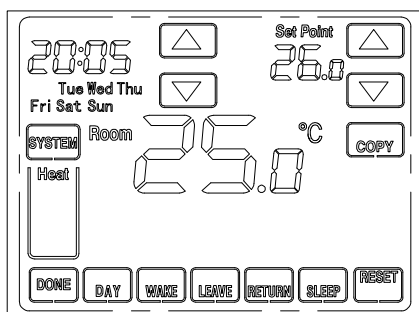Your thermostat can control up to four different schedule periods per day

Wake-Period when you awaken and want your home at a comfortable temperature

Leave-Period when you are away from home and want an energy-saving temperature

Return-Period when you return home and want your home back to a comfortable temperature

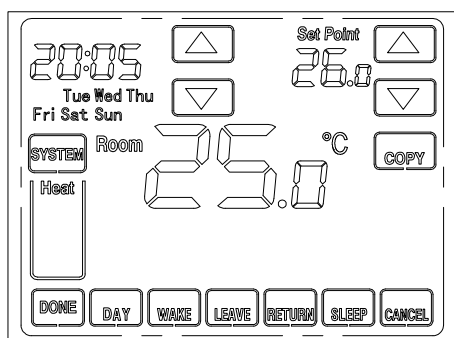**Sleep**-Period when you are asleep and want an energy-saving temperature

1) Press **SCHED** key
2) Press **DAY** key to select the day of the week to be program. In 7 day programming mode, all seven day can be selected. In 5+1+1 programming mode, only week day (Mon-Fri), Sat and Sun can be selected.

3) Press **WAKE** key. Once pressed, **WAKE** flashes to show it is selected

4) Press **Up** and **Down** keys to modify time and heat temperature from this screen.

5) Press **LEAVE** key and repeat step 4.

6) Press **RETURN** key and repeat 4

7) Press **SLEEP** key and repeat 5.

8) Press **Day** key and repeat 2)-7) to program another day of the week.

9) When complete, press **DOWN** key to return to run schedule. Hold **RESET** key for 3 seconds, display will flash 3 times and back to factory default setting program.

● **Programming Tip: COPY** Button

You may copy and daily program to another day or group of days by pressing the **COPY** button. In 7 day programming mode when the **COPY** button is pressed, the other 6 days of the week will flash. To copy the current program into the remaining six days, simply press the **COPY** button again. To copy the current program to another day of the week, press DAY button to select the day and press **COPY** to paste the program. In 5/1/1 day programming mode the copy function is similar. The weekday (Mon-Fri) Program can be copied to Sat and Sun (both flashing) or use **DAY** to choose Sat or Sun and press the **COPY** button to paste the program