

RCS

Model TS40 Wall Display Unit

Installation and Operation Manual

DCN: 141-01060
Revision 13

Date: 1/01/05

Applies to these TS40 Revisions or later		
Model	Part Number	Firmware Version
TS40 WDU	001-01060-16	3.06.4

Residential Control Systems Inc.

The TS40 Wall Display Unit provides the typical thermostat user interface for RCS thermostats and HVAC Zone Controllers.

The Wall Display Unit looks and functions like a traditional thermostat. The TS40 can be a part of a TR40 thermostat or used as one of the zone WDUs when connected to a ZCV2/4/6 zone control units.

The TS40 has a graphical LCD display for temperature, setpoints and mode information. It has 6 pushbuttons for control of thermostat functions and an internal temperature sensor

The WDU connects to a HVAC Control Unit (CU) by a 4 wire cable. The Control Unit connects to the HVAC system in place of a standard thermostat. Together, the WDU/CU combination makes up a complete thermostat or zone system. The communications port on the Control Unit allows full remote control of the system.

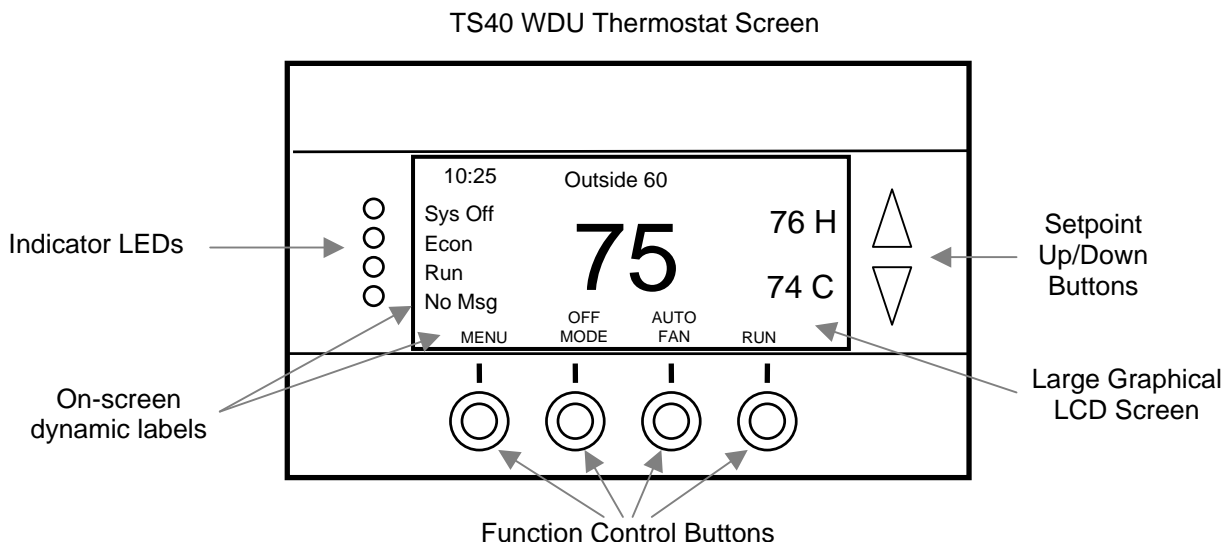
The TS40 WDU can be used with up to 4 RS15 remote temperature sensors for remote temperature sensing and/or averaging temperature sensors.

The TS40 has a comprehensive on-screen setup mode that allows virtually all of the thermostat operating parameters to be viewed and changed.

TS40 Wall Display Unit

The WDU has a backlit LCD graphical display, control buttons, LEDs and a digital temperature sensor. The WDU can display multiple screens. In the main thermostat screen, it shows the current temperature, setpoint, mode and manual fan mode, time, outside temperature and other information.

Any changes in temperature, or control button operations, are transmitted to the Control Unit. Updates received from the network by the Control Unit are sent up and displayed on the TS40.



Other standard screens are selected by the Menu button and include: Messages, Schedules, User Settings, and Thermostat Info. Others may be present and selectable from the menu button in special versions of the WDU.

The TS40's LCD features a backlit display for low light and night visibility. It can be set to remain on constant or to turn out after a 20-45 second delay.

Wall display Unit Control Buttons

All 6 buttons on the TS40 Wall Display Unit are “Soft Keys” meaning that they change functions when you change screens. The function of the buttons is defined by “on-screen labels” that are dynamic and change when you change screens. The following are definitions for the buttons for the main “Thermostat screen” and their primary mode of operation. Other screens and their button operations are defined in following sections.

Wall Display Unit LEDs

The TR40 has four LED's that display various status information. The LEDs have dynamic “on-screen” labels that can change with the screen being displayed.

Wall Display Unit “Screens”

One of the unique features of the TS40 WDU graphical display is the ability to have multiple display screens. In addition to a main thermostat screen, menus and other control screens for special functions are provided. This makes an intuitive and easy to use “user interface”. It allows the many functions of the TS40 to be easily navigated.

You move to other screens by pressing the Menu button from the main thermostat screen. A new Main Menu “screen” will be displayed with a list of menu functions. When a menu item is selected, a new “screen” will be displayed for that function. Refer to the individual screen descriptions that follow for details on navigating each screen.

The Minimized Main Thermostat Screen

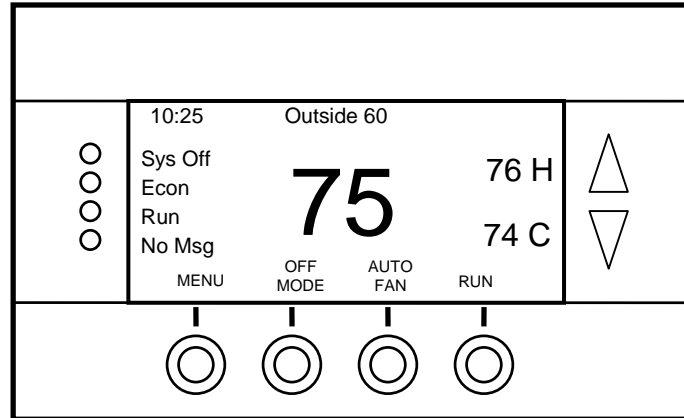
The main thermostat screen will go to a “minimized” screen after a timeout period. This presents a simple uncluttered display of the current room temperature and outside temperature (if an OT sensor is attached).

Pressing any button causes the full Main Thermostat screen to be restored and displayed.

Screen Timeouts

When you menu to other screens, you have the option of exiting those screens to return to the main thermostat screen or just waiting until the automatic screen timeout occurs that will return the display to the main thermostat screen.

The main thermostat screen normally reverts to the **minimized screen** after 30 seconds. This can be adjusted from 15 to 127 seconds in the User Settings Menu under Screen Timeout. You can also set the timeout period to “0”. In this case the Main Thermostat screen will NEVER timeout and revert to the minimized screen.



The main thermostat screen is the default display screen and is the screen that is normally displayed on the Wall Display Unit. It will revert to a minimized screen after 30 seconds of display, if this feature is set.

Temperature Display

The WDU will normally display the current temperature from the internal digital temperature sensor or a remote sensor. The sensors have an accuracy of +/- 1°F(+/- .5°C). The WDU will display temperatures from -63°F to 191°F. **NOTE: If averaging remote sensors are attached, the display will show the average temperature of ALL the sensors.**

Setpoint Display

The heating and cooling setpoints are displayed next to the Setpoint Up/Down buttons. In the HEAT mode, the Up/Down buttons change the heat setpoint. In the COOL mode, they change the cooling setpoint. When in AUTO mode, the buttons change the last call's heating or cooling setpoint. Note that the setpoints will "push" each other if they are adjusted to get within the minimum Heat/Cool separation (delta T) setting. This is normally 4 degrees.

Clock Display

The current time is displayed in the upper left corner of the main screen. Set the clock from the **Users Settings** menu.

Outside Temperature Display

The outside temperature is displayed in the top center of the main screen. OT is only displayed if outside temperature information has been sent to the thermostat from the network or a remote temperature sensor set to address 4 is connected to the WDU.

Main Thermostat Screen Buttons

UP and DOWN Buttons



The **UP** and **DOWN** buttons control the setpoint temperature. Pushing the UP button will increment the setpoint value by one degree and conversely, pushing the Down button will decrement the setpoint one degree. Pushing and holding a button down will cause the setpoint to continuously change until the button is released.

The WDU displays both the current heating and cooling setpoints. The Up and Down buttons will change the setpoint of the current MODE (heating or cooling). When in the AUTO MODE, the buttons will change the setpoint of the last call's mode – heating or cooling.

Heating setpoints can be set from 40 to 106 degrees. (5 to 40 deg C)
Cooling setpoints can be set from 44 to 110 degrees. (6 to 44 deg C)

The high setpoints are intended for use with Pool/Spa heating applications.

High and Low setpoint limits can be set in the Installer Settings menu.

Setpoint Deadband and Push

You cannot lower the cooling setpoint below the heating setpoint or raise the heating setpoint above the cooling setpoint. There is a 4 deg deadband between heating and cooling setpoints. If you try to set the setpoints closer than 4 degrees, the setpoints will “push” each other to maintain the 4 degree separation. Changing the heating setpoint up will push the cooling setpoint. Setting the cooling setpoint down will push the heating setpoint.

Main Thermostat Screen MENU Button

The Menu button changes the screen display to the MAIN MENU screen which show what other functions are available on the Thermostat. These are dynamic and can change with the version of the thermostat you have, but the standard ones include:

Main Thermostat Screen

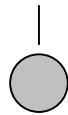
→ Menu Button

- Main Menu Screen
 - Messages
 - Schedules
 - User Settings
 - Thermostat Info

MENU



OFF
MODE



AUTO
FAN



RUN



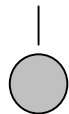
Main Thermostat Screen MODE Button

The **MODE** button controls the HVAC system mode. The current mode selected is displayed above the button. Pushing the **MODE** button will cause the mode and display to change to the next mode. The system mode cycles from **Off** to **Heat** to **Cool** to **Auto** and back to **Off** again with each push of the **MODE** button. When the HVAC system type is set to Heat Pump, the mode selection will include **EH** for Emergency Heat mode.

→ Mode Button

- Off
- Heat
- Cool
- Auto
- EH (if HP system type)

MENU



OFF
MODE



AUTO
FAN



RUN



Off Mode: System is off. No heating or cooling will come on.

Heat Mode: Only heating will occur.

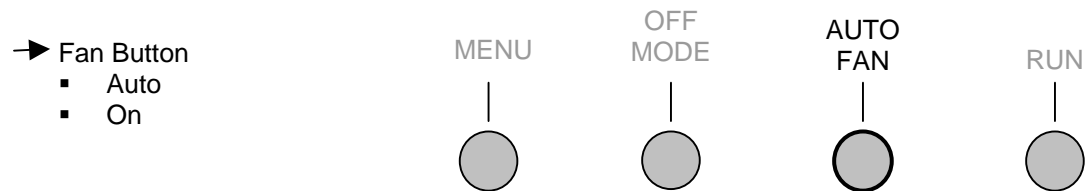
Cool Mode: Only cooling will occur.

Auto Mode: Heating or cooling will come on according to the heating and cooling setpoints. The system will automatically switch between heating and cooling when the temperature exceeds the setpoints.

EH Mode: Only available when **Heat Pump** HVAC System type is selected. When there is a compressor failure with the heat pump system, setting the mode to EH will allow the supplemental heat to come on whenever there is a heat call to provide heating. It also disables the compressor outputs to prevent further damage to the system.

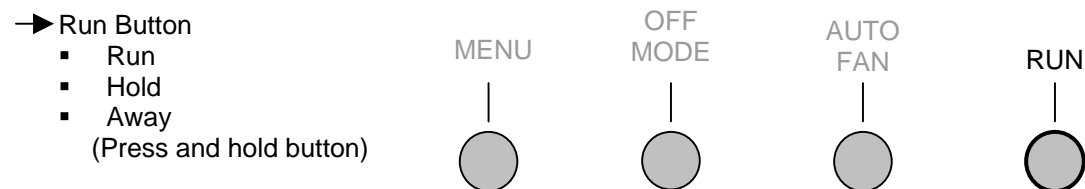
Main Thermostat Screen FAN Button

The **FAN** button controls the HVAC system's manual fan. The current manual fan mode is displayed above the button. Normally this button is in the Auto mode. Pushing the **FAN** button once will turn the **manual fan** operation On. Pushing it again will turn the manual fan off and return to the Auto mode (which means OFF unless turned on by the furnace or AC). Changes in the fan mode are sent to the Control Unit.



Main Thermostat Screen RUN/HOLD Button

The **RUN/HOLD** button controls the automatic schedule operation. In the HOLD mode, the current temperature is maintained until changed by manual or remote network command. In the Run mode, the schedule loaded into the thermostat is activated and setpoints will change according to the schedule and the time and day of week. There is also an AWAY mode that you can select if you press and hold the button for 3 seconds. In the Away mode, preset Heating and Cooling setpoints are used.



Main Thermostat Screen LED Displays

The Main Thermostat screen has the following LEDs, numbered from top to bottom, 1-4.

- **LED 1 Green:** System Operation display.
 - LED Off, "SYS OFF" displayed > HVAC system is OFF
 - LED Off, "SYS MOT" displayed > HVAC is Off and Minimum Off Time (MOT) delay on is active
 - LED On, "SYS ON" displayed > HVAC System is ON
 - LED On, "SYS MRT" displayed > HVAC System is ON and the Minimum Run Time (MRT) delay off is active

- **LED 2 Green:** System Economy Mode display
 - LED OFF or On, "Econ" displayed > Economy or 1st stage heating or cooling ON
 - LED On, "2nd Stg" displayed > Stage 2 heating or cooling is ON
 - LED On, "3rd Stg" displayed > Stage 3 heating is ON
 - LED On, "Vent" displayed > fresh air venting is ON

- **LED 3 Green:** Run/Hold display. Shows state of Schedule Run/Hold Mode.
 - LED Off, "Run" displayed > Schedule is running
 - LED On, "Hold" displayed > Schedule is off, temperature setpoint hold in effect.

- **LED 4 RED:** Alert LED. Used for Messaging and other system alerts
 - LED Off, "No Msg" displayed > No text messages or Alerts present
 - LED On, Mail icon or Alert Text displayed > Message waiting or specific alert text

"Communications Error" Display

If the WDU is not properly wired or if communications to the Control Unit is interrupted, the LCD display will display "Comm Failure" at the top center of the Main Thermostat Screen (where outside temperature is normally displayed).

Momentary display of "Comm Failure" caused by loss of data, will clear automatically when data communication is restored. If the "Communications Failure" display stays on, check wiring or control unit for problems.

Main Menu

The TS40 Thermostat has a menu tree that can be accessed by pressing the “Menu” button on the Main Thermostat screen. Various configurations of the TS40 can have different screen contents. The first screen that will come up is the Main Menu screen that list the other menus or functions that can be accessed. Standard Main Menu screens are listed below.

SmartVent Screen

If SmartVent is installed on your HVAC system and has been enabled in the installer setup, the SmartVent control screen is the first option in the main menu. Select “**SmartVent**” to go to the control screen.

Message Screen

This is a text messaging subsystem that allows message of up to 80 characters to be sent to the thermostat. Select “**Messages**” to go to the Message screen to view message that have been received.

Schedules Screen

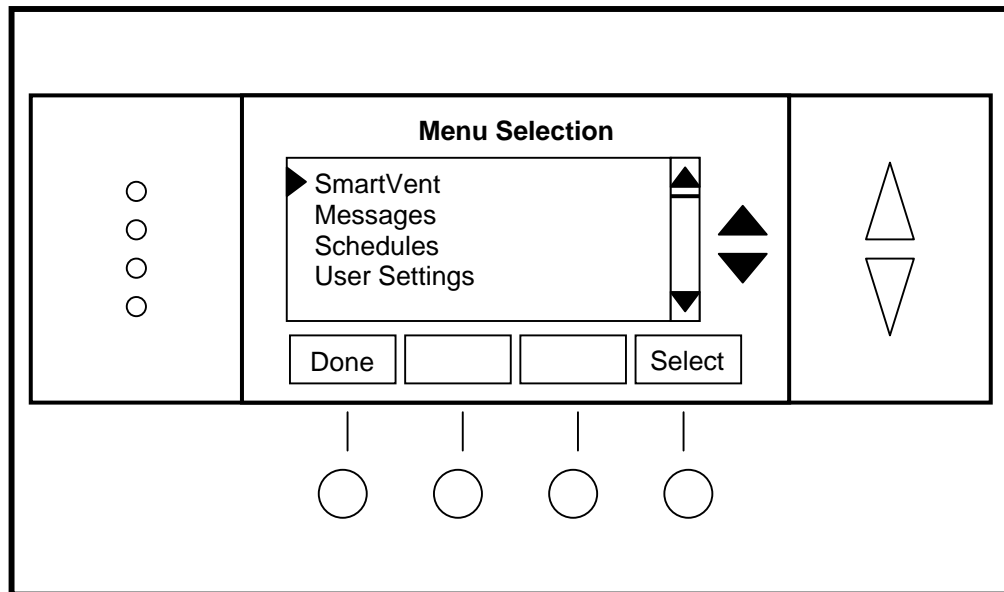
Select “**Schedules**” to go to the Schedules screen to view and program the setback schedules of the thermostat.

User Settings Screen

Select “**Users Settings**” to go to a User Settings submenu to select user setup options: Set Clock, Filter Service, Maint Service, Screen Timeout, F/C mode, Sensor Calibration and Backlight Timeout functions.

Thermostat Info Screen

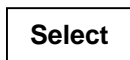
Select “**Thermostat Info**” to go to the screen that shows the firmware versions of the WDU and Control Unit, HVAC system type and equipment options, and the Network Address of the thermostat/zone.



Main Menu Screen navigation buttons:



Return to Main Thermostat Screen



Select Menu Item at cursor



Scroll up to next item



Scroll down to next item

Smart Vent

SmartVent is an automatic fresh air ventilation system. It is an optional feature of TS40 wall display units when used with ZCV2/4/6 zone control units and depends on if a SmartVent damper has been installed on the HVAC system. The SmartVent control must be enabled in the Installer Setup menu for the SmartVent menu option to appear in the Main Menu selections.

SmartVent is designed to be set and function automatically to provide for fresh air ventilation. Its benefits are improved indoor air quality and economy cooling for energy savings.

SmartVent operation and setup are controlled from the SmartVent Control Screen. Select the menu option from the Main Menu to go to the SmartVent control screen.

SmartVent has several modes of operation. They are:

- Manual
- Auto
- Timed
- Scheduled

Manual Mode

When Manual vent mode is selected, the vent damper will open and the HVAC system fan will come on. Fresh air will be circulated through the house until the Manual mode is turned off or set to another mode.

Auto Mode

When in Auto vent mode, the SmartVent will turn on when the following conditions are met:

- Outside temperature is lower than the inside temperature by 5 degrees (default setting that can be changed in the Installer Setup menu).
- Inside temperature is higher than the vent setpoint.

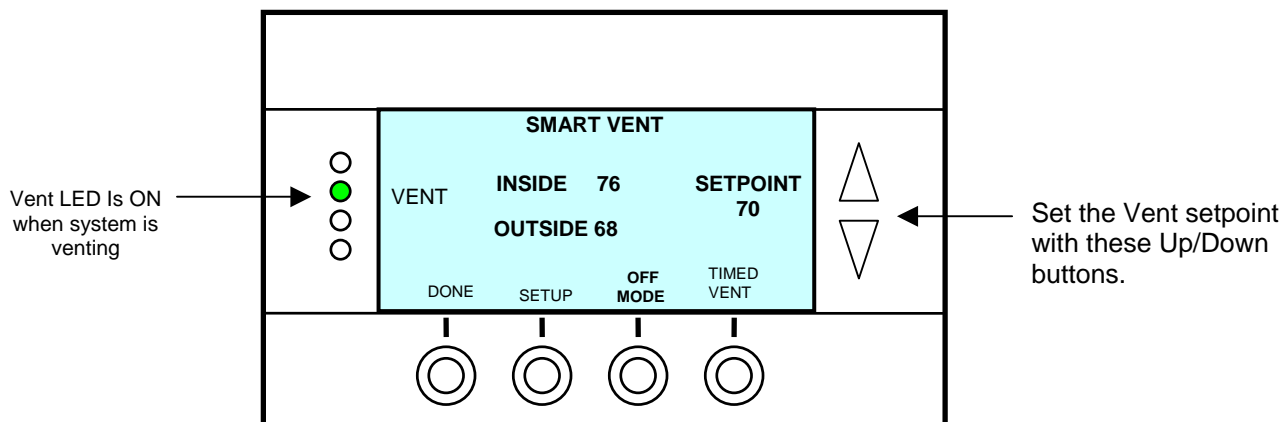
Turns off when either of these two conditions are not met, i.e., it cools down to vent setpoint or heats up outside hotter than inside.

Timed Mode

The timed vent mode is used for a quick vent. Press the Timed Vent button once and the system will turn on and vent for 30 min. You can press the Timed Vent button again and the time will increase to 60min and so on up to 120 minutes. Press the button one more time and it will cycle to OFF.

Scheduled Mode

You can set a ventilation schedule that will run each day. You can schedule up to four vent run times per day. To access the Vent Schedule, in the SmartVent control screen, press the Setup button. You can turn the vent schedule ON/OFF or set the vent schedule.



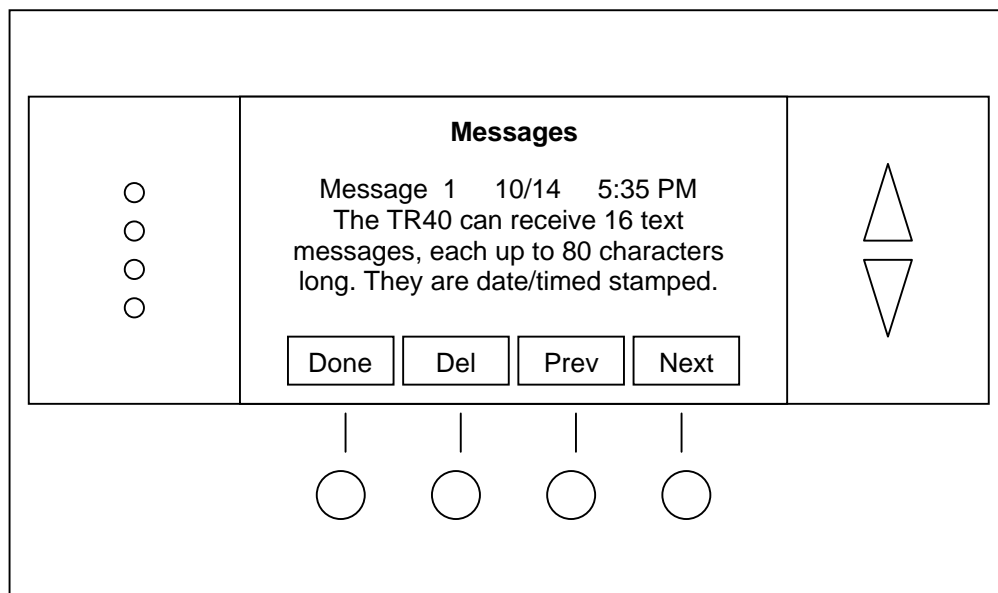
Messages

The TS40 Message Screen allows you to retrieve text messages sent from the serial network to the thermostat. The message screen features navigation buttons to read new and old messages and delete them.

Up to 16 messages can be stored in the thermostat, if more than 16 messages are received, the oldest is erased to make room for the newest message. New messages will turn on and flash the Message LED and Mail Icon in the main thermostat screen.

Viewing messages makes them “old” and turns off the indicators. If you view some, but not all new messages, the new message notification LED and icon will stay on. Messages are entered as most recent message as number 1 message.

Message Screen



Message Screen navigation buttons:

When you first select the Message Screen, the most recently received message will be displayed as Message 1. If other messages are stored in memory, they can be recalled and viewed or deleted by using the message memory navigation buttons.

Done	Return to Main Menu Screen
Del	Delete the Message being displayed
Prev	Display previous message. Scroll up in message stack
Next	Display next message. Scroll down in the message stack

Schedules

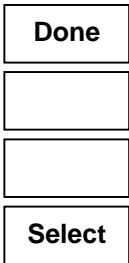
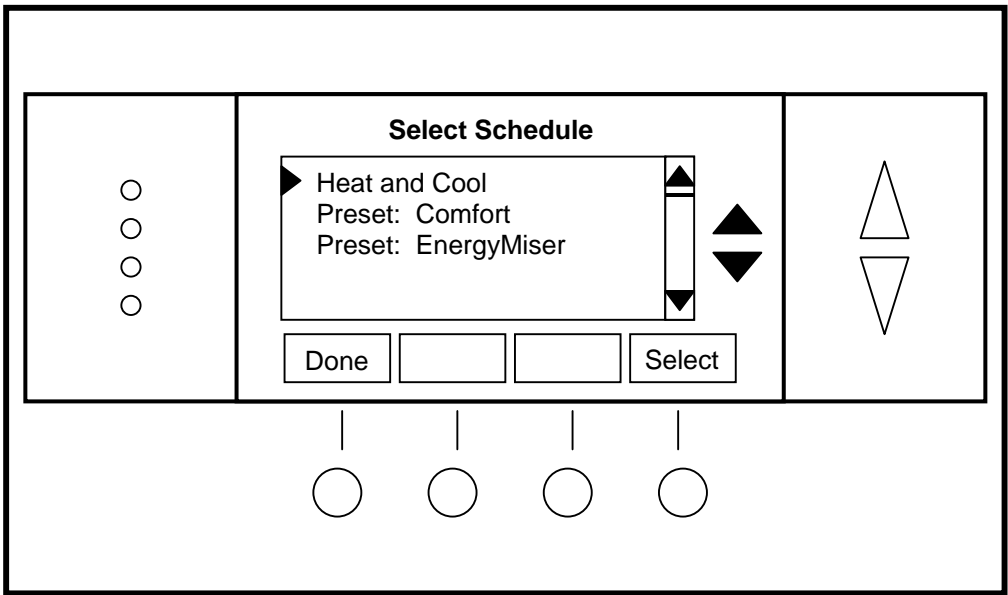
The Schedules Screen allows you to review and set the setback schedule for the thermostat. The TS40 has 4 x 7 schedule. Four times a day can be selected for Heating and Cooling setpoints. Each day of the week can have a different schedule. Groups of days can be copied with the same schedule. When the TS40 is set to "Run" mode, the schedule will be executed daily, with the setpoints being changed as per that days schedule stored in the thermostat. "Hold" mode stops schedule operation and holds the current setpoints until changed manually or by network commands.

The schedules Screen gives you the option of setting an custom setback schedule or to load one of two preset schedules.

Menu Options

- **Heat and Cool:** You can change the individual day/hour and setpoints for the Heat and Cool schedule by selecting this menu item.
- **Preset: Comfort:** This is a preset schedule with mild setbacks. Select this menu item to load the Comfort schedule into the thermostat.
- **Preset: EnergyMiser:** This is a preset schedule with deeper setbacks. Select this menu item to load the EnergyMiser schedule into the thermostat.

Schedules Screen



Return to Main Menu Screen

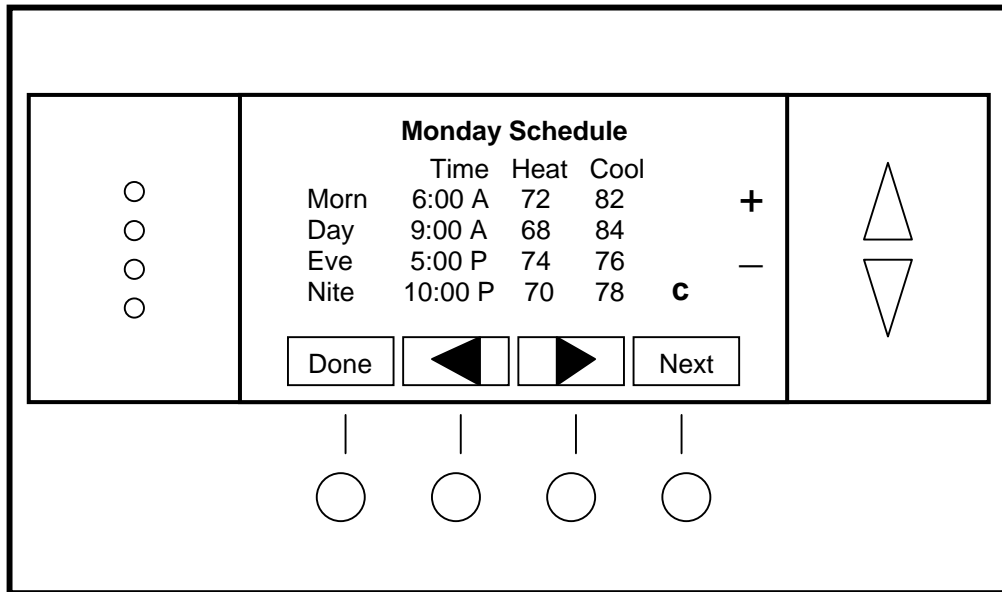
Select the schedule to view or modify

Main Menu > Schedules > Heat and Cool Schedule Screen

Heat and Cool Schedule

When you select the Heat and Cool Schedule menu item, the Schedule programming screen opens and the schedule for the current day will be displayed. Use the scroll buttons to highlight the data to be modified. Once the data has been highlighted, use the +/- buttons to change the value of the data.

To copy a days schedule to another or group of days, move the cursor to “c” on the bottom right of the schedule screen. When you highlight “c”, the button below will become “Copy”. Press this button to change to the Copy Schedule Screen.



Schedule Screen navigation buttons:

Done	Return to Main Menu Screen
◀	Scroll Back
▶	Scroll Forward
Next	Select the next Day schedule OR if the copy “c” is selected, go to copy schedule screen.
+	Increase the time or temperature selected
-	Decrease the time or temperature selected

Copy Schedule

The Copy Schedule screen is a sub screen of the Schedule screen. The Copy Schedule screen allows you to copy a day’s schedule to another day or group of days.

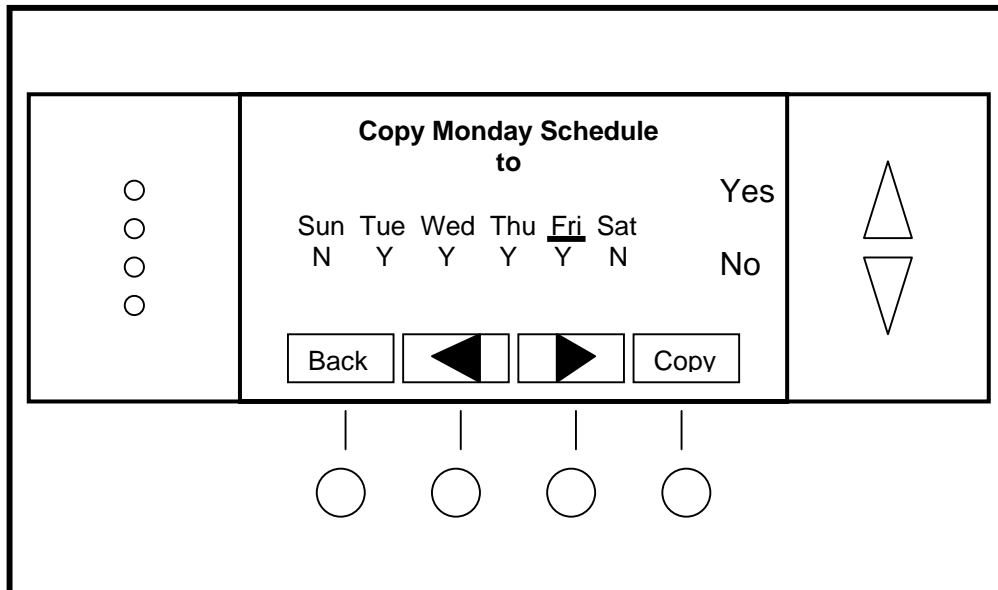
First select the day to be copied in the Schedule screen. Scroll to the “c” at the bottom of the Schedule screen to highlight it. The “Next” button will change to the “Copy” button. Press the “Copy” button to open the Copy Schedule screen.

Scroll through the days and select the days the schedule is to be copied to by setting the “N” under each day to “Y” by using the Yes/No buttons.

After selecting all the days desired, press the “Copy” button.

Exit the Copy Schedule screen with the “Back” button.

Copy Schedule Screen

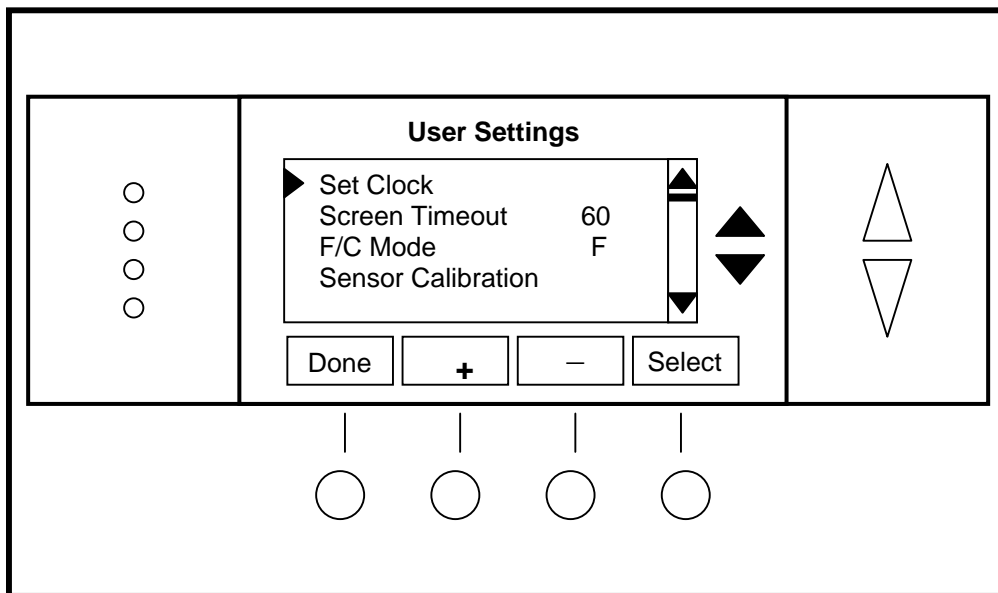


Users Settings

The User Settings screen allows you to set or change various user options of the thermostat such as the clock, timeouts, Fahrenheit/Celsius mode or sensor calibration.

Menu options:

- Set Clock**
 Select this menu item to go to the Clock setting screen.
- Screen Timeout**
 This sets the time before the current screen times out and returns to the minimized screen. If the time is set to 0, the current screen will not time out and will stay displayed until another screen is selected. Options are 0, 15-127 seconds. Select menu item and adjust value with +/- buttons.
- F/C Select**
 Select which temperature display mode you desire, Fahrenheit (F) or Celsius (C) with +/- buttons.
- Sensor Calibration**
 Select this menu item to go to the Sensor Calibration screen.
- Backlight Timeout**
 The LCD backlight can be always on or set to timeout and go off after a preset timeout time. The timeout time can be adjusted from 0 (always on), or 20 to 45 seconds before going off. Use +/- buttons to set time desired. Default set to 30 seconds.



Done	Return to Main Menu
+	Increment value
-	Decrement value
Select	Select the function to be set

Set Clock

The Set Clock screen allows you to set the system clock.

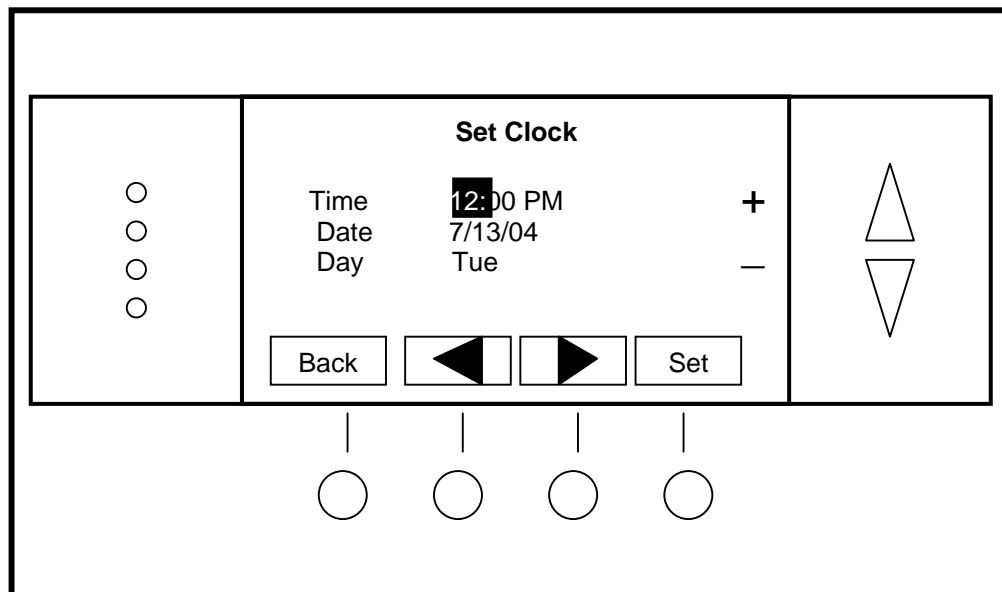
To set the Time and Day, move the cursor with the navigation arrows until the data you want to change is highlighted.

Using the + and – arrows to increment or decrement the data to the desired setting.







When finished, press the **SET** button to return to the Main Menu screen or wait for screen to timeout.

NOTE: If the clock has been reset by an extended power outage, the Clock display on the thermostat screen will be blinking. Pressing the MENU button will take you directly to this screen to set the clock.

Set Clock Screen



Set Clock Screen navigation buttons:

	Return to User Settings menu without changing clock settings
	Move back with selection box
	Move forward with selection box
	Set the time
	Increment Time/Day
	Decrement Time/Day

Sensor Calibration

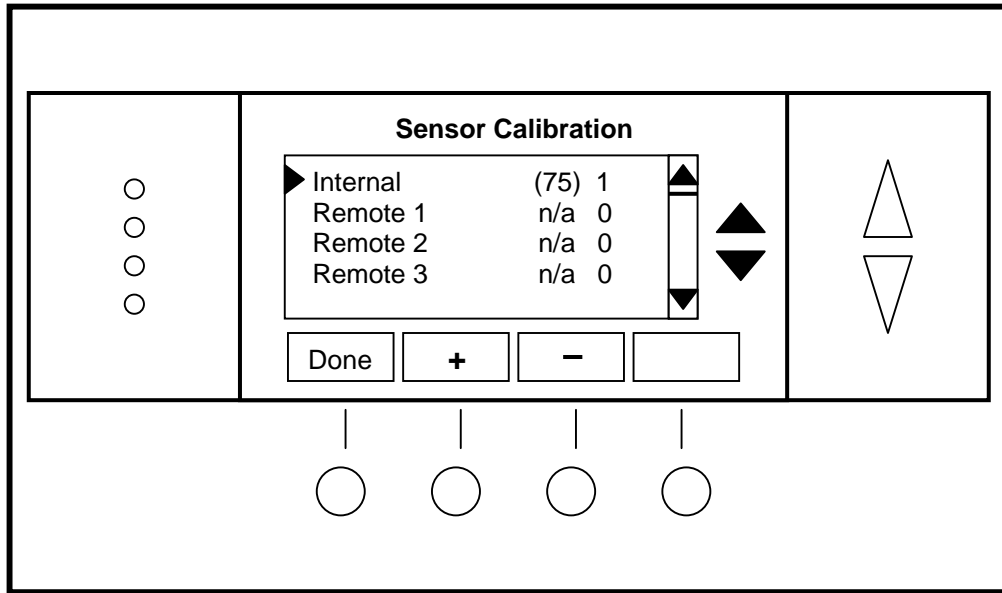
The Sensor Calibration screen allows you to change the temperature calibration for the internal and any external remote temperature sensors attached to the TS40 WDU. You can change the temperature calibration by +/- 7 degrees. Each Remote Sensor has an address, 1 to 4, that defines its function.

When the Sensor Calibration screen is selected it will show the internal and all **detected** remote sensors attached to the WDU. Each sensor found will show the current temperature, like the (75) in the example screen below. Next to the current temperature is the current number of degrees of offset being applied (1 deg in the example). N/a means that no remote sensor is attached. If the sensor's actual temp is (74) with 0 degrees of offset and you want it to be 75, then press + to add 1 deg and it will show (75). This is what the example shows.

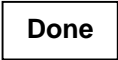
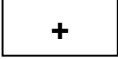
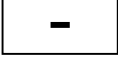



To change the temperature calibration, use the scroll buttons to select the Internal or a Remote Sensor. Once selected, use the + and - buttons to change the temperature calibration to the desired setting.

The temperature shown in the (xx) is the adjusted temperature that will be displayed or used.

Sensor Calibration Screen



Sensor Calibration navigation buttons:

-  Done Return to Main Menu Screen
-  + Increase the temperature by 1 deg
-  - Decrease the temperature by 1 deg
-  Not used
-  Scroll Up
-  Scroll Down

Thermostat Info

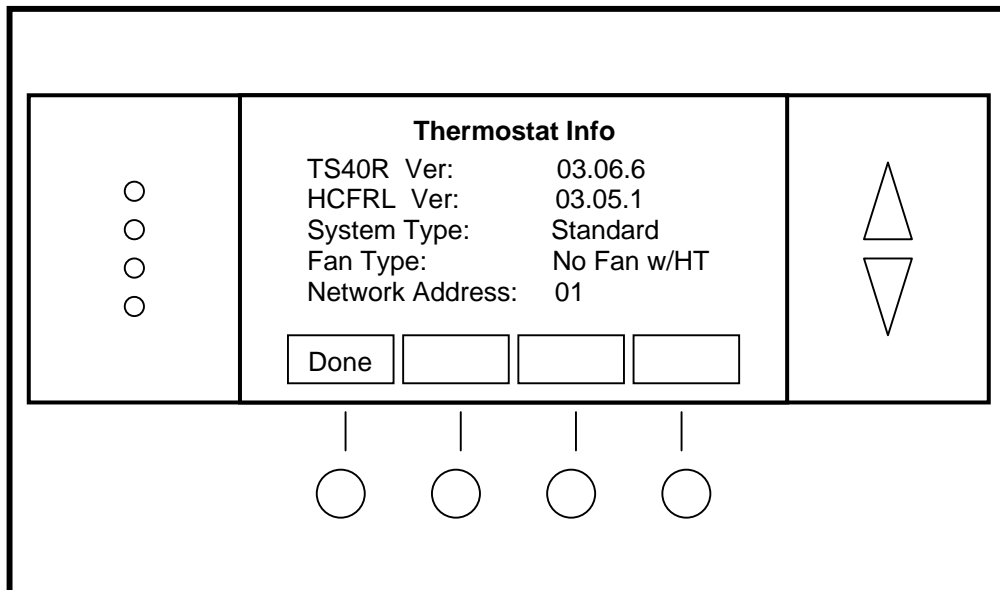
The Thermostat Info screen displays the current configuration of the Thermostat Wall Display Unit and the HVAC Control Unit. This is VIEW only screen and the configuration cannot be changed from this screen. Some of the settings are dipswitch settings on the Control Unit and others are set in the Installers Setup screen. This information is useful for quick check of firmware versions and HVAC system setup. It also shows the network address setting.

Thermostat information displayed is:

- **Wall Display Unit Type** and Firmware version number.
- **Control Unit Type** and Firmware version number.
- **System Type** setting: Standard or Heat Pump HVAC system
- **Fan Type** setting *for Standard systems*: No Fan w/heat (Gas systems) or Fan w/heat (Electric systems) **OR** **Changeover** setting *for Heat Pump systems*: Changeover with cool or changeover with heat.
- **Network address** setting: 1-254 valid

When finished viewing this screen press the **Done** button to return to the main Menu screen or wait for screen to timeout.

Thermostat Info Screen



Thermostat Info Screen navigation buttons:

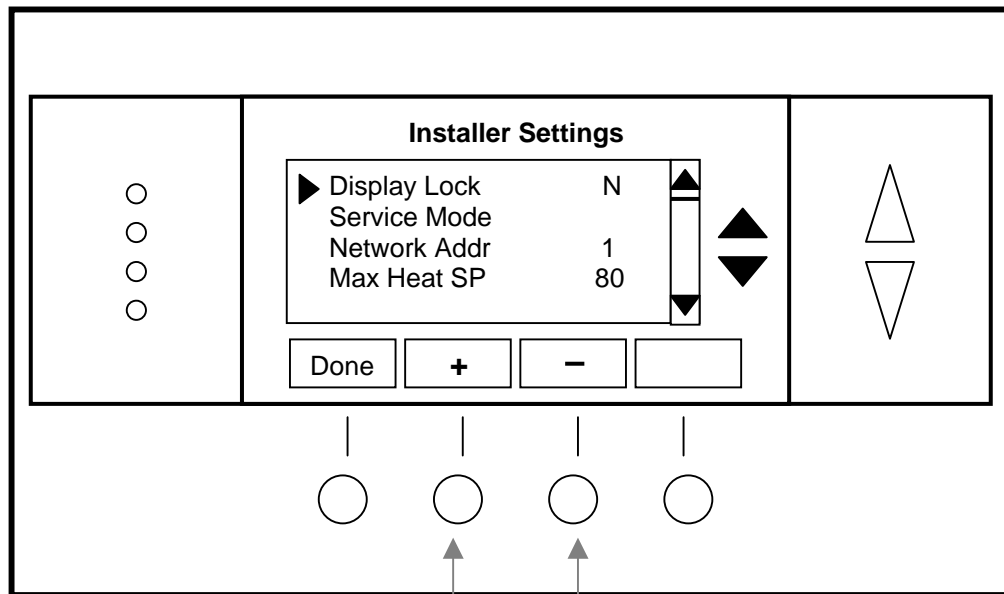
Return to Main Menu screen.

Installer Settings

The Installer Settings screen is a hidden screen designed for installer use only. Do not change any settings in this screen unless you are a qualified service technician. Changing these settings will affect the operation of the heating/cooling system.



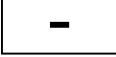


To enter this screen, go to the Main Menu selection screen and press and hold the two inner buttons for 3 seconds until the Installer Settings screen appears.

The Installer Settings screen displays the current internal settings of the thermostat. You can view and change the settings from this screen. Scroll to the desired function and use the +/- buttons to change.



Press and hold these two buttons **when in the Main Menu Screen** to enter the Installer Settings Screen.

Thermostat Setup screen navigation buttons:

	Return to Main Menu screen
	Increase setting by 1 or change from Y to N
	Decrease setting by 1 or change from Y to N
	Scroll Up
	Scroll Down

Installer Settings Menu Items

These are the installer settings menu items that can be viewed and/or changed from this screen. The default settings are in parentheses.

Display Lock Allows you to lock or unlock the thermostat buttons. When the buttons are locked, you can still access the main menu, but you will not be allowed to select any menu options. The Installer Settings hidden button operation is still operational, allowing you to return to this screen and turn Display Lock off. (Off)

Service Mode Sets the thermostat to a test mode. All delays are shortened to 15 seconds to speed up system checkout and testing. **Caution: compressor short cycle protection is lost in this mode.** (Off)

Network Address Sets the serial communications network address. 1-254 valid. (1)

Max Heat SP Sets the maximum heating setpoint that is allowed. Will not ramp or accept setpoints higher than this maximum. (106)

Min Cool SP Sets the minimum cooling setpoint that is allowed. Will not ramp or accept setpoints lower than this minimum. Caution: this value needs to be reset if you are going to use degree C mode. (6)

Minimum Run Time Sets the minimum run time before a heating/cooling cycle can turn off. 1-9 Min (6)

Minimum Off Time Sets the minimum off time before another heating/cooling cycle can begin. 1-9 Min. (6)

Delta T Settings This is a submenu of the delta, or difference between, the setpoint and current temp for determining when a heat or cool call comes on. Deltas are the number of degrees away from setpoint.

Delta T Settings Submenu

- **H/C Delta** Minimum separation between heating and cooling setpoints. Setting a setpoint closer than this delta will “push” the other setpoint higher (heat) or lower (cool). When the thermostat is in the AUTO mode, this maintains a sufficient separation between setpoints to prevent overshoot from causing auto-changeover and subsequent alternating heating/cooling oscillations. (4)
- **H Delta Stg 1 ON** Sets the temperature delta from setpoint for a stage one heating call. (1)
- **H Delta Stg 2 ON** Sets the temperature delta from setpoint for a stage two heating call. (3)
- **H Delta Stg 3 ON** Sets the temperature delta from setpoint for a stage three heating call. (5)
- **C Delta Stg 1 ON** Sets the temperature delta from setpoint for a stage one cooling call. (1)
- **C Delta Stg 2 ON** Sets the temperature delta from setpoint for a stage two cooling call. (3)

Auto Send Mode Sets the thermostat to automatically send changes out the serial port as they occur. (Off)

CAUTION! Do not change these settings unless you are sure of the effect these changes will make. Changing the network address will make the thermostat not respond if the address is incorrect.

Remote Sensors

The TS40 Wall Display Unit has a Remote Sensor terminal block, J2, on the base for connection of an optional remote temperature sensor. The remote sensor has an address that can be set to 1, 2, 3, or 4.

Without any remote sensor attached, the WDU will use the internal sensor for the current room temperature information. When a remote sensor is attached, the WDU will detect it *automatically* and will use the remote sensor according to its address selection.

See the Remote Sensor installation document for correct dipswitch setting. The dipswitch on the remote sensor can be set to one of the following functions:

Remote Sensor Address 1: Use Remote Sensor address 1 *instead* of the Internal sensor.

Remote Sensor Address 2: Average Remote Sensor address 2 with Internal sensor.

Remote Sensor Address 3: Average Remote Sensor address 3 with Remote Sensor address 2.

Remote Sensor Address 4: Use Remote Sensor address 4 as an outside temperature sensor.

All remote sensors are wired in parallel to the WDU remote sensor terminal block, J2.

Wiring Instructions

- Remove power from control unit.
- Connect the WDU to the Thermostat Control Unit (TS40).
- For Zone Controllers, connect each zone's WDU to its respective zone input.
- Connect optional Remote Sensors to the Wall Display Unit's remote sensor input. See Remote Sensor wiring information for sensor address setting.
- Double check wiring before applying power to control unit.

