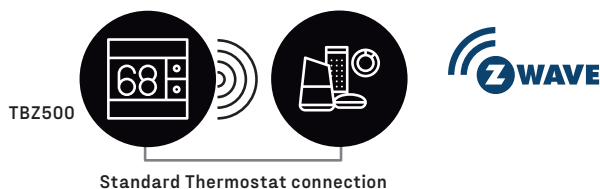# Z-Wave® Thermostat
TBZ500

Manage Comfort and Energy Savings

An energy-efficient home saves money and helps the environment. Upgrading to the TBZ500 thermostat will allow your customers to improve their energy saving and increase the comfort of their home. The TBZ500 is a wireless Z-Wave® thermostat designed to control most HVAC systems including standard gas/electric type heat pump systems and supports both 24VAC and battery operation for home automation and pro security applications. The TBZ500 thermostat is a reliable and affordable solution that will allow your customers to easily control and manage their energy usage especially when remote monitoring is preferred.

Home Automation & Pro Security

Updating to a TBZ500 thermostat is one of the easiest and most cost-effective upgrades consumers can make to increase their home's energy efficiency. Pro security dealers will appreciate how easy the TBZ500 wireless digital thermostat is to pair to major security systems, remote management applications and smart hubs within the Z-Wave® ecosystem. Homeowners will benefit from greater control of their energy usage and remote access to manage and monitor the home's temperature anytime, anywhere.

Z-Wave® communications

Standard Thermostat connection

Product USPs

User friendly

Central control

Device management

¹ Z-Wave® and Z-Wave Plus® are registered trademarks of Sigma Designs and its subsidiaries in the United States and other countries.

Features

- Z-Wave Plus® Certified, S2 Security
- FW update via Z-Wave® OTA
- Standard gas/electric HVAC Systems: 2-stage heating, 2-stage cooling
- Heat Pump HVAC Systems: 3-stage heating, 2-stage cooling
- Fan system: Selectable for gas or electric heat systems
- Heat Pump Change Over valve (reversing valve): Selectable for change over with heat or change over with cool (O or B output)
- Emergency Heat: In Heat pump mode, Emergency Heat mode is selectable from the thermostat
- Compressor short cycle protection delay of 5 minutes (adjustable)
- Backlit fixed 128 segment B/W LCD with 7-character Message Bar

Compatible Panels*

Honeywell — Honeywell Lynx Touch 5200/7000/Vista20p + VAM/Vista 128BPT + Tuxedo Touch

Qolsys QUALITY OF LIFE — Qolsys IQ/IQ2

2GIG — 2GIG EDGE/GC3e/GC2e/GC3/GC2

interlogix — Interlogix Simon XT/XTi5

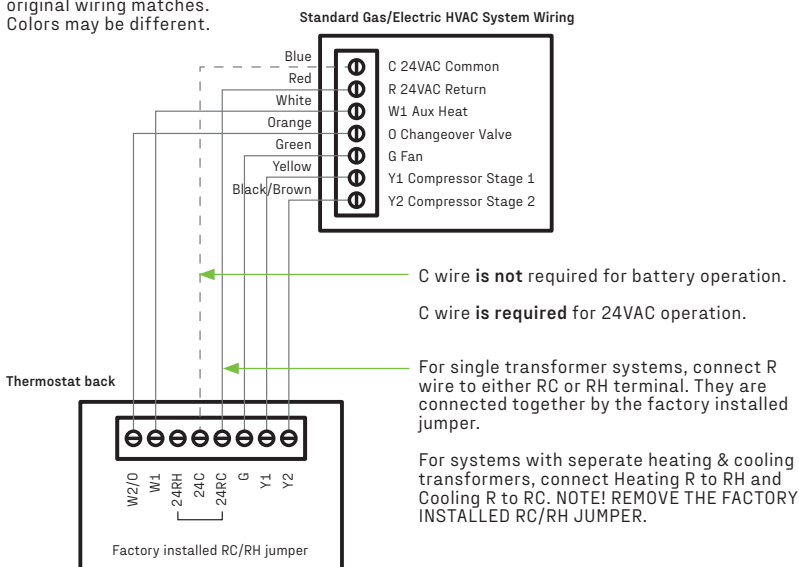**Works with SmartThings** — Samsung SmartThings Hub

Typical thermostat wiring colors. Caution: verify that original wiring matches. Colors may be different.

Standard Gas/Electric HVAC System Wiring

Color	Terminal
Blue	C 24VAC Common
Red	R 24VAC Return
White	W1 Aux Heat
Orange	O Changeover Valve
Green	G Fan
Yellow	Y1 Compressor Stage 1
Black/Brown	Y2 Compressor Stage 2

C wire **is not** required for battery operation.

C wire **is required** for 24VAC operation.

For single transformer systems, connect R wire to either RC or RH terminal. They are connected together by the factory installed jumper.

For systems with seperate heating & cooling transformers, connect Heating R to RH and Cooling R to RC. NOTE! REMOVE THE FACTORY INSTALLED RC/RH JUMPER.

Thermostat back

W2/O W1 24RH 24C 24RC G Y1 Y2

Factory installed RC/RH jumper

Specifications

Flexible Power
- Battery
  - 24-month battery life with four (4) AA Alkaline batteries
  - Low Battery Indication
- Powered
  - Hardwired 24VAC

  Note: 24V operation requires both 24VAC (R) and 24VAC common (C) wires from the HVAC System

Sensors
- Temperature/Humidity
- Z-Wave® remote temperature sensor

Fan Control
- Fan can be configured on and auto (controlled by HVAC)

Wiring Requirements
- Uses standard thermostat connections (C, RC, RH, W1,W2/O, Y1, Y2, G) - 18 AWG

Compliance
- USA: FCC Compliant to CFR47, Part 15B
- Canada: Industry Canada RSS 210, Issue 8

* Tested with the below four functions:

Learn In: the ability to learn in the device under test into the controller, hub, security panel, etc. up to and including the S2 SDK if so equipped.

Local Control: the ability to control the device under test from the controller, hub, security panel, etc., using the user interface of that device if so equipped.

Battery Status (Local/APP): the proper and correct reporting of battery status of the device under test, to the controller, hub, security panel, etc., and said status to be viewable locally or remotely if so available

Remote Control via Backend: the ability to control the device under test from a remote or desktop application if so available.

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