



Wirsbo Thermostat

Did you know that...

Wirsbo Thermostats are the first digital thermostats designed specifically for use in hydronic radiant heating applications. Wirsbo currently provides two models of thermostats: Heat only (A3030101) and Heat and Cool (A3030102).

What it Does

The Wirsbo Thermostats are parasitic, or power-stealing thermostats. They are designed to operate in heating mode over two wires. The thermostat gets its power for operation from stealing voltage off the connected wiring. This eliminates any need for a third wire or batteries, which makes it simple to install, wire and service.

How it Works

The dynamics of a radiant heating system differ from typical baseboard or warm air heating systems. Radiant systems always heat objects and mass, and need to be addressed differently than conventional thermostat logic. The Wirsbo Thermostats offer two different control methods to handle this condition — differential and pulse width modulation.

Differential

When the measured room temperature falls 1°F (0.5°C) below the desired room setting, the control devices wired to the thermostat turns on.

Pulse Width Modulation (PWM)

When the condition exists where the room temperature is 1 to 3°F (0.5 to 1.5°C) below the room setting, the thermostat manages the on and off cycle using PWM. The on and off times vary depending on the difference between room and set temperatures. The further away from setpoint, the longer the on time. This prevents the room temperature from rising above the set temperature. The heating system runs continually at room temperature differences greater than 3°F.

Digital Filtering

The Wirsbo Radiant Thermostats also feature digital filtering. This means that the thermostat measures the room temperature continually. The thermostat's sensor detects even the smallest change, making it better able to react to a room's changing conditions. If all the room's temperatures were displayed as they are sensed, the temperatures shown would appear erratic and inconsistent. Filtering works by throwing out the values that do not make sense to ensure the display and operation become smoother.



RADIANT FLOORS
COMFORT HEATING





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Note: The Wirsbo Thermostats are designed and tested to work effortlessly with other Wirsbo components. Some commonly used third-party control devices (relays, zone valves, etc.) have compatibility issues with power-stealing thermostats in general. If the Wirsbo Thermostat is connected to a third-party control device, refer to the third-party device operation and installation manual for specific instructions for installation with power-stealing thermostats. For the most common applications, review the schematics below. Wirsbo Thermostats require minimum current to operate correctly. A 1,000-ohm, 0.5-watt resistor is included in this package and may be required to make third-party devices operational. For additional help, please call Wirsbo Technical toll free @ (888) 594-7726.

Typical Wiring Schematic

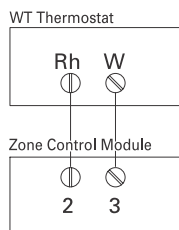


Fig 1: Typical hook up using Zone Control Module

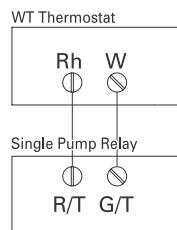


Fig 2: Typical hook up using Single Pump Relay

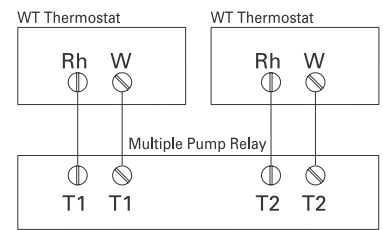
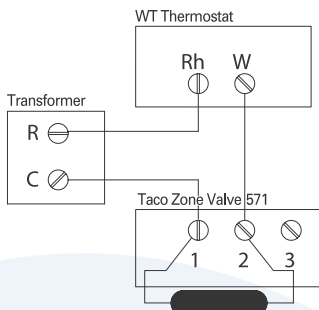


Fig 3: Typical hook up using Multiple Pump Relay



0.5 Watt, 1K Ohm Resistor included in this package
Fig 4: Typical hook up using Taco 571 Zone Valve

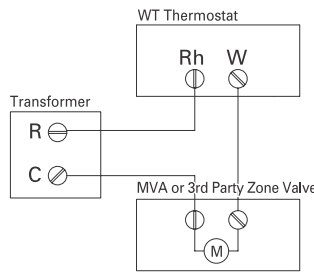
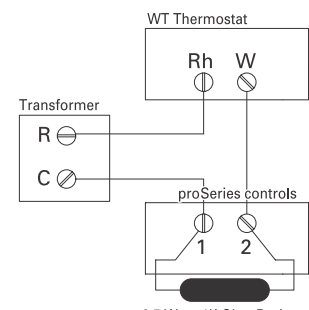


Fig 5: Typical hook up using MVA or 3rd party Zone Valve



0.5 Watt, 1K Ohm Resistor included in this package
Fig 6: Typical hook up using proSERIES controls

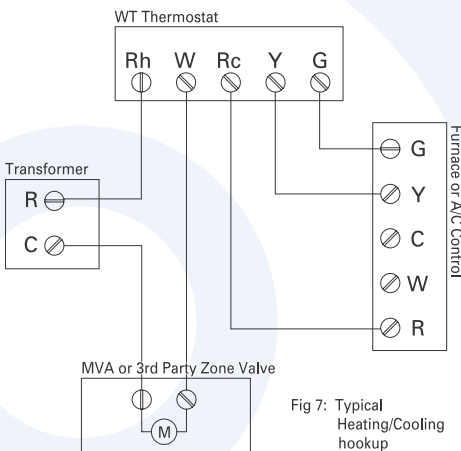


Fig 7: Typical Heating/Cooling hookup

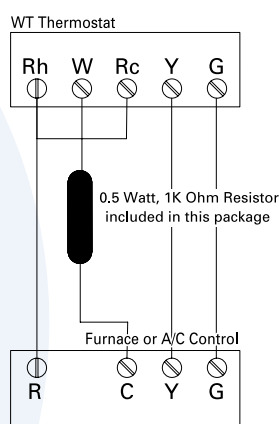


Fig 8: Typical hook up using Cooling Only

SPECIFICATIONS

- **Operating Voltage** 24VAC +/- 10%
- **Maximum Load** 1.3A at 24VAC
(4 MVAs, p/n A3020522)
(6 TVAs, p/n A3010522)
- **Display Range** 32 to 99°F (0 to 37°C)
- **Setpoint Range** 40 to 99°F (4 to 37°C)
- **Resolution** 1° Displayed
0.25° Calculated
- **Size** 5.0"H x 2.72"W x 0.91"D