FEATURES

- **Easily mounts in furnace control box**
- **Output LED indication for fan, heating, & cooling**

APPLICATIONS

- **The WAM2/4 allows HVAC contractors to re-use the existing 2 wire thermostat cable on air conditioning and furnace retrofits where installing a 4 wire cable would be required.**

DESCRIPTION & OPERATION

The WAM2/4 re-uses the existing 2-wire cable instead of needing a new 4-wire cable for heating/ cooling retrofits. It mounts in the furnace control box, gets its power from the existing 24VAC transformer and puts out heat, cool, and fan relay contact closures simultaneously with the heating/ cooling thermostat operation. The new heating/ cooling thermostat should be the battery powered electronic type. The conventional switch action thermostat has heating and cooling anticipators which will have their action bypassed, which could cause wide temperature swings.

The WAM2/4 uses a signal combining network with four wires to connect to the heat (W), cool (Y), and fan (G) terminals on the new thermostat. It combines the contact closure signals from the thermostat onto the existing two wires (one side of the 24VAC transformer and the WAM2/4 signal input wire). The WAM2/4 module reads these combined signals and operates internal relays to provide contact closures for the heat, cool, and fan 24VAC relay loads. An open in the 2 wire cable prevents the WAM2/4 from turning any outputs on. A short in the 2 wire cable causes the cooling and fan outputs to stay on continuously.

If a conventional switching type thermostat is used, (not recommended), the cooling anticipator resistor must be clipped out of the thermostat circuit because it will cause erroneous signals and faulty operation.

Warning: Connecting 24VAC to the new thermostat or the WAM2/4 module on the signal input should be avoided as it could damage the WAM2/4 module.

The WAM2/4 includes:

1 – WAM2/4
1 – Signal combining module
1 - #6 x 1.25” sheet metal screw
2 – Wire nuts

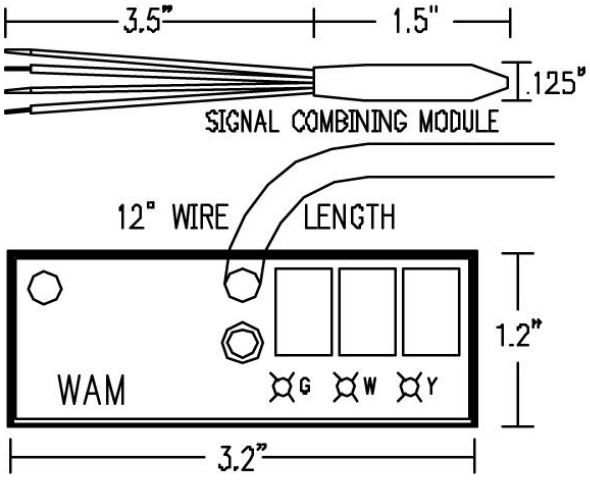
SPECIFICATIONS

SIZE:	3.20”L x 1.20”W x .85”H
MOUNTING:	Double stick tap or 1” #6 sheet metal screw (included) 2 wire nuts (included)
POWER:	24VAC, ± 15%, 50/60Hz, .5VA
INPUT SIGNALS:	DC voltage from 4 wire combining network
OUTPUT SIGNALS:	Switched 24VAC for: Fan, heat, & cooling. Relay contacts rated for: 1 Amp @ 120VAC

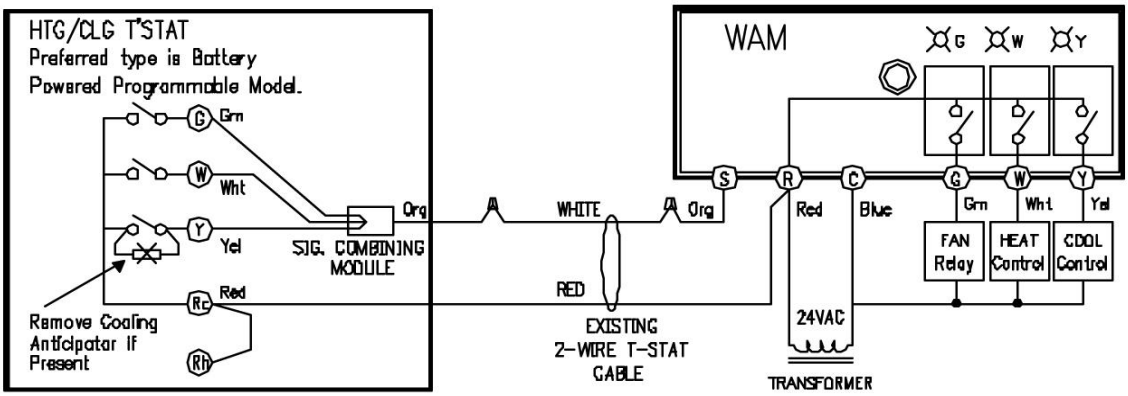
ORDERING INFORMATION

WAM2/4 - Wire Adder Module 2 / 4

PHYSICAL CONFIGURATION



INSTALLATION WIRING DIAGRAM



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INSTALLATION INSTRUCTIONS

1. Turn off power to the 24VAC transformer and Install the WAM2/4 module inside the furnace control box using either the double stick tape or the sheet-metal screw thru the mounting post in the middle of the WAM2/4.
2. Connect the wires to furnace controller as shown in the above diagram.
3. Install the new Battery Powered thermostat and connect up the signal combining module to the thermostat terminals and existing 2-wire cable as shown in the wiring diagram. If necessary push the signal combining module back into the wall.
4. Power up the 24VAC transformer and switch the fan to “manual,” the fan output on the WAM2/4 module should energize the fan relay while the green LED lights.
5. Switch the fan back to auto and operate the thermostat to call for heating and then cooling. Verify that the heating output works along with its red LED lighting. Verify the yellow LED lighting while the cooling output is energized.
6. Switch the fan to manual and verify that the heating and cooling outputs operate while the fan runs continuously.
7. If using a conventional switch action thermostat, make sure to remove the cooling anticipator resistor as it will cause erroneous signals and faulty operation.
8. ***DO NOT CONNECT 24VAC TO THE WAM2/4 BROWN SIGNAL WIRE, IT MAY DAMAGE UNIT!***

TROUBLE SHOOTING

Problem: Module does not operate.

Solution: ***Verify*** that 24VAC is present (red/ blue wires) from transformer.

Verify that the 2 wire cable is not open.

Verify that there is a DC voltage between brown and red wires at WAM, if no DC voltage, need to replace WAM2/4 and signal combining module.

Remove signal combining module from the thermostat or use a new combining module and connect directly to the WAM2/4 module at the furnace, brown wire to brown wire. Make sure the cable going to the thermostat is disconnected. Alternately touch the combining module’s green, white and yellow wires to the red wire side of the transformer and verify that the module turns on the appropriate output. If unit works, possible problem with T-stat, verify at furnace. If WAM2/4 doesn’t work then replace defective WAM2/4 module and signal combining module.

Problem: Module turns on cooling and fan outputs continuously independent of the thermostat operation.

Solution: Using an Ohm meter, look for a short in the 2-wire T-stat cable or a short in the wiring between the T-stat and signal combining module.