

## Model ZTWD

Programmable Thermostat with Integrated Equipment and  
2-Zone Comfort Control

eControls

For Residential New Construction



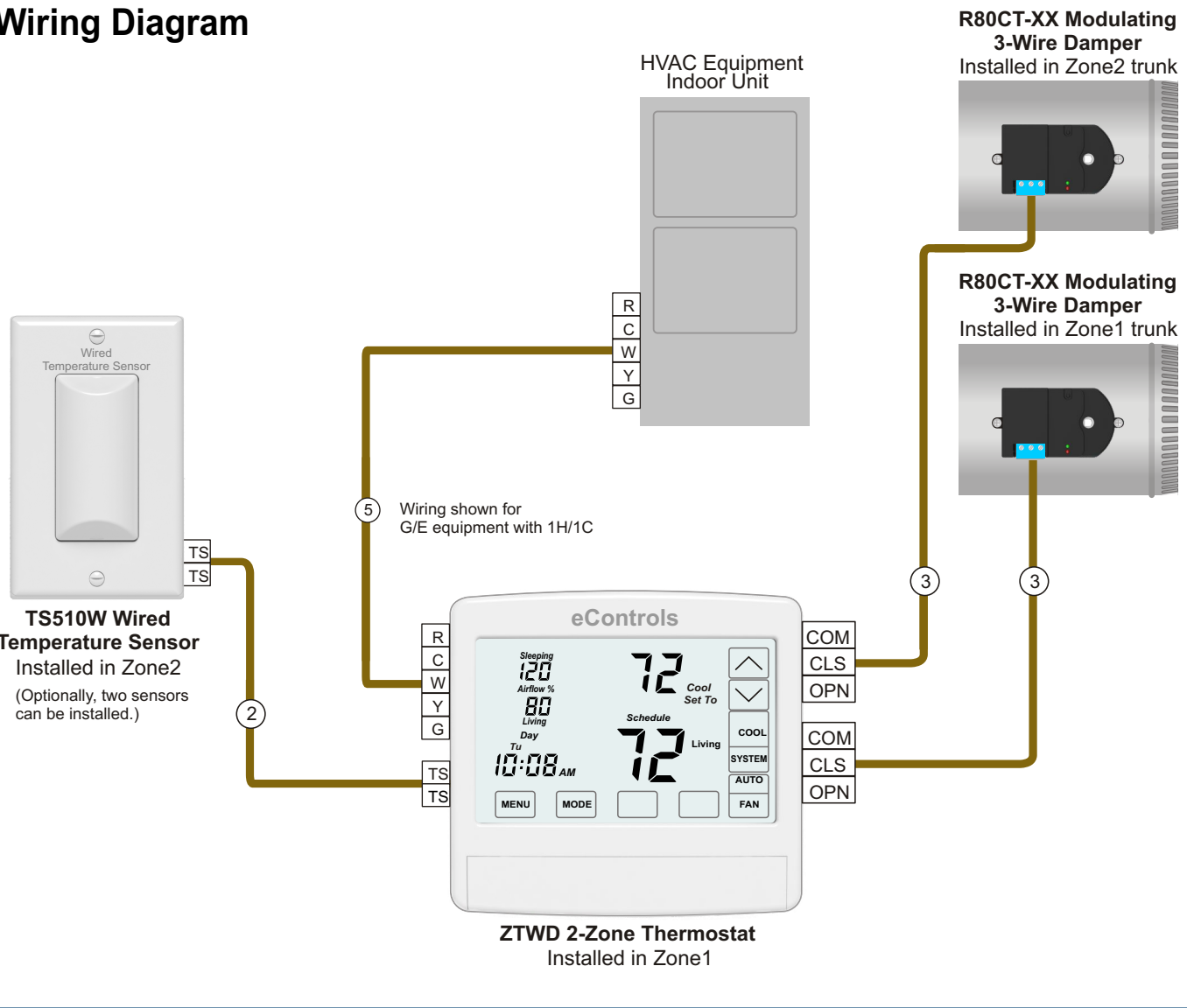
The ZTWD Thermostat with integrated equipment and 2-Zone Comfort Control automatically controls the distribution of heating and cooling to provide a balanced, uniformly comfortable home.

- ▶ Eliminates Bypass
- ▶ Eliminates DAT sensor and separate 24VAC transformer.
- ▶ About half the material cost of zoning
- ▶ About half the installation time of zoning.
- ▶ Non-WiFi and WiFi models available.

Proudly designed, engineered  
and assembled in the USA



# Wiring Diagram



## Installation

Typical installation includes two round R80CT or rectangular RT80CT Modulating 3-Wire Dampers installed in the trunks feeding the upstairs and downstairs zones.

The low cost TS510W Wired Temperature Sensor is installed in the upstairs zone and wires to the ZTWD Thermostat. Optionally, two TS520W wired sensors can be installed in the upstairs zone and the temperatures are averaged. One sensor wires to the ZTWD thermostat and the second sensor wires to the first sensor.

The ZTWD 2-Zone Programmable Thermostat is installed in the downstairs zone and is wired to gas/electric equipment with 1H/1C, 2H/1C or 1H/2C, or heat pump equipment with 2H/1C or 1H/2C for 24VAC power and to control the equipment. The upstairs and downstairs dampers wire to the ZTWD Thermostat, each damper using a 3-wire connection.

## How It Works

The ZTWD Thermostat monitors the downstairs temperature at its location and the upstairs temperature at the sensor during heating and cooling calls.

If the upstairs and downstairs temperatures differ by 2 degrees or more, the ZTWD automatically distributes 2% more heating or cooling to the zone that needs it every 2 minutes.

To distribute more heating or cooling upstairs, the upstairs damper fully opens and the downstairs damper partially closes, forcing more heating or cooling to the upstairs zone. To distribute more heating or cooling downstairs, the downstairs damper fully opens and the upstairs damper partially closes, forcing more heating or cooling to the downstairs zone.

The ZTWD system dynamically adjusts the dampers to find the right distribution of heating and cooling to provide a comfortable home and save energy in every season.

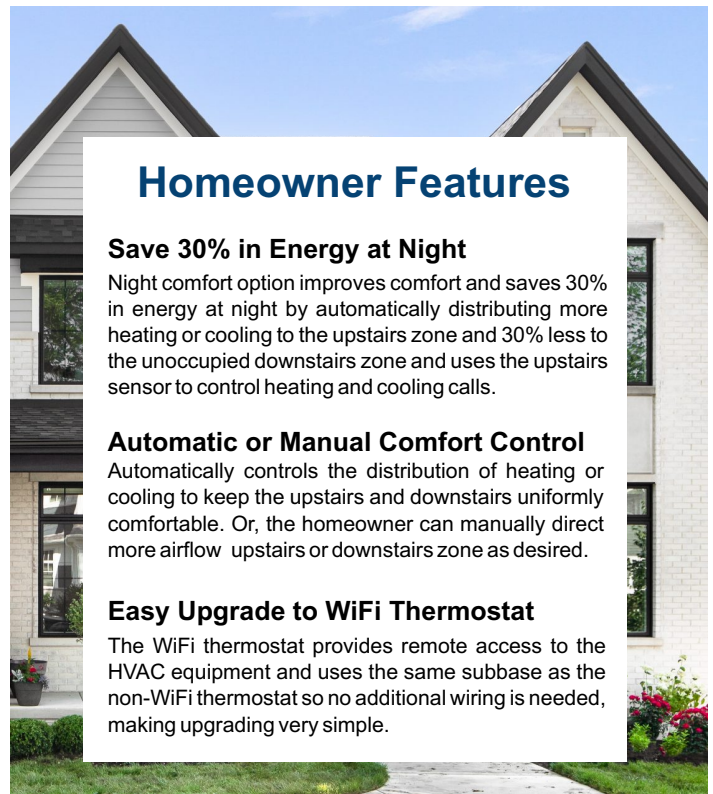
# Comparison to Zoning

	ZTWD Control	Traditional Zoning
Install Bypass Duct and Damper	Not Required. Modulating dampers never close.	May be required or in-zone bypass damper may be used.
Bypass Calibration and Test	Not Required.	Requires testing and setting of bypass.
Install Zoning Panel	Not Required.	Install Zoning Panel. Connect 23-25 wires.
Line Voltage Wiring	Not Required. Uses equipment 24VAC.	Required for 24VAC transformer.
Install 24VAC Transformer and Box	Not Required. Uses equipment 24VAC.	Required.
Install and wire DAT sensor in plenum	Not Required. Discharge air temperatures are not affected by modulating zoning.	Required.
Wire Dampers	Required.	Required.
Install Thermostat Downstairs	Required.	Required.
Install Thermostat Upstairs	Install wired sensor - 2 Wires	Required. 5 Wires
HERS Testing	Only 1 HERS test required.	Requires three airflow tests - Each zone open, closed and both zones open.



**Easiest to Install 2-Zone System Available**

- ▶ No Bypass to Install
- ▶ No Bypass to Calibrate and Test
- ▶ Only 13 Wires to Connect vs. 23-25 Wires
- ▶ No DAT Sensor to Install
- ▶ No 24VAC Transformer to Install
- ▶ Only 1 HERS Test vs. 3 Tests



**Homeowner Features**

**Save 30% in Energy at Night**  
Night comfort option improves comfort and saves 30% in energy at night by automatically distributing more heating or cooling to the upstairs zone and 30% less to the unoccupied downstairs zone and uses the upstairs sensor to control heating and cooling calls.

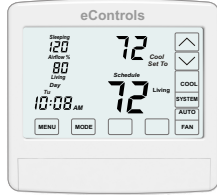
**Automatic or Manual Comfort Control**  
Automatically controls the distribution of heating or cooling to keep the upstairs and downstairs uniformly comfortable. Or, the homeowner can manually direct more airflow upstairs or downstairs zone as desired.

**Easy Upgrade to WiFi Thermostat**  
The WiFi thermostat provides remote access to the HVAC equipment and uses the same subbase as the non-WiFi thermostat so no additional wiring is needed, making upgrading very simple.

## Ordering Information

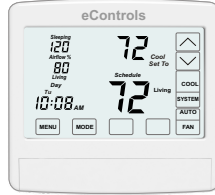
### ZTWD

Programmable Thermostat with Integrated Equipment and 2-Zone Comfort Control



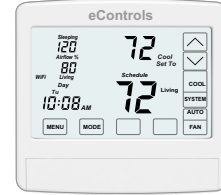
#### ZTWD11

For Gas/Electric equipment with 1H/1C.



#### ZTWD21

For Gas/Electric or Heat Pump equipment with 2H/1C or 1H/2C.



#### ZTWD21WF

For Gas/Electric or Heat Pump equipment with 2H/1C or 1H/2C. WiFi provides remote access.

### TS510W

Wired Temperature Sensor

For single sensor installations.



### TS520W

Wired Temperature Sensors

For dual sensor installations. Includes two sensors.



### R80CT-XX

Round, Modulating, 3-Wire. Available in 6-20 inch diameters.



### RT80CT-XX

Rectangular, Modulating, 3-Wire Damper. Call for available sizes.



## Other Zoning Products



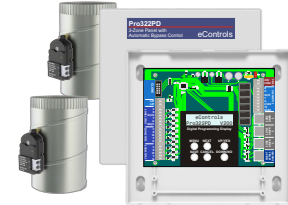
#### ZCDWLR

2-Zone automatic comfort control. Eliminates bypass, DAT sensor and separate 24VAC transformer.



#### Model ZCMWL

2-Zone manual comfort control. Eliminates bypass, DAT sensor and separate 24VAC transformer.



#### Pro322PD

Low cost 3-Zone panel with automatic bypass control, on-panel display and cloning feature. For gas/electric or heat pump equipment w/ 2H/2C.

### Where to Purchase

Available through distribution.

### Contact Information:

949-916-0945

Sales@eControlsUSA.com

Visit [eControlsUSA.com](http://eControlsUSA.com) to see other 2-Zone Comfort Controls and Zone Panel solutions.

### Limited 5-Year Warranty

The 5-year warranty is limited to the repair or replacement of defective product due to parts failure or defective workmanship.



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