

## Zone Control Relay

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### ZSR101 Series



#### Function

The ZSR101 single zone switching relay is operated by low voltage thermostats. The ZSR101 single zone switching relay incorporates Power In, Relay 1 and Relay 2 connection terminals to provide a convenient and cost effective way to control a circulator and a boiler operating control in a single zone hydronic heating system. The ZSR101 single zone switching relay saves hours in installation time and provide a clean and professional installation.

#### Features

- Compatible with low voltage 2, 3, or 4 wire thermostat
- R, W, C and TT Comm dual labeling at thermostat terminals
- 120 VAC pump outputs
- High capacity transformer
- Large screw terminal connections
- Simplified wiring with pre-installed jumper
- Heavy duty sealed relay
- Relay 1 and Relay 2 connection terminals
- Fuse protected relays (with spare fuse)
- Easy to read PC board layout
- Compact modern design
- Front LED Lights
- 100% Factory tested with 3 year warranty
- ETL Approved



Certified to C-•••G22-2 No.24  
Conforms to UL Standard 873

#### Product range

Code **ZSR101** Z-one™ Relay switching relay ..... single zone

#### Technical specifications

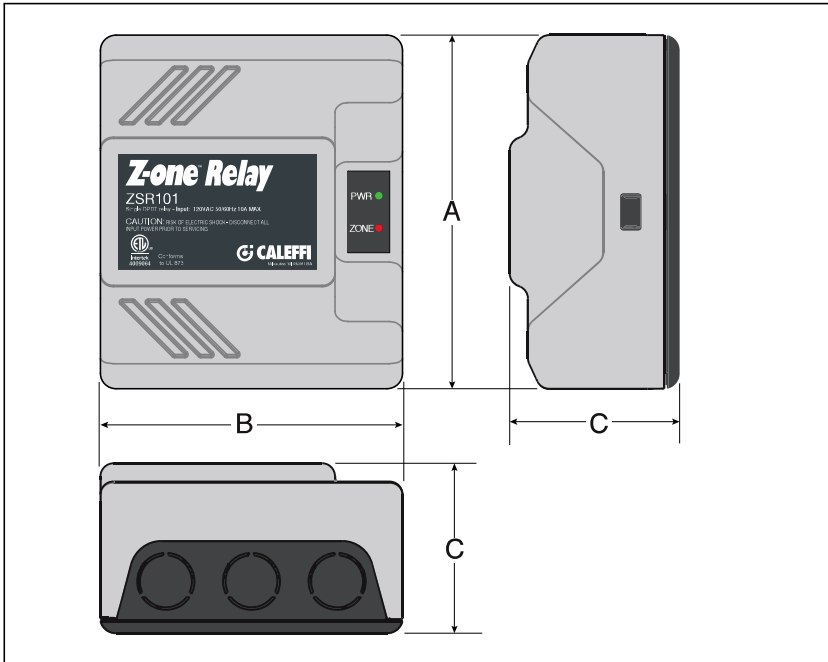
##### Materials

Housing plastic: ABS  
 Front display lights: LED  
 Electrical Knockouts: (6) 1/2" size

##### Performance

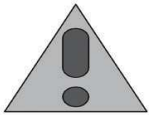
Power Supply: 120 VAC, 50/60 Hz  
 Transformer Voltage: 24 VAC  
 Maximum transformer load: 6 VA  
 Maximum operating temperature: 110°F (43°C)  
 Maximum Humidity: 90% non-condensing  
 Electrical Switch Rating: 10A Max Combined  
 Replaceable Fuses: Type 2AG, 5A Slow Blow  
 Approvals: Certified to CSA C22-2 No.24, Conforms to UL Standard 873

## Dimensions

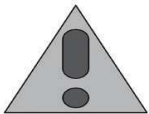


Code	Zones	A	B	C	Wgt. (lbs)
ZSR101	1	5 3/8"	4 5/8"	2 5/8"	1.1

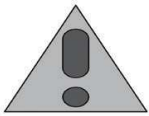
### SAFETY INSTRUCTION



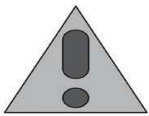
This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.**



**CAUTION:** All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes and ordinances.



**CAUTION:** Electrical shock hazard. Disconnect power before installation to prevent electrical shock or equipment damage. Make sure all connections are in accordance with the electrical wiring diagram and in accordance with national and local electrical codes.

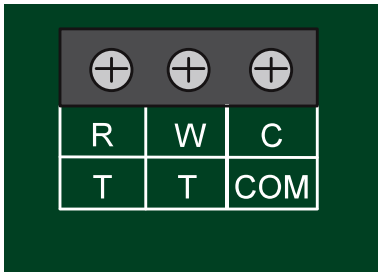


**WARNING:** Avoid electrical noise interference. Do not install near large conductors, electrical machinery, or welding equipment. Avoid locations where excessive moisture, corrosive fumes, vibration, or explosive vapors are present.

Caleffi shall not be liable for damages resulting from stress corrosion, misapplication or misuse of its products.

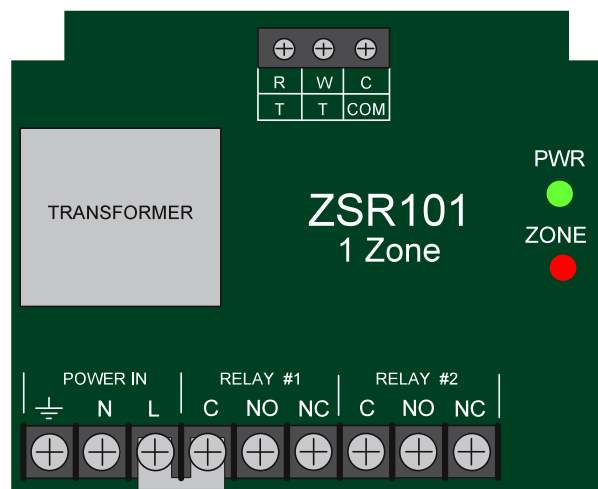
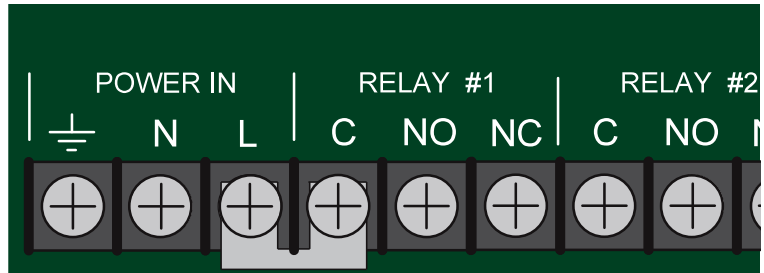
## Operating principles

When a zone has a demand from a thermostat (T T or R W) the relay will close sending 120 VAC to Relay 1 NO terminal switching ON the pump, Relay 2 closes C to NO dry contact, signaling the boiler of a heating demand.

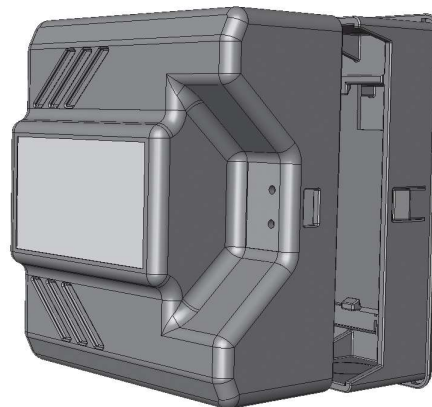
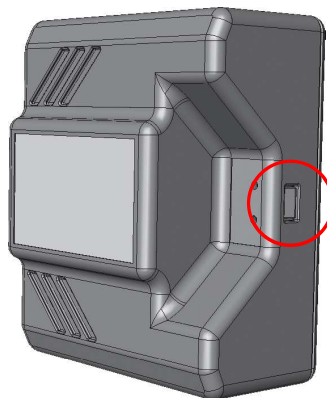


R, W, C and T T Comm dual labeling at thermostat terminals. Compatible with low voltage 2, 3, or 4 wire thermostats or any other low voltage devices having a switching action.

Supply 120 VAC hot to terminal L and 120 VAC neutral to N. A factory installed jumper from L terminal to the C terminal of Relay 1 is supplied for simplified pump connection.

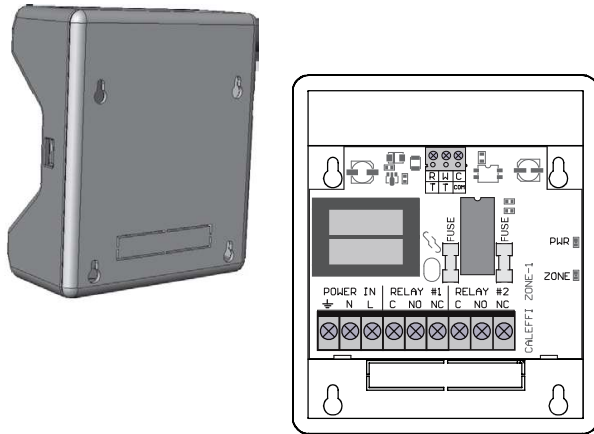


## Cover removal



- Insert flat head screwdriver into open tab.
- Repeat on opposite side.
- Pull cover straight off.

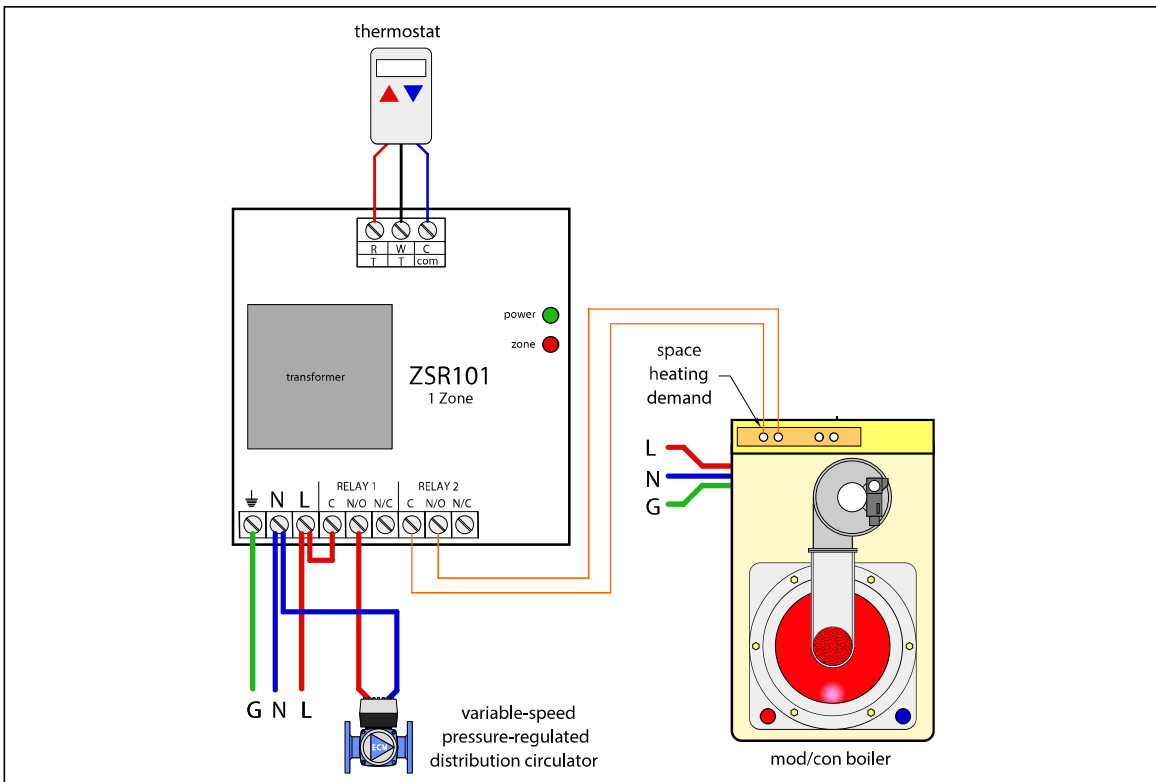
## Installation



The unit must be only located in dry interior locations. It is not suitable for installation in hazardous locations and should not be placed close to any electromagnetic fields. Please pay attention to routing of power supply cables.

- Remove cover of relay box.
- Identify the four mounting holes on relay box, mark on the wall the desired location of mounting.
- Predrill, anchor, and fasten four screws for mounting.
- Hang relay box and fasten tight to desired locations.
- Complete wiring connections in accordance with terminal locations.
- Place cover back on relay box.

## Application Wiring Diagram



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