

Z-one™ Relay Multi-zone valve switching

ZVR series



01286/14 NA



Certified to CSA C22-2 No.24
Conforms to UL Standard 873

Function

The ZVR series is a zone valve and boiler operating control for multiple zone hydronic heating systems. The ZVR series interfaces with low voltage thermostats, or any other low voltage controllers having a switching action. The ZVR series controls up to 6 zone valves, depending on model selected. In addition, a system pump and secondary pump is turned on whenever any zone calls for heat. A DHW primary pump can also be operated. LED indicators provide functional status and easy system troubleshooting.

Features

- Compatible with 2, 3 and 4-wire thermostats or other low voltage controllers with switching action
- 120 VAC input
- Heavy duty, sealed relays
- 3 pump outputs (120 VAC/5 A) and 3 to 6 (model dependent) zone valve outputs (24 V)
- Zone priority selectable with 1-hour time-out feature
- Convenient R,W,C and T,T,COM dual labeling at thermostat terminals
- System pump status (on/off) during priority selectable
- DHW (ZR/ZC) dry contacts rated for switching line voltage
- Replaceable, snap-fit 40 VA transformer on 3 & 4 zone models, expandable to 80 VA with 2nd transformer
- Two replaceable, snap-fit 40 VA transformers (80 VA) on 6 zone models
- Automatic resettable fuse on 24 V circuit
- Expandable to unlimited number of zones using simple 3-wire connection between controls
- Large screw terminals for ease of wiring. On-board ground terminals
- Front panel LED indicator light for functional status
- 100% factory tested with 3 year warranty
- ETL certified to CSA and UL standards

Product range

Code **ZVR103** Z-one™ Relay switching relays.....three zone
Code **ZVR104** Z-one™ Relay switching relays.....four zone
Code **ZVR106** Z-one™ Relay switching relays.....six zone

Technical specifications

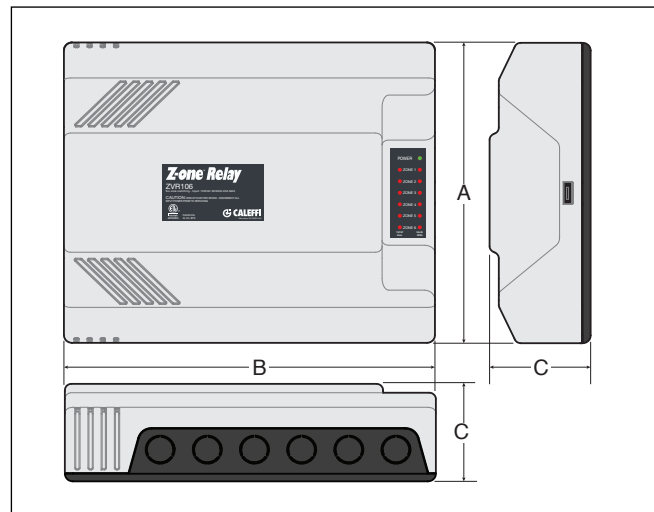
Materials

Housing plastic: ABS
Front display lights: LCD
Electrical knockouts (12) 1/2" size

Performance

Power supply: 120 VAC, 50/60 Hz
Transformer voltage: 24 VAC
Maximum transformer load: 40 VA (ZVR103/4), 80 VA (ZVR106)
Electrical switch rating: 20A Max combined
Electrical switch rating, ZR/ZC, DHW, XX: 120 VAC, 2A each
Electrical switch rating pumps: 120 VAC, 5A each
Resettable fuse: automatic
Temperature limits for:
Shipping and storage max: 110°F (43°C)
Maximum operating: 110°F (43°C)
Maximum humidity: 90% non-condensing
Approvals: ETL Certified to CSA C22-2 No.24, Conforms to UL873

Dimensions



Code	Zones	A	B	C	Wgt. (lbs)
ZVR103	3	9 1/4"	11"	3"	3.2
ZVR104	4	9 1/4"	11"	3"	3.2
ZVR106	6	9 1/4"	11"	3"	3.2

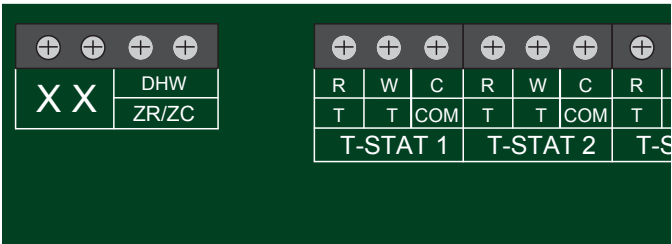
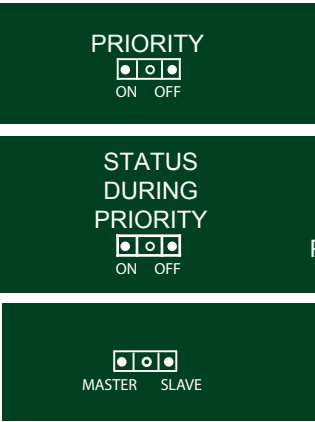
Operating principles

The jumpers on the ZVR series can be positioned for the following operations.

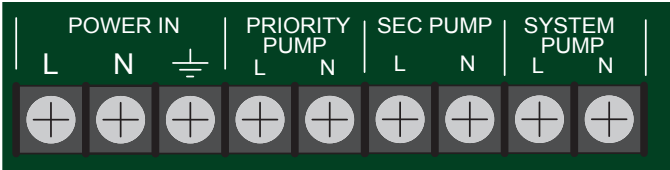
Priority ON / Priority OFF: When priority jumper is ON, upon demand, zone 1 will operate as priority and all other zones are temporarily switched off (with 1 hour time-out). When priority mode is OFF, any zones that were active when zone 1 was switched on will remain on.

Status During Priority ON / Status During Priority OFF: When status jumper is ON, the system pump will continue to operate during priority.

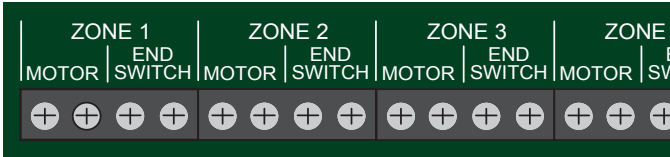
Master / Slave: allows for unlimited expansion to additional ZVR relays.



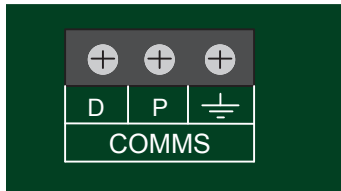
When a zone has a demand from a thermostat (T T or R W) the control will send 24 VAC to the corresponding zone valve. When the zone valve end switch closes, the primary pump will switch on and the (X X) dry contacts will close to signal the boiler of a heating demand. Zone 1 can be used for priority (either a priority pump or valve). When the priority jumper is ON, a demand from T-Stat1 will activate 24VAC to valve 1 and the priority pump will switch on after the end switch closes (requires a jumper if a valve is not used). The DHW (ZR/ZC) dry contact will also close. Depending upon "Status During Priority" jumper, the system pump will either be ON or OFF.



Larger screw terminals connections makes wiring easy with three pump screw terminal connections. Pump terminals connection have 120 VAC outputs for simplified pump connections. Zone valve connections can be 2, 3 or 4 wire.

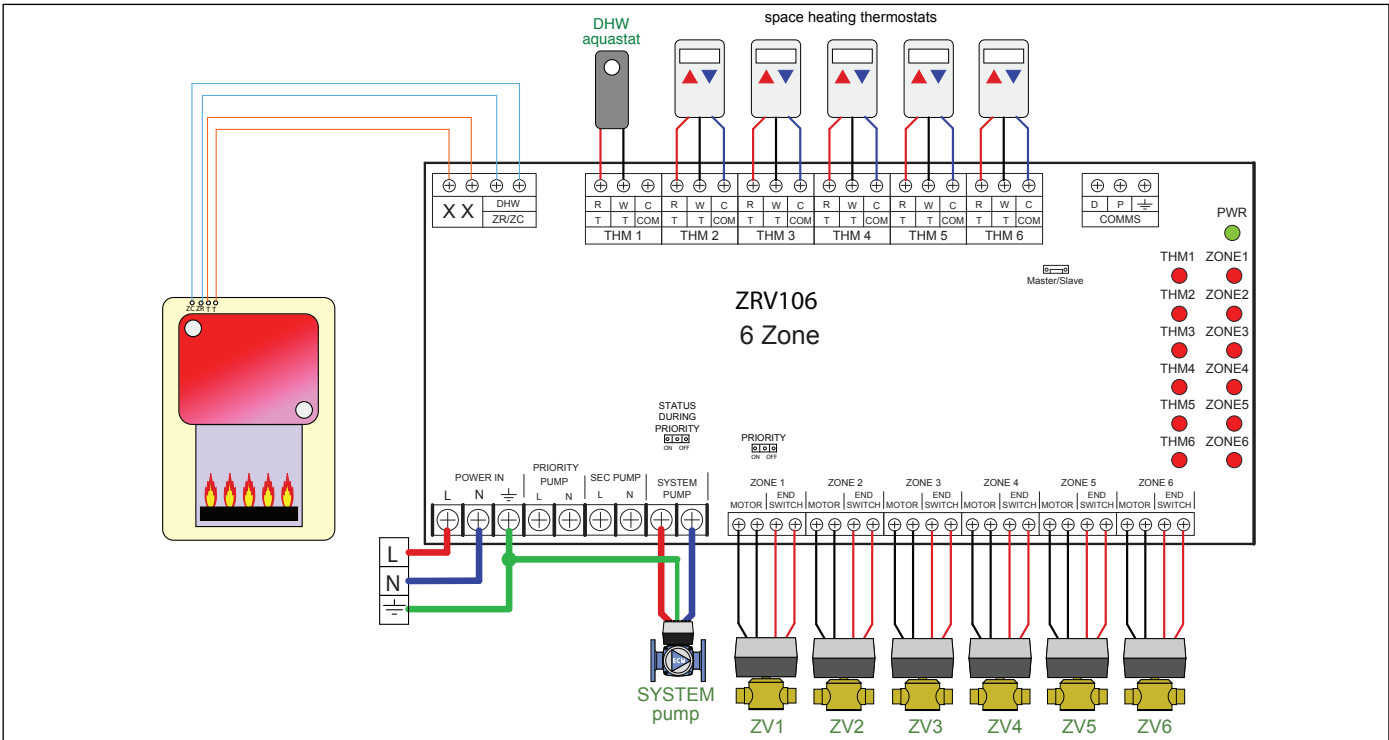


Z-oneLink unlimited expansion allows adding additional ZVR series relay controls to a Master ZVR. Communication is accomplished by connecting three wires (bell or thermostat wire) to the communication terminals located in the upper right hand corner.



The jumper is positioned to Master / Slave position. A demand for heat from any zone will fire the boiler and start the pump.

Wiring diagram (Illustrative example. Refer to Z-one™ Relay Wiring Guide for more system wiring diagrams.)



We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.



Caleffi North America, Inc.
3883 W. Milwaukee Road
Milwaukee, WI 53208
Tel: 414-238-2360 · Fax: 414-238-2366
sales@caleffi.com · www.caleffi.com/usa/en-us
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