

User Guide

Viega Pump and Boiler Relay



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Viega products are designed to be installed by licensed and trained plumbing, mechanical, and electrical professionals who are familiar with Viega products and their installation.

Installation by non-professionals may void Viega LLC's warranty.

Installation

Wiring connections must be made in accordance with all applicable electrical codes. Use copper wire only. Failure to follow this instruction can result in personal injury or death and/or property damage. A 12-18 gauge wire is recommended for all 120 VAC connections with 9 in. lbs. max torque, 14-22 gauge wire for thermostat connections with 9 in. lbs. max torque. The 120 VAC wiring must have a minimum temperature rating of 75°C.

Jumper Placement

The jumper is factory installed between terminals H and 3 to switch power on terminals 4 n/o and 4 n/c.

Dimensions

Width	4 $\frac{7}{8}$ "
Height	5 $\frac{5}{8}$ "
Depth	2 $\frac{3}{8}$ "

Wiring

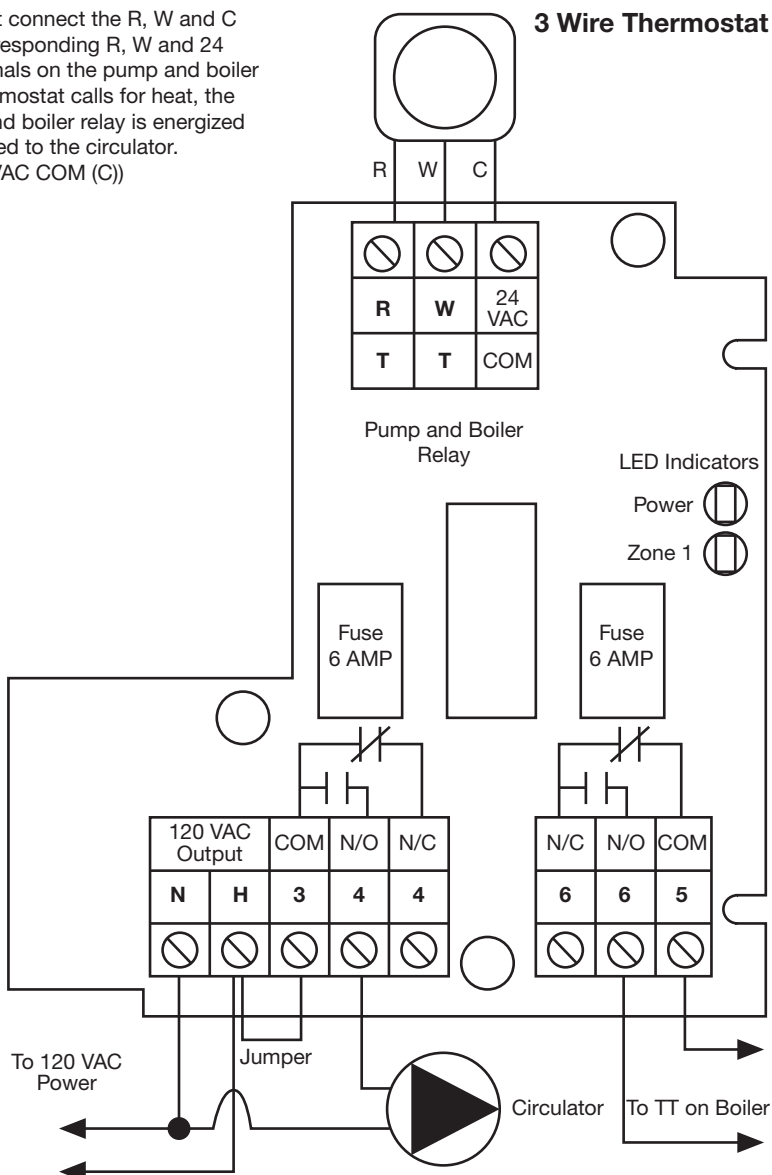
Terminal Identification

TT (RW)	Zone control or thermostat connection
24v COM	Common side of 24V transformer, for 3-wire thermostats
N	Neutral wire of power input (120 V)
H	Hot wire of power input (120 V)
3	Common terminal for 4 n/o and 4 n/c
4 n/o	Normally open terminal
4 n/c	Normally closed terminal
6 n/o	Normally open terminal
6 n/c	Normally closed terminal
5	Common terminal for 6 n/o and 6 n/c

Wiring Diagram #2 - Viega Digital Thermostat


Part Numbers: 18050


From the thermostat connect the R, W and C terminals to the corresponding R, W and 24 VAC COM (C) terminals on the pump and boiler relay. When the thermostat calls for heat, the relay in the pump and boiler relay is energized and power is supplied to the circulator. (R=R, W=W, C=24 VAC COM (C))

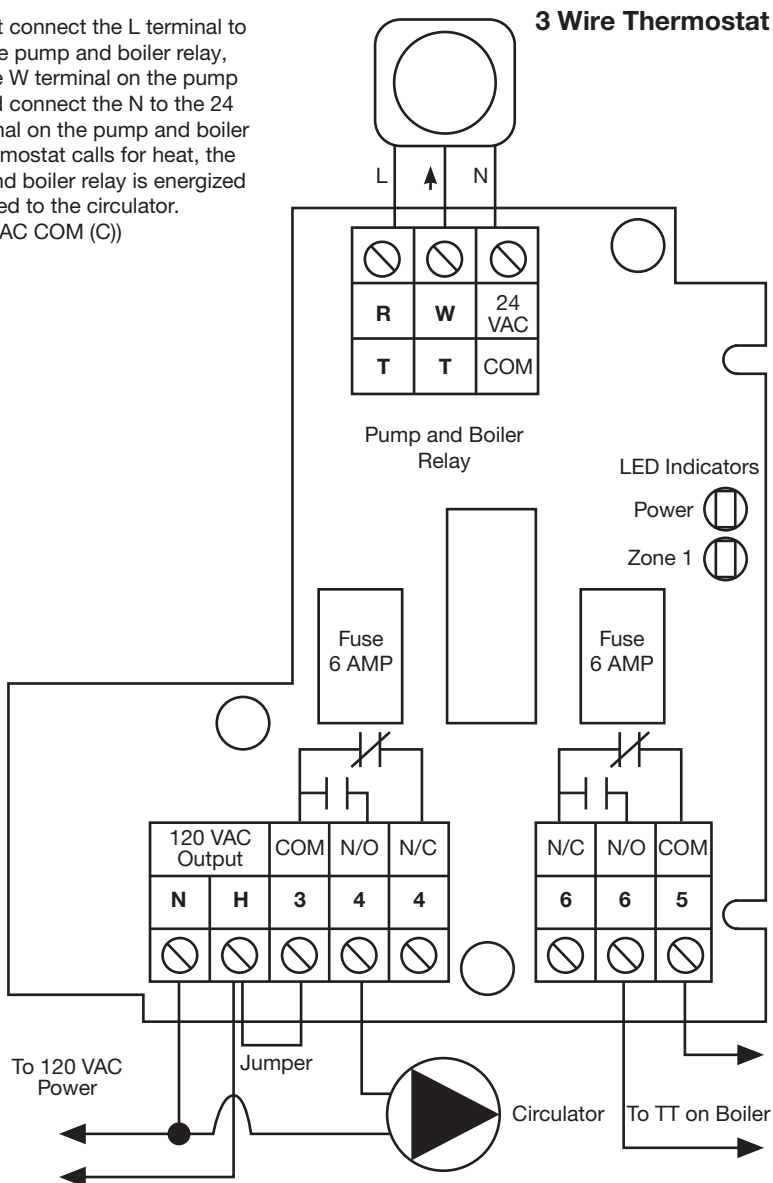


Wiring Diagram #3 - Viega Thermostat

Part Numbers: 18031, 18029

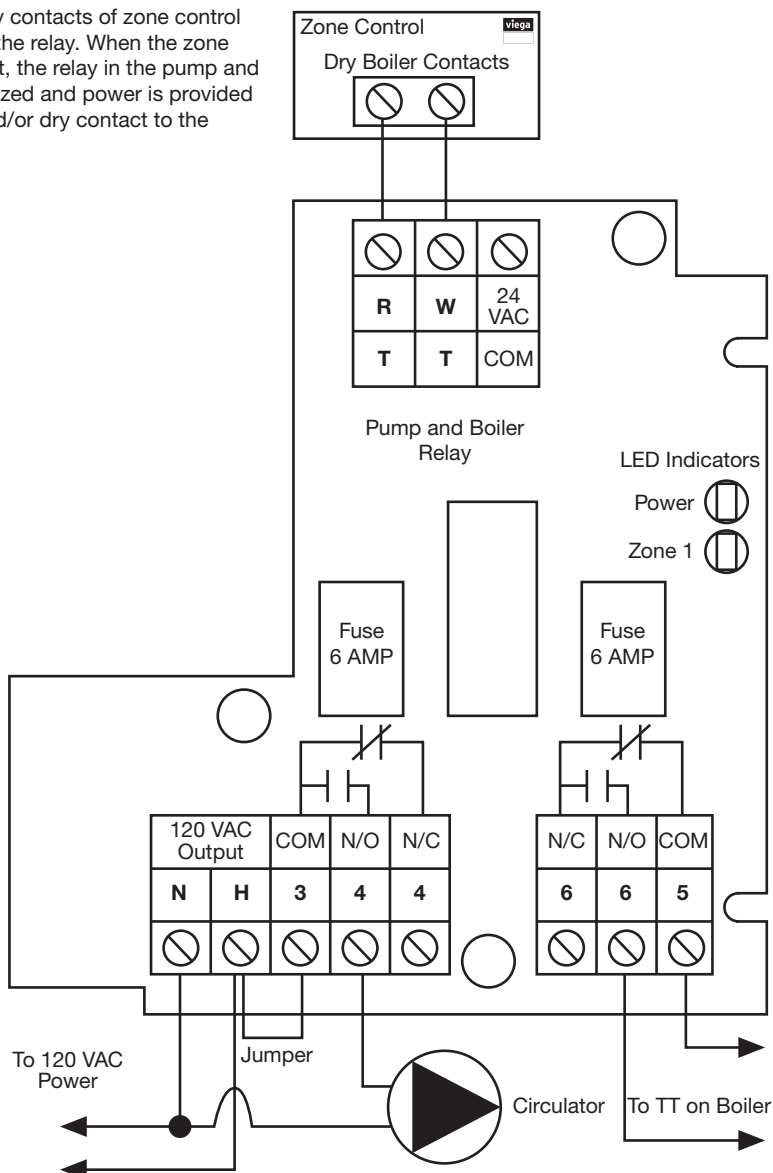
From the thermostat connect the L terminal to the R terminal on the pump and boiler relay, connect the  to the W terminal on the pump and boiler relay, and connect the N to the 24 VAC COM (C) terminal on the pump and boiler relay. When the thermostat calls for heat, the relay in the pump and boiler relay is energized and power is supplied to the circulator.

(L=R, =W, N=24 VAC COM (C))



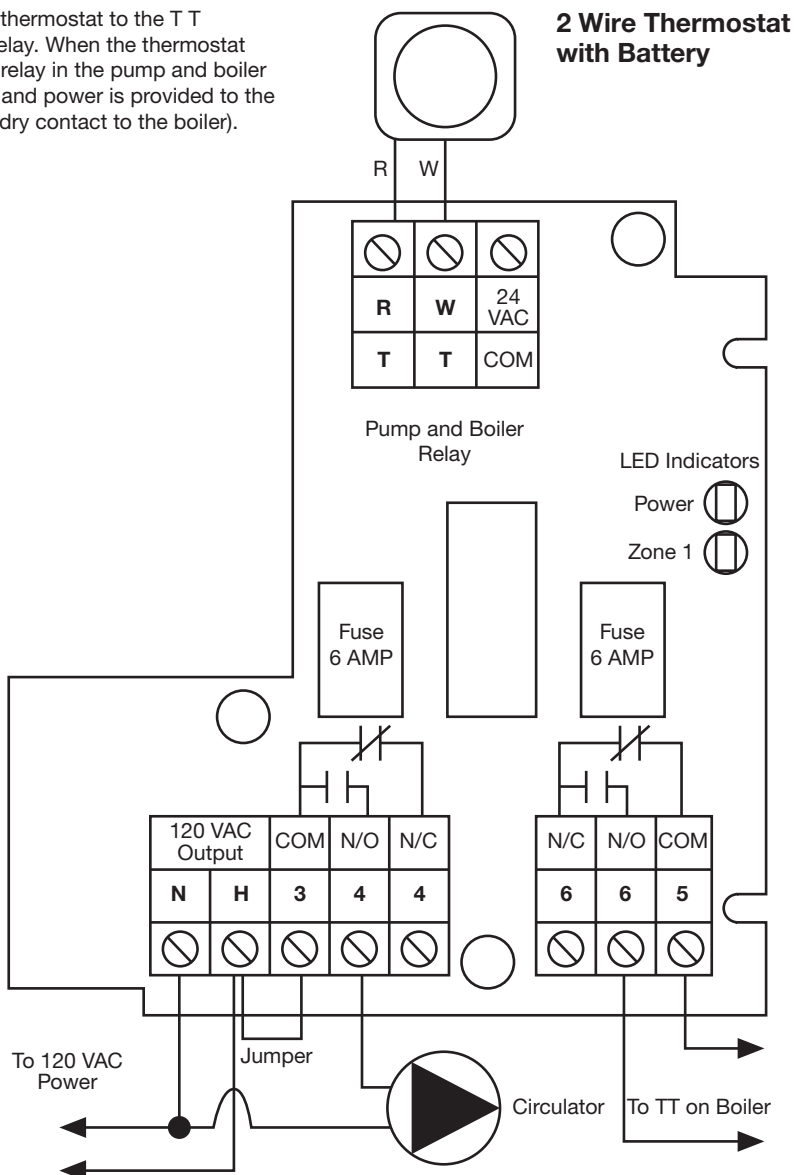
Wiring Diagram #4 - Zone Control

Connect pump relay contacts of zone control to T T terminals on the relay. When the zone control calls for heat, the relay in the pump and boiler relay is energized and power is provided to the circulator (and/or dry contact to the boiler).



Wiring Diagram #5 - 2 Wire Thermostat with Battery

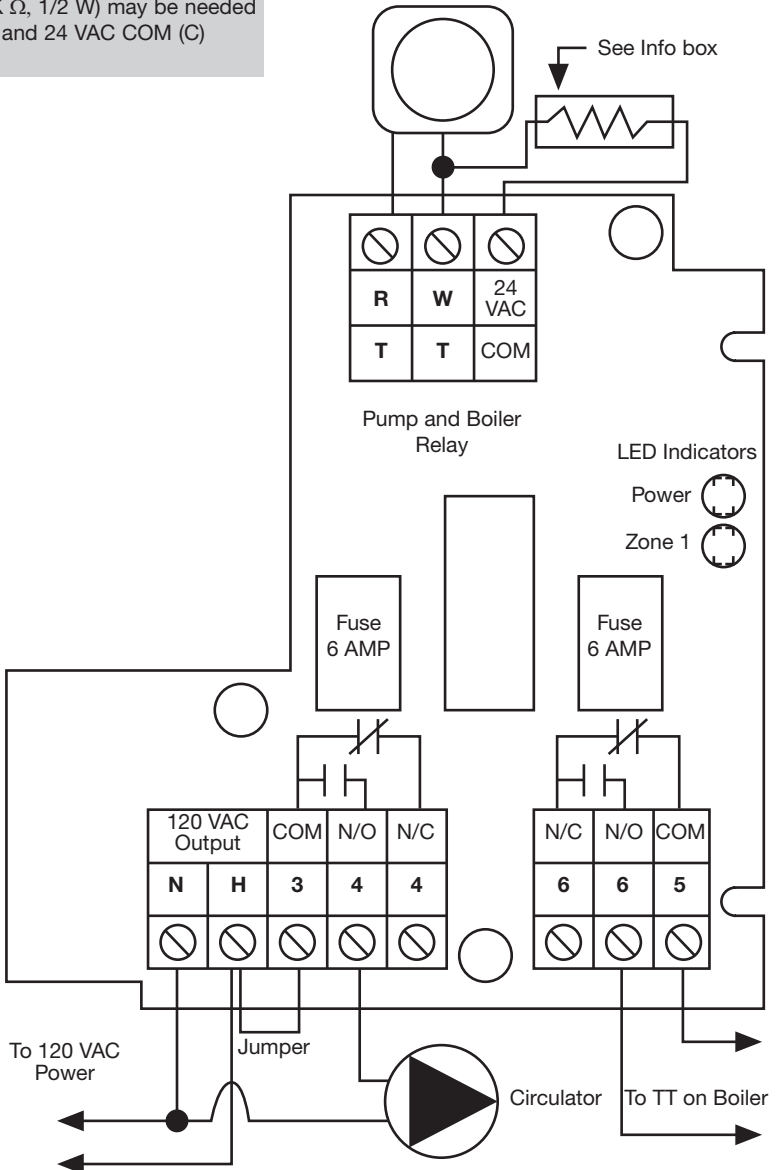
Connect a 2-wire thermostat to the T T terminals on the relay. When the thermostat calls for heat, the relay in the pump and boiler relay is energized and power is provided to the circulator (and/or dry contact to the boiler).



Troubleshooting: Power Stealing Thermostats



Resistor (1K Ω , 1/2 W) may be needed between W and 24 VAC COM (C)



Power Stealing Thermostats

Problem

- Some industry thermostats (non-Viega) do not work correctly when connected to a pump and boiler relay.

Solution

- Some thermostats are a "Power Stealing" type which means they are powered by the switching relay with just 2 wires (R & W). A resistor may be needed in order to have the thermostat work properly. This resistor should be placed between the W & C (common) terminals of the pump and boiler relay. If the thermostat manufacturer does not supply a resistor, the included resistor should be used (1000 ohm ½ watt). If the thermostat is battery powered, then check that the batteries are fresh and installed correctly.

The external indicator lights show full functionality of the pump and boiler relay. The green light should always be on, indicating that power is connected. If the green light is out check the power connections at terminals N and H.

The red light shows a call for heat, indicating that power is being supplied to the circulator (and/or a boiler enable signal is provided).

If the zone control or thermostat is calling for heat but the red light is out, check the thermostat wiring. If the red light is on but the circulator is not running, check the circulator connection to the relay.

Problem

- No heat in a zone or room of building.

Solution

- LED diagnostic lights will help find a component that is not working properly. The green LED should always be on, indicating that power is connected and the solid-state fuse is good. When there is a call for heat, the red LED will come on indicating power to the zone circulator. This indicates the thermostat is working correctly. If the red LED does not come on, then check the thermostat and thermostat wiring for errors.

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