

## Description

The Wiring Hub is installed at the equipment. It is connected to the C365C42 or C365C42WF thermostat using the existing or new 4-wire thermostat cable that normally connects the thermostat to the equipment. The equipment is wired directly to the Wiring Hub. The upstairs sensor can be either a wired or wireless sensor. Wireless sensors use the ELR1 Radio Module that plugs into the Wiring Hub. An outdoor temperature sensor can also be used to control fossil fuel heating in a dual fuel heat pump (WH32 only).

## Compatible Equipment, WH11

Gas/Electric equipment with 1 heat/ 1 Cool.

## Compatible Equipment, WH32

Gas/Electric equipment, conventional and dual fuel heat pump equipment with 3 heat/ 2 Cool.

## Power

Powered by 24VAC from the equipment R and C terminals

## Power Indicator

LED indicator.

## Damper Actuators

Uses A80MJ Plug&Play damper Actuators. Up to 6 dampers can be daisy chained to define the Upstairs Sleeping or Downstairs Living area.

## Wired Temperature Sensor

One or two wired sensors can be used in the upstairs sleeping space. For single sensor installations use TS510W sensor. For two-sensor installations, use two TS520W sensors.

## Wireless Temperature Sensor

One or two battery powered, wireless sensors can be used. The ELR1 Radio Module must be installed in the Wiring Hub when wireless sensors are used. Use the TS5WL sensor for 1 or 2-sensor installations.

## INSTALLATION

- ❗ Homes with plaster walls with steel lathe may experience wireless communication interference when using wireless sensors. Wired sensors are recommended under those conditions.

### ⚠ CAUTIONS

- Before installing the Comfort365 system, turn off all power to your HVAC system.
- Read and follow all instructions carefully.
- Read entire manual before installing products.
- Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes.
- Use cautions when mounting components to surfaces that may have concealed wiring beneath the surface.
- When servicing Comfort365 system or accessing products, turn off all power to these items.

### ❗ ATTENTION INSTALLER

- 1) Install and wire components to the wiring hub.
- 2) If wireless sensors are used, install the ELR1 plug in radio module in the wiring hub and set the sensor number and home number as necessary.
- 3) Place the thermostat on the subbase. Do not install batteries. (See C365C42 or C365C42WF manual).
- 4) Turn power to the HVAC equipment On.
- 5) Check for Start Up Messages/Errors.
- 6) Set equipment options 1-6 if different than factory default settings. (see C365C42 or C365C42WF manual).
- 7) Test the installation by initiating a heating call, cooling call and fan call.
- 8) Install batteries and set the time and day (see C365C42 or C365C42WF manual).

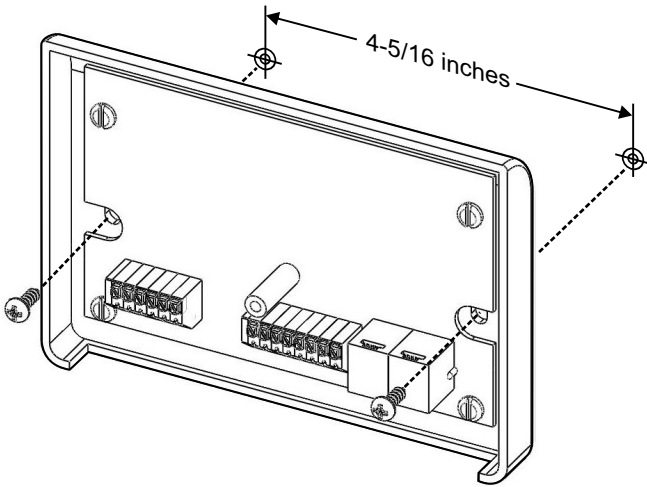
Refer to C365C42 or C365C42WF manuals for accessing:

- Airflow Control is defaulted to On and controlled by Options 50 thru 53.
- Airflow Control Off Option 50 turns off Airflow Control and the thermostat operates as a typical thermostat. The thermostat controls the system, dampers fully open, nighttime airflow control is disabled and airflow is no longer displayed on the thermostat.
- User Airflow Control (Manual Airflow Control) can be enabled in the User Options. Go to Menu Option #2 and turn off automatic airflow control.
- Nighttime Airflow Control is defaulted to ON. If bedrooms are located downstairs, consider turning this option Off using the User Options if bedrooms are not on the same trunk.

# INSTALLER

## ATTACH THE WH11 or WH32 TO THE WALL

Attach the WH11 or WH32 at the equipment to a wooden surface as shown using the screws and wall anchors supplied.

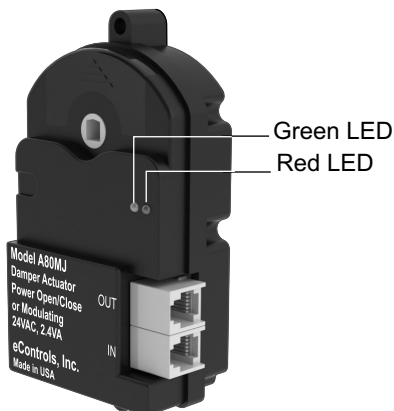


## INSTALL UPSTAIRS & DOWNSTAIRS DAMPERS

Install an R80CJ damper in the duct supplying air to the upstairs bedroom area and plug one end of the cable into the connector marked IN on the Actuator and the other end into the connector marked SLEEPING DAMPER on the Wiring Hub. Install a second R80CJ damper in the duct supplying air to the downstairs living area and plug one end of the cable into the connector on the Actuator marked IN and the other end into the connector on the Wiring Hub marked LIVING DAMPER. Each damper uses 2.4VA of power.

When two or more dampers are required to define the upstairs or downstairs areas, the second damper may be plugged into the connector marked OUT on the first damper. LEDs on the damper actuator indicate when the damper is fully open (green) or fully closed (red).

**!** Ensure that damper installation does not cause obstruction to the damper blade.



**!** Warning - Only use plug and play cable provided with the A80MJ actuator. Additional cables can be ordered through eControls, Model #PIC25 (25 ft.).

## WIRING INSTRUCTIONS

### Warning!

Turn the power to the HVAC equipment off before wiring.

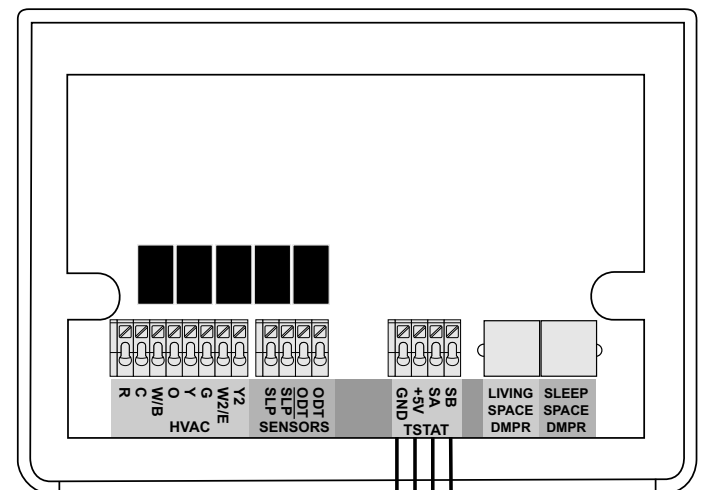
## Wiring Thermostat to WH11 or WH32 Wiring Hub

Use 5-conductor(1 spare), 18 or 20 gage, thermostat cable to wire the WH11 or WH32 Wiring Hub to a C365C42 or C365C42WF Communicating Thermostat.

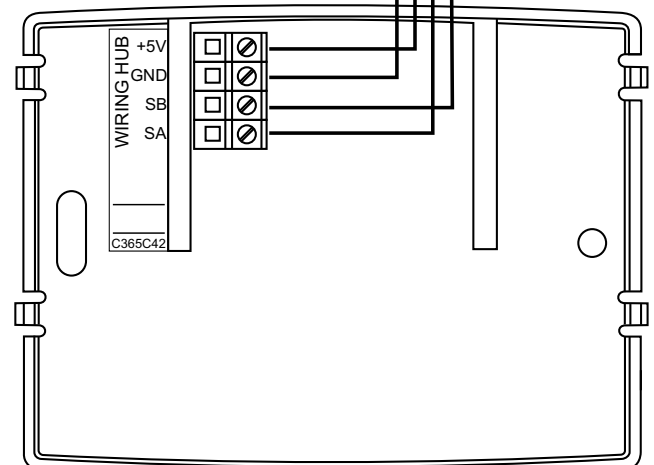
C365 Terminal	Wire Color	Wiring Hub Terminal	Function
5V	Red	5V	24VAC Power
GND	White	GND	Common
SA	Blue	SA	Signal A
SB	Yellow	SB	Signal B

## Wiring Diagram

Wiring Hub Model WH11 or WH32



Existing thermostat cable in replacement installations.



Thermostat Model C365C42 or C365C42WF

# INSTALLER

## Wiring WH11 to Gas/Electric, 1H/1C

Use 5-conductor, 18 or 20 gage, thermostat cable to wire the WH11 Wiring Hub to the equipment.

WH11 Terminal	Wire Color	Equipment Terminal	Function
R	Red	R, Rc, Rh	24VAC Power
C	Blue	C	Common
W/B	White	W, W1	Stg1 Heating
Y	Yellow	Y, Y1	Stg1 Cooling
G	Green	G	Fan

## Wiring WH32 to Gas/Electric, 2H/2C

Use 7-conductor, 18 or 20 gage, thermostat cable.

WH32 Terminal	Wire Color	Equipment Terminal	Function
R	Red	R, Rc, Rh	24VAC Power
C	Blue	C	Common
W/B	White	W, W1	Stg1 Heating
Y	Yellow	Y, Y1	Stg1 Cooling
G	Green	G	Fan
W2/E	Brown	W2	Stg2 Heating
Y2	Orange	Y2	Stg2 Cooling

## Wiring WH32 to Heat Pump, 3H/2C

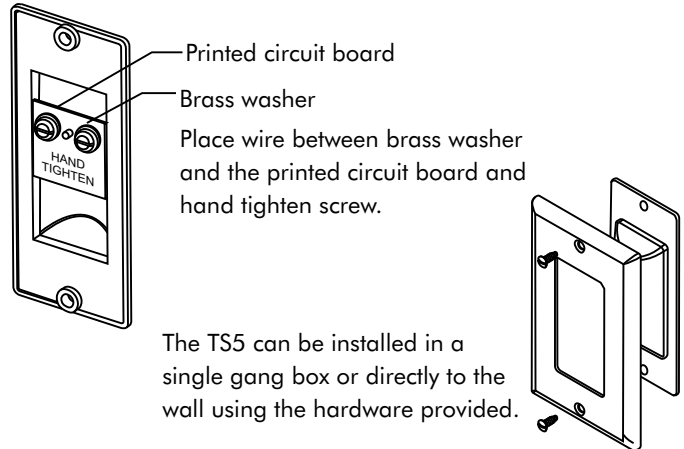
Use 7-conductor, 18 or 20 gage, thermostat cable.

WH32 Terminal	Wire Color	Equipment Terminal	Function
R	Red	R, Rc, Rh	24VAC Power
C	Blue	C	Common
W/B	Not Used	Not Used	Not Used
O	White	O	Reversing Valve
Y	Yellow	Y, Y1	Stg1 Compressor
G	Green	G	Fan
W2/E	Brown	E/W2	Aux Heating
Y2	Orange	Y2	Stg2 Compressor

## Wiring Sleeping Area Temperature Sensors

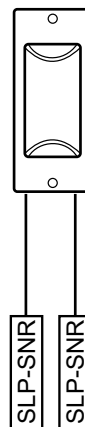
Use 2-conductor, 18 or 20 gage, thermostat cable to wire from the WH11/WH32 Wiring Hub to the remote temperature sensor.

WH11/32 Terminal	Wire Color	Sensor Terminal	Function
SLP-SNR	White	SNR	Thermistor
SLP-SNR	Red	SNR	Thermistor



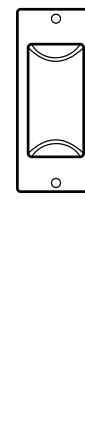
## Single Temperature Sensor Dual Temperature Sensors

Model TS510W  
Remote  
Temperature  
Sensor

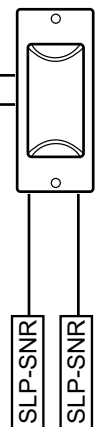


Wiring Hub  
WH11 or WH32

Model TS520W  
Remote  
Temperature  
Sensor



Model TS520W  
Remote  
Temperature  
Sensor

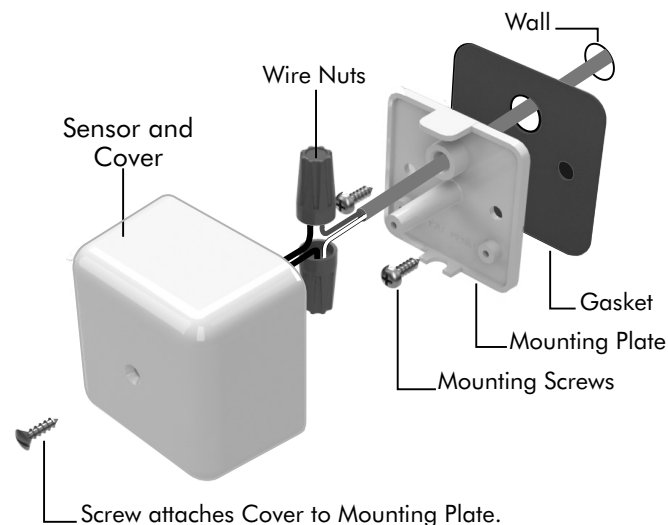


Wiring Hub  
WH11 or WH32

# INSTALLER

## OUTDOOR TEMPERATURE SENSOR

The TS3 outdoor temperature sensor is required for dual fuel heat pumps. The wiring hub automatically switches to fossil fuel heating when the outdoor temperature drops below the OBP Outdoor Balance Point temperature. The temperature limit can be changed using Installer Option03.



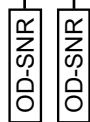
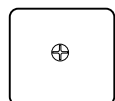
The outdoor temperature sensor should be placed in a shaded location and protected from rain or snow such as under the eaves of a home. Select a location and drill a 5/16-inch diameter hole to pass the sensor wires through.

## Wiring the Outdoor Temperature Sensor

Use 2-conductor, 18 or 20 gage, thermostat cable to wire from the WH32 Wiring Hub to the outdoor temperature sensor.

WH32 Terminal	Wire Color	Sensor Terminal	Function
OD-SNR	White	SNR	Thermistor
OD_SNR	Red	SNR	Thermistor

Model TS3  
Outdoor  
Temperature  
Sensor



Wiring Hub  
WH32

## USING WIRELESS SENSORS

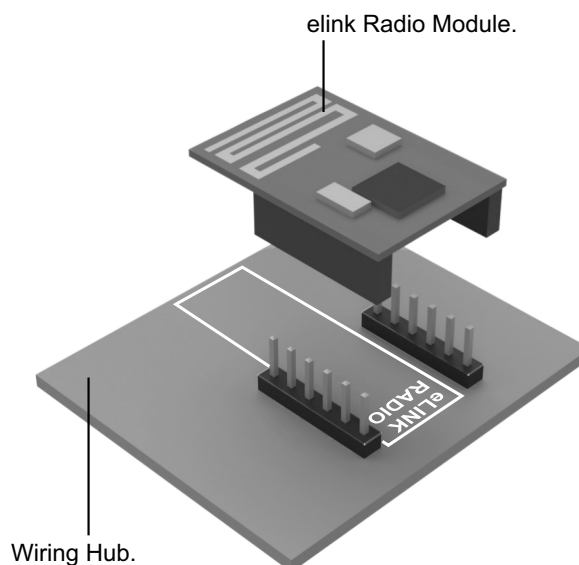
Before installing the wireless remote temperature sensor, the ELR1 Radio Module needs to be installed in the Wiring Hub.

## Installing the eLink Radio Module

### ⚠ Warning!

Do not turn power on until AFTER the wireless sensors have been installed and the sensor numbers set, as shown in the following steps. The Wiring Hub will automatically detect the electronic receiver and the sensors being used when powered up.

The ELR1 eLink Radio Module plugs into the two 6-pin terminal strips on the WH11 or WH32 wiring hub.



## Installing Remote Wireless Sensors

The TS5WL is wireless and powered by two AA batteries. Two remote temperature sensors can be used and the temperatures are averaged. For a single sensor installation, install the sensor on an interior wall about 4-feet above the floor and in a location that best senses the upstairs sleeping space temperature.

For a dual sensor installation, install the sensors in locations that will best sense the average upstairs sleeping space temperature. Mount the TS5WL subbase using the screws provided.

Install two AA batteries as shown.

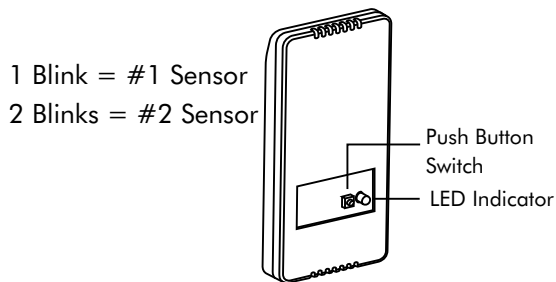


# INSTALLER

## Setting Wireless Sensors as #1 or #2

The TS5WL is factory set as #0 wireless temperature sensor and needs to be set to #1. If two temperature sensors are used, set the address number on the second sensor to #2. The sensor location needs to be documented for future reference. Use the removable labels included with the thermostat to identify the sensors as #1 or #2. Place the labels on the front of the thermostat over the battery cover.

Press the push button and the LED will blink once, then twice and repeat this pattern. To set the sensor as the #1 sensor, release the push button switch after one blink or after two blinks to set it as #2 sensor. After releasing the push button, the LED will blink yellow once to indicate successful communication or blink red indicating that communication was not successful.



! After setting the sensor number, power can now be applied to the Wiring Hub. The Wiring Hub will automatically detect the Radio and the sensors being used when powered up.

## Selecting a Different Home Number

When two or more wireless Comfort365 installations are within 300-feet of each other, the C365 thermostat and remote wireless temperature sensors must be set to different Home numbers so they do not interfere with one another.

### Comfort365 Thermostat

Use Installer Option 54 in the thermostat installer manual to set a new Home number in the thermostat.

### Remote Wireless Temperature Sensors

Remove one of the batteries to remove power to the sensor. While pressing the push button switch on the sensor, re-install the battery. The LED will blink red once, then two rapid blinks, then three rapid blinks and so on. Release the switch after the number of blinks corresponding to the Home number to be set. Changing the Home number does not affect the assignment as the #1 or #2 sensor.

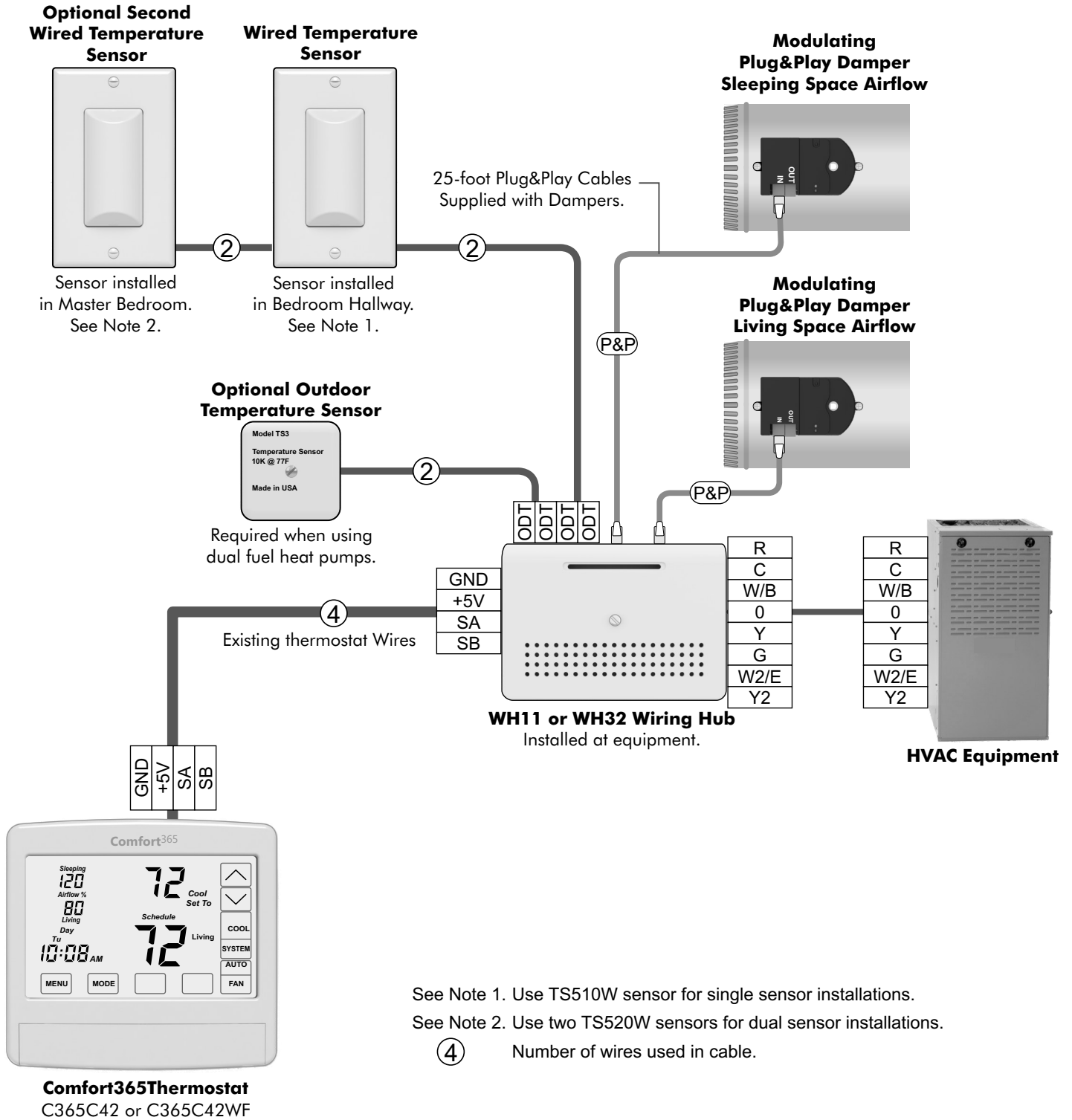
## WIRING DIAGRAMS

The following pages include wiring diagrams and options for different types of installations:

- Wiring Diagram - Installation using wired temperature sensors - Ideal for RNC.
- Wiring Diagram - Installation using wireless temperature sensors - Ideal for Replacement.

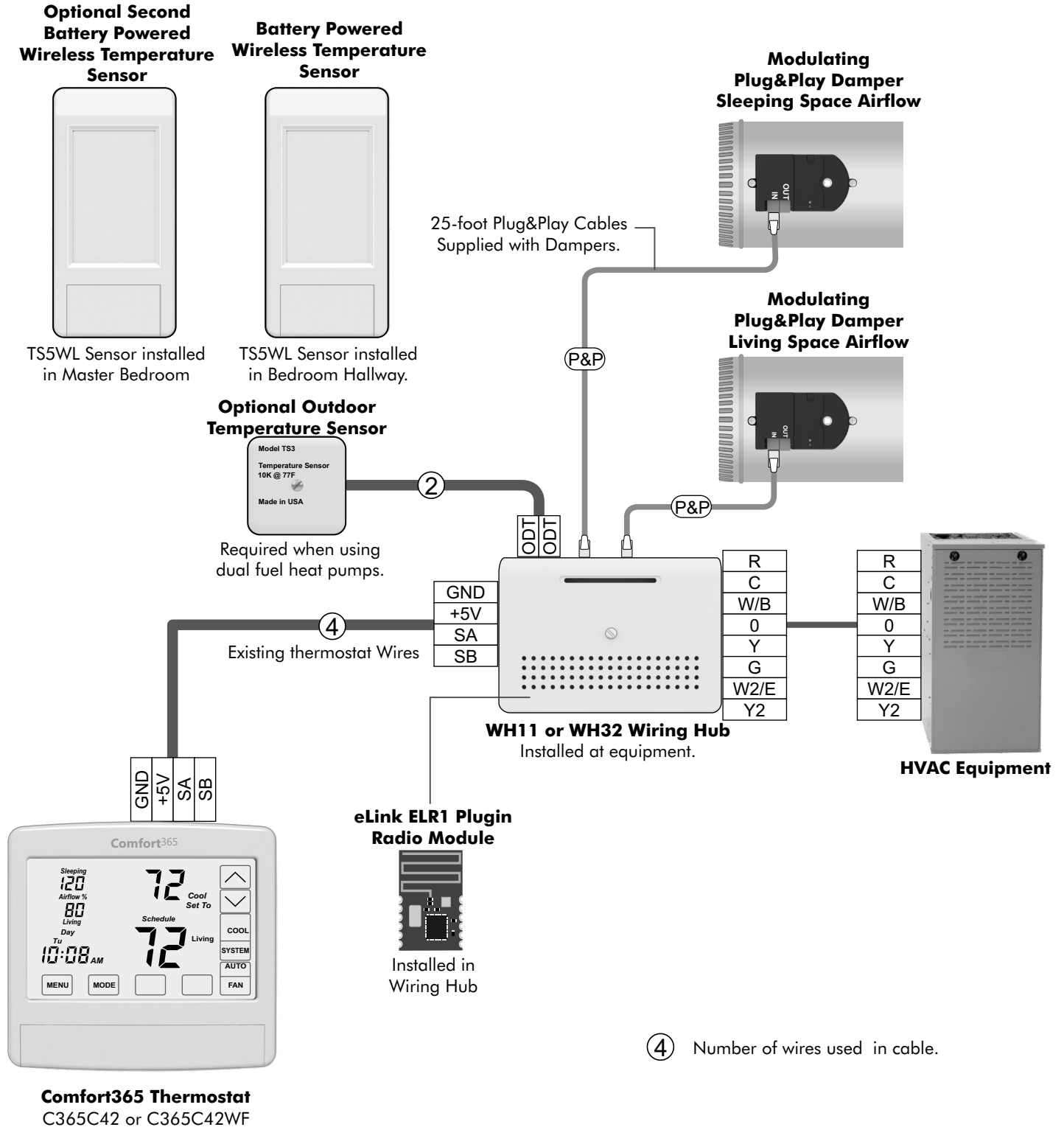
# INSTALLER

## Wiring Diagram, Installation Using Wired Temperature Sensors



# INSTALLER

## Wiring Diagram, Installation Using Battery Powered, Wireless Temperature Sensors



## Warranty

This thermostat is warranted to be free of defects due to workmanship or materials under normal use and service for a period of 5 years from date of installation and not longer than 6 years from manufacturing date code.

# eControls

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