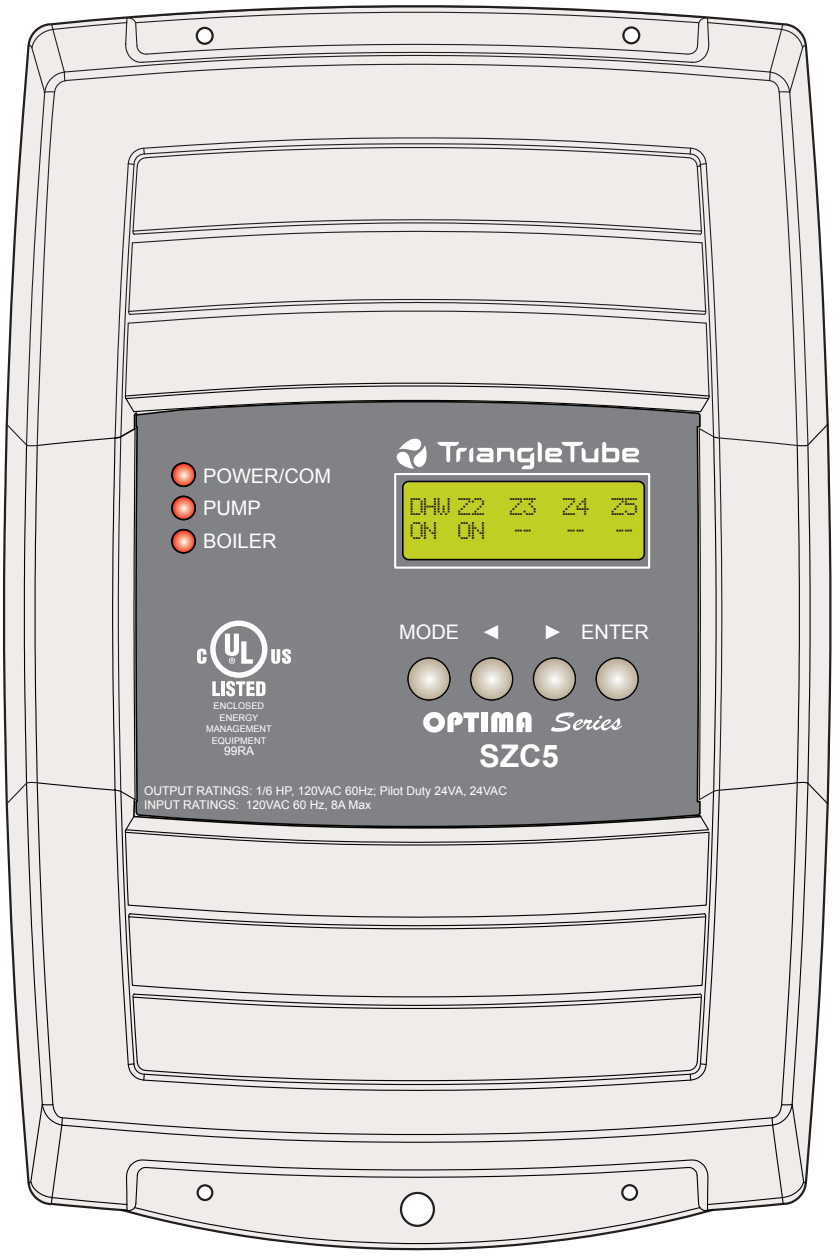
TriangleTube

INSTALLATION AND OPERATION INSTRUCTIONS

SZC5
Zone Control

OPTIMA Series

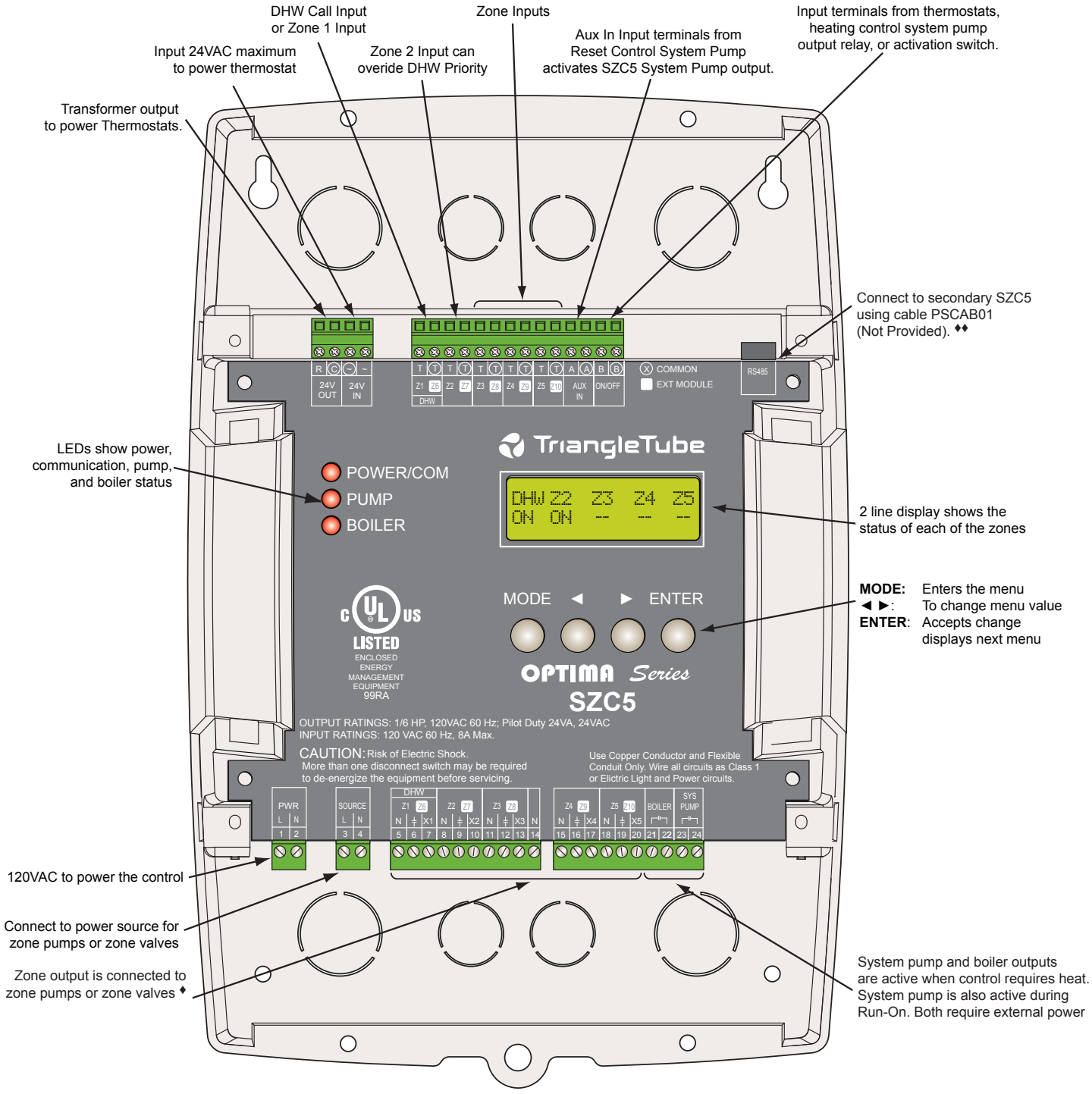


⚠ WARNING

This Triangle Tube control is strictly an operating control. It CANNOT be used as a limit control. All equipment must have all safety and limit controls required by code. It is the responsibility of the installer to verify that all the safety and limits are working properly.

Content

Panel Layout



♦ Only one type of output can be connected to the SZC5. Either Zone Valves or Zone Pumps. Mixing output types will cause control damage.
♦♦ To connect two SZC5 controls, one control must be set as a Master [y] while the other Master [n].

Features

The SZC5 multi-zone control replaces all other manufacturer zone switching relays. It is built to operate five heating hydronic zones controlled by either zone pumps or zone valves. The first zone can be configured to control a DHW pump. That zone can then be run with an adjustable DHW priority delay. If additional zones are needed, two SZC5s can be connected and configured to control a total of ten zones.

When the SZC5 is configured to operate zone valves, a transformer must be wired into the source terminals to supply power to all the zone valves making it easy to wire. An additional zone valve end switch input can be wired in. However, if the SZC5 was configured to operate zone pumps, 120VAC must be wired into the source terminals and the SZC5 will offer a boiler warm-up optional adjustment to assist in cast-iron boiler heating applications.

The second zone on the master SZC5 (and the sixth zone on the slave SZC5) can be excluded from the DHW Priority. If this feature was activated, it will allow that zone to run when there is a call for heat even if a DHW call with priority is active. This is useful for areas that are not well insulated. Thus, to avoid having the space temperature drop significantly during long DHW priority periods, connect that zone to be excluded from DHW priority. See "Zone # 2 or # 6 Priority Exclusion Mode" on page 10

The system and zone outputs have an adjustable delay setting that is used to transfer the boiler and system residual energy into the heating zones. Thus, reducing standby losses and increasing overall system efficiency.

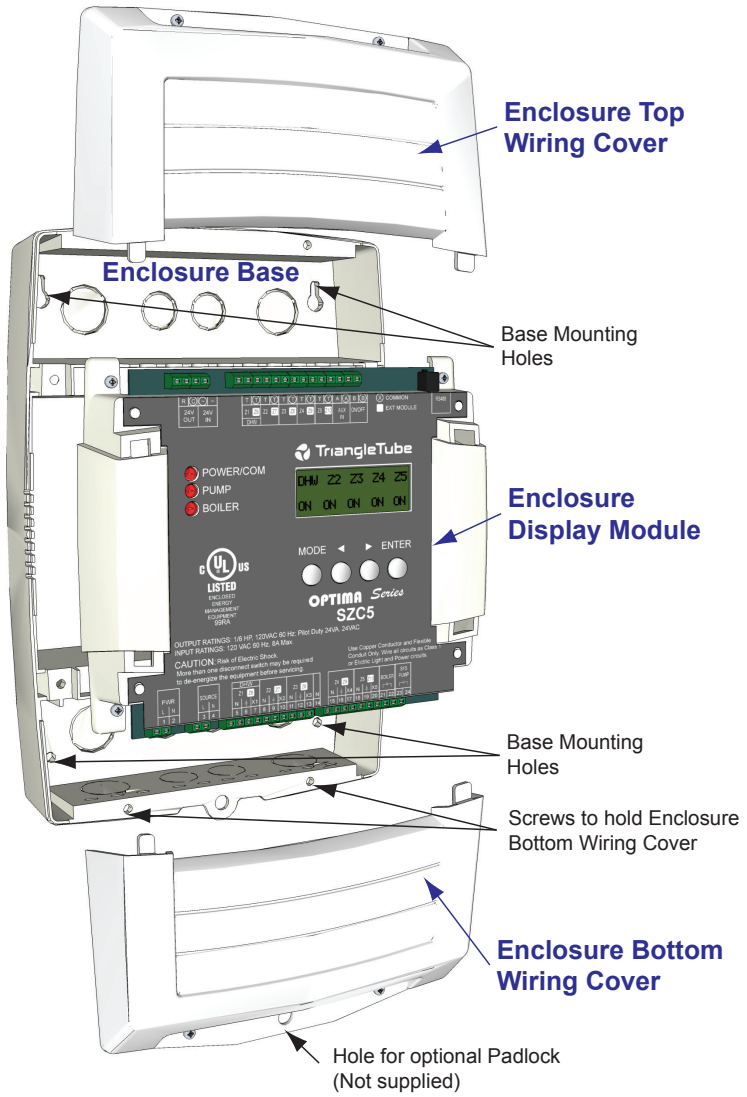
Installation

Each SZC5 consists of four primary enclosure components.

- **The Enclosure Display Module:** contains the display, buttons, LEDs, and electric wiring terminals. It has four screws to hold it to the base. The bottom wiring terminals are of the plug-in type to ease installation and removal. The top wiring terminals are angled to ease input wiring.
- **The Enclosure Base:** contains the holes to mount and hold the control against the wall or any flat surface. All other enclosure components mount onto the base. The bottom section of the Enclosure Base contains an upper wiring chamber with knockouts for all the inputs and a bottom wiring chamber with knockouts for the power and outputs.
- **The Top and Bottom Enclosure Wiring Covers:** seals the wires from the external environment. Each has two screws to hold it to the base. The bottom Enclosure Wiring Cover has a hole to secure a lock on the wiring enclosure.

Mounting the Enclosure

- Select a location near the equipment to be controlled.
- The surface should be flat and strong to hold the SZC5.
- Keep the control away from extreme heat, cold, or humidity.
- Remove the Enclosure Wiring Covers by removing the screws holding each to the base.
- Remove the Enclosure Display Module by removing the screws holding it to the base.
- Screw the Enclosure Base to the surface through the upper and lower mounting holes on the back of the enclosure.
- Replace and screw the Enclosure Display Module.
- Replace the enclosure wiring covers after all wiring is done.
- When purchasing a padlock, to lock the Enclosure Bottom Wiring Cover, consider that the maximum shank diameter should not exceed ¼"

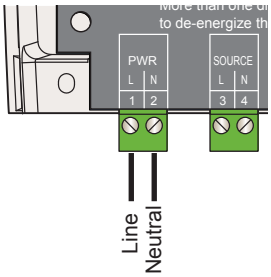


Wiring

Wiring the SZC5 Power

(Terminals 1, 2)

- Bring the 120VAC 60Hz power wires through the bottom Knockout of the enclosure.
- Connect the hot line to power terminal *1* marked *L*.
- Connect the neutral line to power terminal *2* marked *N*.
- Class 1 voltage wiring must use a different knockout from any Class 2 voltage wiring.



120VAC Power to SZC5

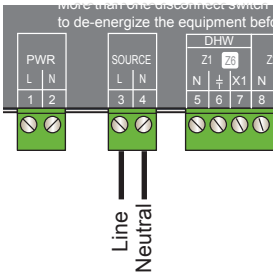
⚠ WARNING

Class 1 voltage wiring must use a different knockout and soft conduit from any Class 2 voltage wiring. Triangle Tube recommends installing a surge suppressor on the power source to the SZC5.
Use only Soft Conduit or BX for wiring.

Output Wiring

⚠ ALERT

When using 24VAC to power the zone outputs, make sure the transformer used has enough power for all the zone outputs to operate at the same time. Check the zone valves or the equipment controlled power consumption rating.
Do not share the transformer with other equipment.

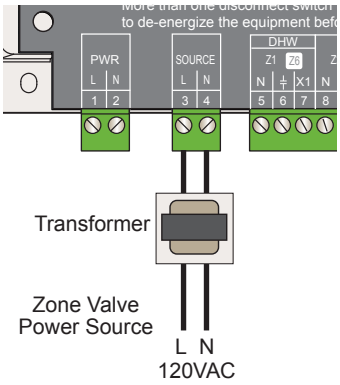


120VAC Zone Pump Power Source

Wiring the Zone Output Power Source

(Terminals 3, 4)

- The SZC5 can operate zone outputs using either 120VAC or 24VAC. The *Source* terminals **MUST** be wired to a power source to allow the use of the zone outputs. The voltage of the zone outputs is based on the source provided. If 120VAC is connected to the *Source* terminals, then all zone outputs will be powered by 120VAC.
- If using 24VAC as the power source, connect it to the *Source* terminals. Then, all zone outputs will be powered by 24VAC. Make sure the transformer is dedicated and has enough power for the outputs controlled. Connect the transformer Load terminals to the SZC5 *Source* terminal *3* and *4* marked *L* and *N*.
- When wiring 120VAC Connect the hot line to the *Source* terminal *3* marked *L* and connect the neutral line to the *Source* terminal *4* marked *N*.
- Class 1 voltage wiring must use a different knockout from any Class 2 voltage wiring.
- The Source terminals DO NOT power the Boiler and System Pump outputs. Each of these outputs require a different power source.



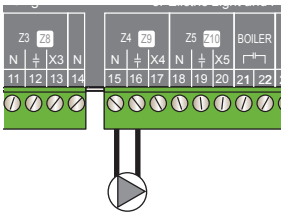
⚠ WARNING

Each SZC5 can only power zone outputs with the same operating voltage. DO NOT connect class 2 voltage equipment to outputs when the Source terminals are connected to class 1 voltage.
All wiring in bottom wiring chamber must be rated for Line voltage.

Wiring to Zone Pumps

(Output Terminals N, ⏚)

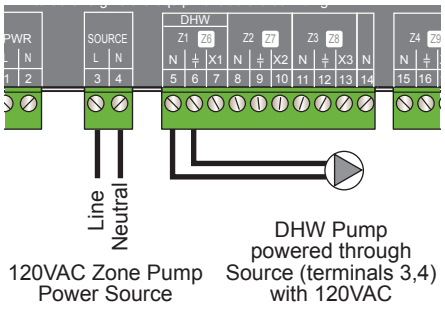
- When wiring to zone pumps, make sure that the menu is set to "Zone Valves with End Switch [n]". See "Zone Valve with End-Switches Mode" on page 9.
- The zone pump will be using the power through the SZC5 Source terminals.
- The zone output relay will only function when power is applied to the SZC5 *Source* terminals
- Wire the zone pump Line terminal to the zone output terminal marked ⏚. Wire the zone pump neutral terminal to the zone output terminal marked *N*.
- The output relay for each of the zone pumps can handle a maximum load of 1/6 HP at 120 VAC 60 Hz.



Zone Pump powered through Source (terminals 3,4) with 120VAC

Wiring to Zone#1 DHW Pump

- When wiring Zone #1 to a DHW pump, make sure that the menu is set to "Zone (1) DHW [y]"on the master SZC5 unit. See "Master Mode" on page 9.
- Wire the DHW pump Line terminal to the zone output terminal marked ⏚. Wire the DHW pump neutral terminal to the zone output terminal marked *N*.
- The output relay for each of the zones can handle a maximum of 1/6 HP at 120 VAC 60Hz.
- If 24VAC is wired into the *Source* terminals, connect a relay to the Zone #1 output to operate the DHW pump. Call Triangle Tube for details. See "Switch Activates the SZC5 (Zone Valves)" on page 13



Wiring to Zone Valves

- When wiring to zone valves with end switches make sure that the menu is set to "Zone Valves with End Switch [y]". See "Zone Valve with End-Switches Mode" on page 9.
- Wire the zone valve Line terminal to the zone output terminal marked ⏚. Wire the zone valve neutral terminal to the zone output terminal marked *N*.
- The output relay for each of the zone valves can handle a maximum load of 1 Amp at 24 VAC 60 Hz.
- The End switch can be wired as per the following possibilities:

4-Wire Zone Valve

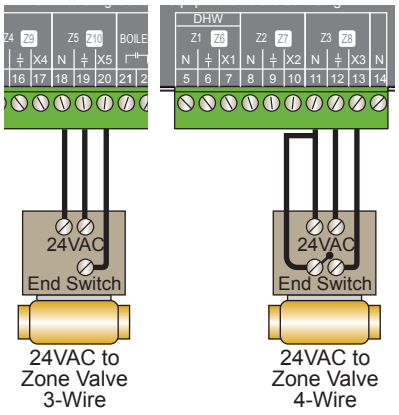
- Connect one of the end switch terminals to the SZC5 zone output marked *N*. Connect the other end switch terminal to the SZC5 zone output marked *X*.

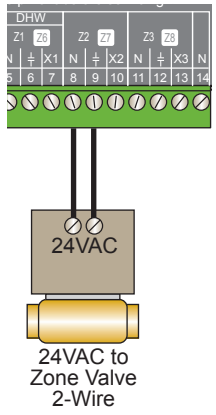
3-Wire Zone Valve

- Connect the end switch terminal to the SZC5 zone output marked *X*.

2-Wire Zone Valve (Not Using the End Switch)

- Set the SZC5 to Zone Valves with End Switch [n]. Using this option requires no wiring of the end switches as the control will deactivate the end switch *X* terminal on all the zone output terminals.

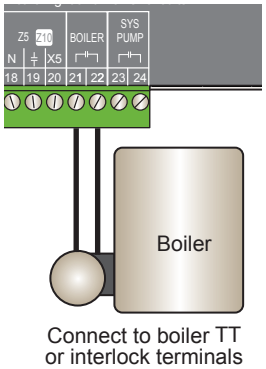




Wiring to Boiler

(Output Terminals 21, 22)

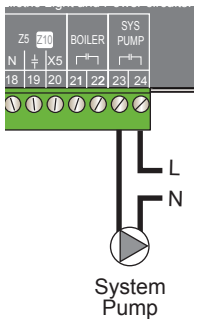
- The SZC5 can enable a boiler. Just connect the boiler TT or interlock terminals to the master SZC5 Boiler output terminals *21* and *22*.
- The SZC5 will energize the boiler relay whenever there is a call for a zone while the *On/Off* input terminals are activated. Also, it will energize it whenever there is a DHW call.
- If using a boiler outdoor reset boiler control (S3S) to activate the SZC5, make sure to operate the boiler through the reset control not the SZC5 for better water temperature control.



Wiring to System Pump

(Output Terminals 23, 24)

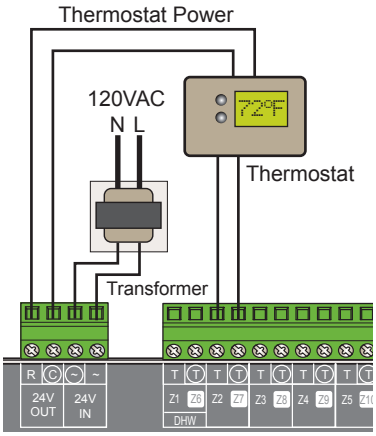
- The SZC5 can control the System Pump. However, it does not provide power to the System Pump. An external power source is required in this case. Use the Master SZC5 System Pump output relay to break the hot line to the pump.
- The System Pump output relay can handle a maximum of 1/6 HP pump at 120 VAC 60Hz.
- The SZC5 will energize the System Pump relay whenever there is a call for a zone while the *On/Off* input terminals are activated. Also, it will energize it whenever there is a DHW call and the SZC5 is set to no DHW Priority.
- If there is a need to run the system pump continuously. Use the *Aux In input* terminal. See "Wiring Aux In Input" on page 8.



Input Wiring

Wiring 24VAC Thermostat Input

- To operate each of the zones, the SZC5 requires either a dry-contact input signal or a maximum of 24VAC input signal to that zone's input terminals. This input signal usually comes from the zone thermostat.
- If the thermostat output signal requires power using an external transformer, connect the transformer to the thermostat as shown on diagram (24VAC to Power Thermostat).
- Remember that all the Input Common terminals for the zones and the transformer 24VAC are connected internally within the SZC5. However, the rest of the Input terminals are not.
- Class 1 wiring must use a different knockout from any Class 2 wiring.
- Note that; any of SZC5 top inputs must not exceed 24VAC.



24VAC to Power Thermostat

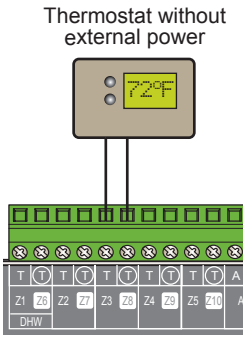
⚠ WARNING

A maximum voltage input of 24VAC can be connected to the Zone Input terminals. Higher voltages will damage the SZC5 and VOID the warranty

Wiring Dry-Contact Thermostat Input

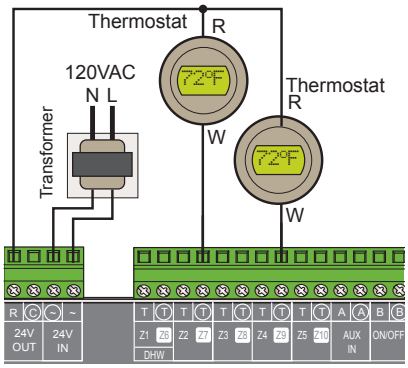
(Input Terminals T, Ⓣ)

- This option is for any thermostat that does not require 24VAC power input (I.e. battery operated thermostat, dial thermostat, DHW aquastat, or other voltage thermostat (requires the use of an isolation relay)). This wiring does not apply to power robbing thermostats.
- Just connect the thermostat output signal wires directly to that zone input terminals. No polarity is observed.
- Note that; any SZC5 zone input must not exceed 24VAC.



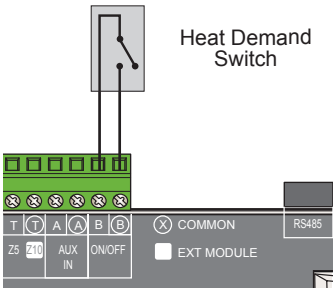
Wiring Honeywell Power Robbing Thermostat Input

- When using Honeywell power robbing thermostat, follow the wiring on the right.
- Wire a 24VAC transformer to the 24V in input terminals.
- Remember that all the Input Common terminals for the zones and the transformer 24VAC are connected internally within the SZC5. However, the rest of the Input terminals are not.
- Class 1 wiring must use a different knockout from any Class 2 wiring.
- Note that; any of SZC5 top inputs must not exceed 24VAC.



Wiring On/Off Input

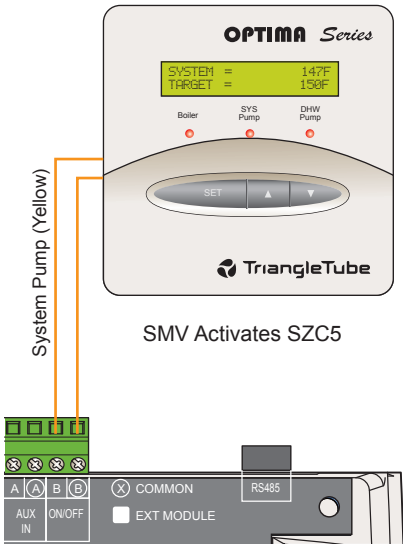
- Unlike most zone controls, the Triangle Tube SZC5 can be configured to accept a Short signal or an Open signal to the *On/Off* input terminals to activate the heating. Just set the menu option `Heat Demand Enable [Short]` if the control is to start heating using a dry-contact short/make signal as an On/Off switch. See "Heat Demand Switch Enable" on page 11
- Most importantly, the SZC5 will offer a better overall system operation when used with an outdoor reset control. If not using a Triangle Tube boiler with outdoor reset, this function can be accomplished with the Triangle Tube S3S, SMV, or SIM control. When connected to the System Pump output on the S3S, SMV, SIM, or any outdoor reset heating control not only will the control turn off the all the SZC5 heating zones during summer but will also turn them off when the outdoor temperature exceeds the control's Outdoor Cutoff setting. In this case the Boiler and System output relays on the SZC5 will operate when there is a call on any of the zones. After the last zone's call expires, the SZC5 will de-energize the Boiler relay and leave the System relay on for the Pump Run-On period.
- To have the outdoor reset control (S3S, SMV, SIM) activate the SZC5 heating, set the menu option `Heat Demand Enable [Short]`. Then, wire the S3S System Relay output (Yellow wires) to the *On/Off* SZC5 input terminals.



- When using the SZC5 with any outdoor reset boiler control (S3S), the boiler operation should be controlled by the S3S. Also, make sure if there is a DHW pump with priority to have both controls' DHW priority setting set to the same delay.
- If two SZC5s are connected ,one as a master and the other as a slave, make sure that the On/Off signal is wired to the Master unit. Wiring to the Slave unit On/Off input terminals will only disable the slaves zones from providing heat. This can be used to save energy by turning off the heat on the Slave SZC5 to areas that are not used.

⚠ ALERT

When two SZC5s are connected as a master and a slave, make sure that the System Pump, Boiler, DHW Pump output, DHW aquastat, and On/off inputs are only wired to the master SZC5.



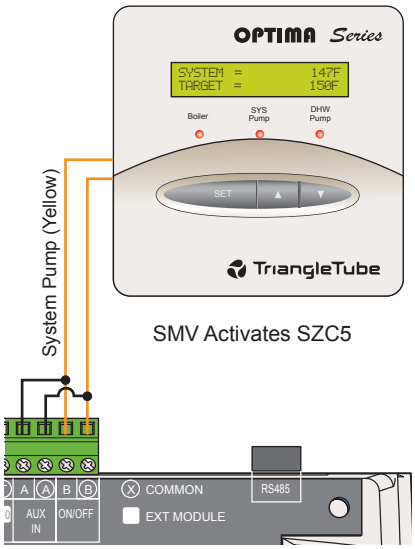
SMV Activates SZC5

Wiring Aux In Input

- The Aux In input activates the System Pump output regardless of any other conditions.
- If this input is shorted, the SZC5 will energize the System Pump relay even when there is no call for heat or during a DHW priority call. This is useful when the System Pump output of an outdoor reset control (S3S, SMV, or SIM) is operating a system pump. Thus will keep the system pump running to utilize the outdoor cutoff feature normally incorporated in outdoor reset controls.
- No Pump Run-On will take place when a call on this switch is terminated. Thus, an outdoor reset control should have its Pump Run-On set to 5 minutes or more.

⚠ ALERT

Pump Run-On delay does not apply to any System Pump call using the Aux In input.



SMV Activates SZC5

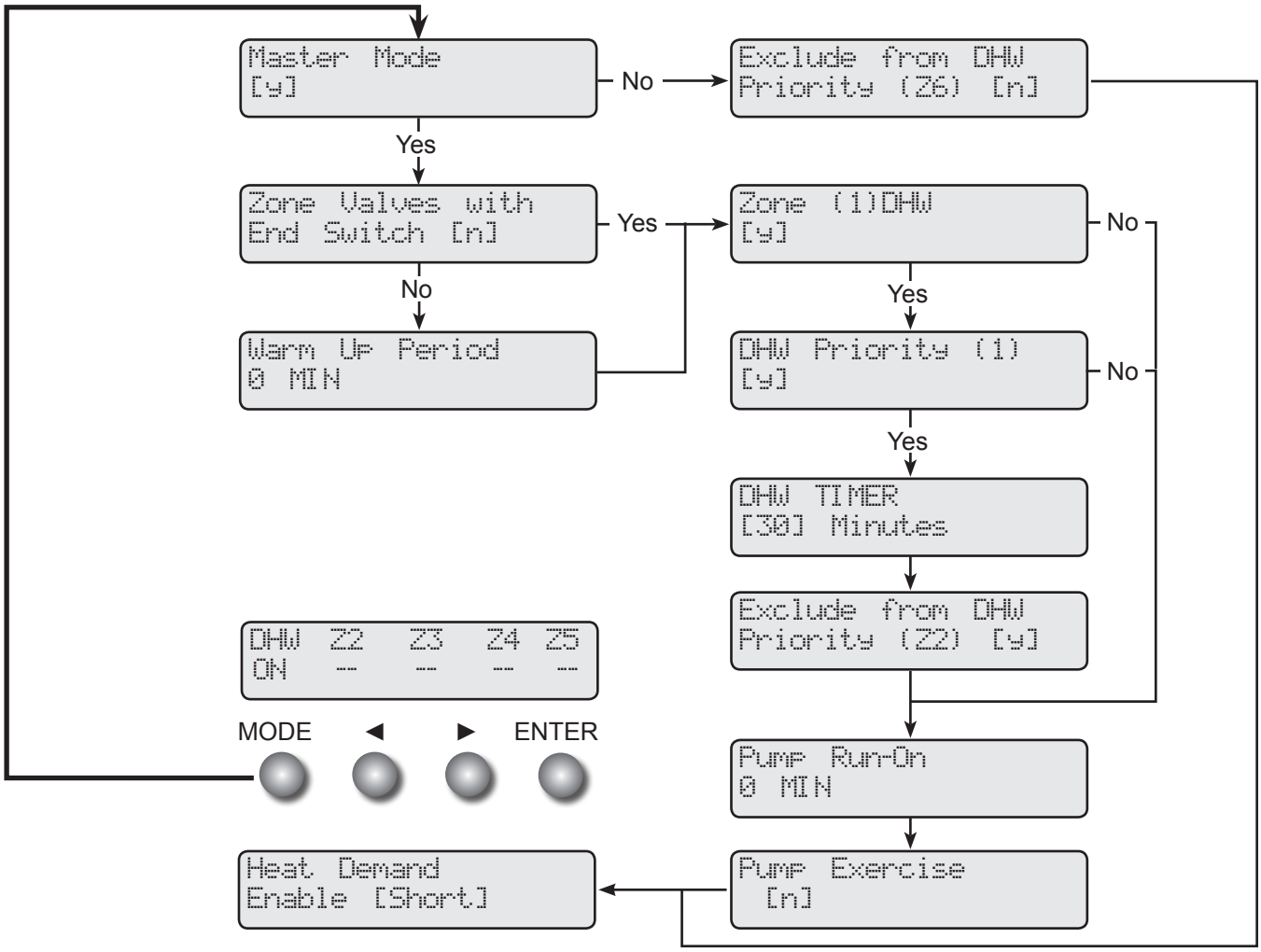
Connecting Two SZC5s

- Two SZC5s can be connected together to increase the total number of zones to 10.
- A special cable (PSCAB01) must be ordered separately to connect the two SZC5s together.
- One SZC5 must be set as a Master and the other as a Slave. See "Master Mode" on page 9. Also, see "Switch Activates Two SZC5s" on page 14.

⚠ ALERT

When connecting two SZC5 as a Master and a Slave, the connection cable must be ordered separately.

Menu



Menu Settings

Master Mode
[y]

Master Mode

Options: Y, N **Default= Y**

- The SZC5 can operate up to five zones. If additional zones are required, two SZC5s can be connected to operate a total of ten zones. In this scenario, one of the SZC5s must be set to Master Mode [y] while the slave must be set as Master Mode [n].
- The master SZC5 will accept the *On/Off* input as well as operate the System Pump and Boiler output relays.

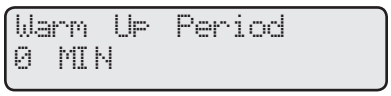
Zone Valves with
End Switch [n]

Zone Valve with End-Switches Mode

Options: Y, N **Default= N**

- This option gives the SZC5 the capability of operating zone pumps or zone valves.
- If zone pumps or zone valves without end switches are to be operated, set this setting to [n] otherwise set it to [y] to operate zone valves with end switches.

Warm Up Period Mode



Options: 0, 2, 5, 10 Minutes **Default= 0**

Available when operating Zone Pumps only

- When activated, if the Boiler relay was de-energized for a period of an hour, a call for any of the zones will energize only the Boiler and System Pump relays for the Warm Up Period. However, all zone outputs will be de-energized for that period.
- Typically, this feature can reduce the effect of circulating cold water to the DHW and heating zones while the cast iron boiler is warming up.

Zone # 1 DHW Mode

Options: Y, N **Default= N**

- This mode offers the capability of having Zone #1 operate a DHW pump. Thus, allowing a call for that zone to activate it's output regardless of the *On/Off* input status.
- If set to [y], the X_1 terminal for Zone #1 will cease to function as an end switch, regardless of the SZC5's other settings.
- Wire the DHW pump and aquastat to the Master SZC5 only.
- If set to [n], Zone #1 will function as a zone valve or zone pump as per previous settings. In addition, switching the On/Off input to Off will cease providing heat to all the zones including Zone #1

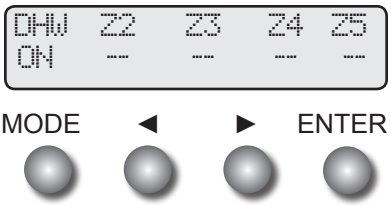
DHW Priority Mode

Options: Y, N **Default= N**

Available when Zone # 1 is set as DHW

- If Zone #1 was set to operate a DHW pump, setting this option to [y] will allow a DHW call to operate the DHW pump output and de-energize the rest of the heating zones and System pump relays.
- This is helpful where the boiler output cannot satisfy both heating and DHW. However, it is important to make sure that the piping of the system is compatible.
- When set to [y], a DHW call during the summer or when the On/Off input is de-activated will energize Zone #1 output and the Boiler relays only while leaving the System relay de-energized.
- When set to [n], a DHW call during the summer or when the On/Off input is de-activated will energize Zone #1 output, and the Boiler and System Pump relays.
- Any zone calls during a DHW priority period will blink that zone to indicate it has a call but the DHW priority is in effect.

Zone will Blink in DHW priority



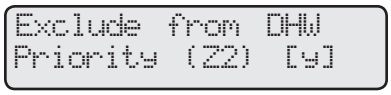
DHW Priority Timer Mode

Options: 30, 60 minutes **Default= 30**

Available when DHW Priority Mode is set to [y]

- While some of the zone outputs are active, a call for DHW will energize Zone #1 output and de-energize the rest of the zone outputs for the period specified by this setting or the elapse of the DHW call, whichever happens sooner.
- A call for a non-priority zone during a DHW priority call will cause that zone name to blink.
- If the DHW Priority Timer expired first, the SZC5 will energize the zone outputs with heat calls in addition to the already operating DHW Zone #1 output.

Zone # 2 or # 6 Priority Exclusion Mode



Options: Y, N **Default= N**

Available when DHW Priority Mode is set to [y]

- For difficult to heat zones specially during long periods of DHW priority, connect these zones to Zone #2 and Zone #6 outputs. Then, configure this option to [y] to allow the SZC5 to operate this zone on a call for heat during DHW calls. Thus, Zone #2 on the master SZC5 will be the only zone allowed to operate during a DHW call.
- If two SZC5s are connected, Zone #6 on the slave SZC5 can be set the same way using the slave SZC5 menu.

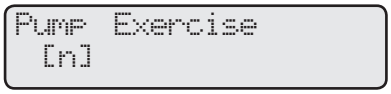
Pump Run-On

Options: 0, 2, 5, 10 Minutes **Default= 0**

Available when Zone Valves with End-Switches is set to N

- It is the amount of additional time any pump or valve is to run after the heat call expires. This setting is primarily used to help dissipate the excess energy from the boiler and system loop.
- It applies to the System Pump, zone pumps, and zone valves. That is, when the last zone call ends, the Boiler relay will de-energize. However, that zone output as well as the System relay output will remain energized for the Pump Run-On period, then de-energize.
- No Pump Run-On will take effect when the System Pump is energized using the Aux In input.

Pump Exercise



Options: Y, N **Default= N**

- When activated, this feature can energize any zone or System pump output for 15 seconds if that relay was not energized for a period of one week. It is helpful in lubricating pump seals.

Heat Demand Switch Enable

Options: Short, Open **Default= Short**

- The *On/Off* terminals act as a heat demand input. The SZC5 offers two ways to utilize these *On/Off* input terminals. Either allow the SZC5 to control the heating zones when the terminals are shorted (Select [Short]) or when they are opened (Select [Open]).
- When connected to a Triangle Tube S3S, SMV, or SIM System output, make sure to set this option to [Short] to start SZC5 when he control's System relay is energized.

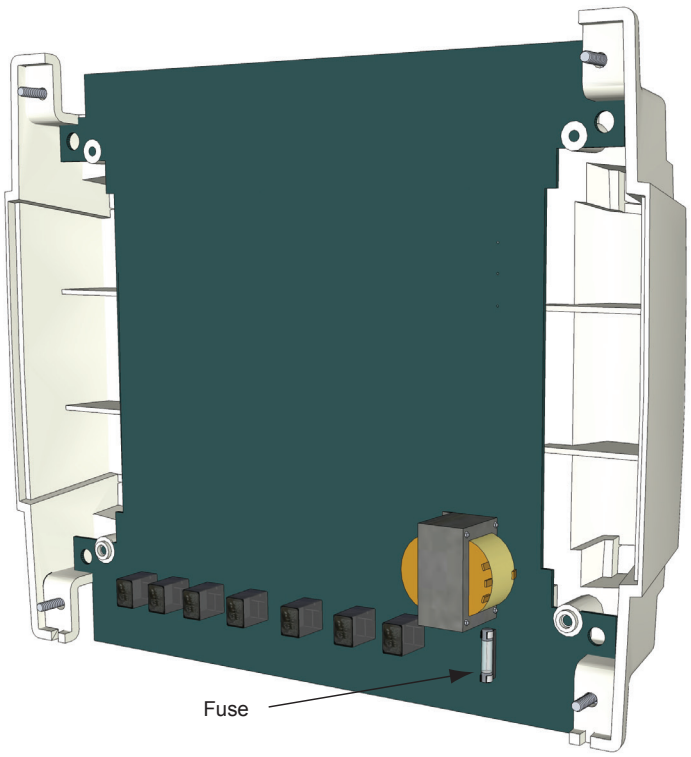
Troubleshooting

Thermostat Does not Activate the Zone:

- **If the Zone displays ON:**
  - Then check the type of thermostat used and its wiring.
  - Check the power source to the Source Output terminals. Make sure it matches the voltage required for the zone pumps or zone valves.
- **If the Zone displays --:**
  - Check that Heat-Demand Enable menu option is set to Short.
  - Check to see if the DHW Priority is set (Yes) and that there is an active DHW call. A zone will flash when having a call during a DHW priority period.
  - Check to see the setting of the Warm Up Period.

The SZC5 display is off even when power is connected.

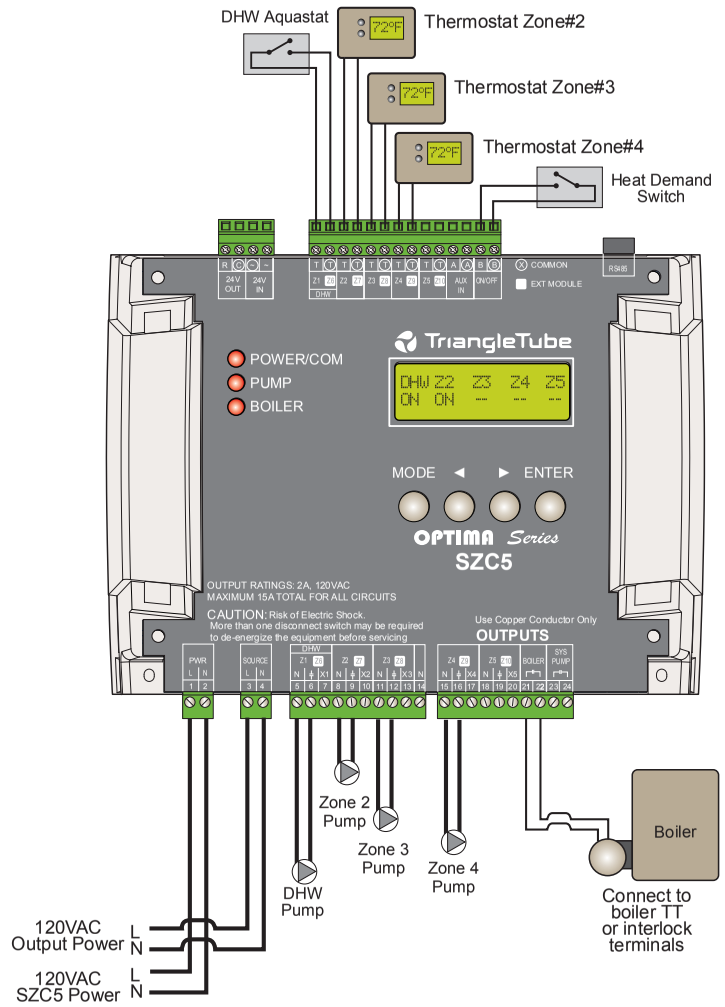
- Check for continuity across the fuse on the back of the Enclosure Display Module. If no continuity across fuse, replace with 20 mm 7 amp fuse.



Wiring Diagrams

Switch Activates the SZC5 (Zone Pumps)

With DHW Pump Control



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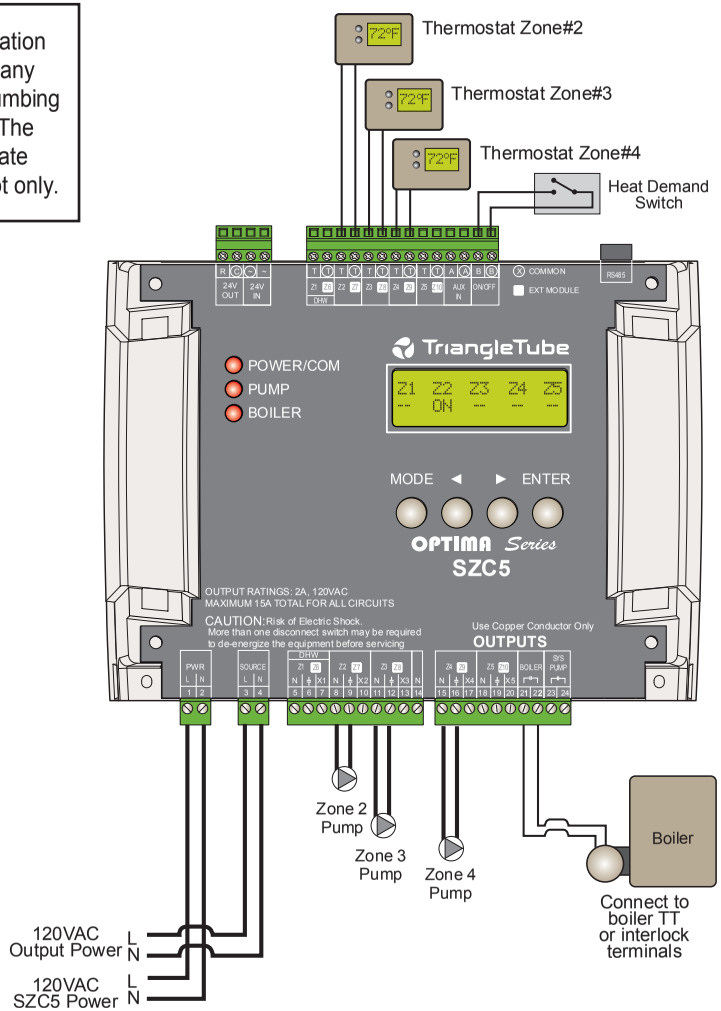
Without DHW Pump Control



SZC5 SETTINGS:

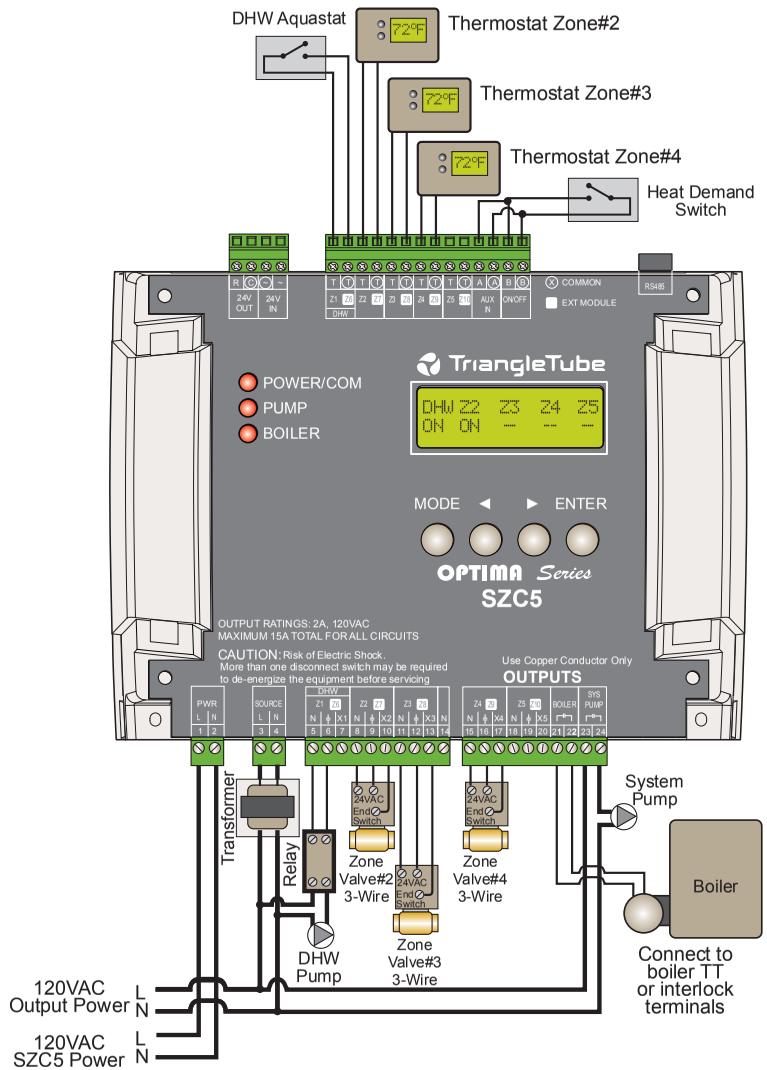
- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**

Switch Activates the SZC5 (Zone Valves)

With DHW Pump Control



SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**

Without DHW Pump Control

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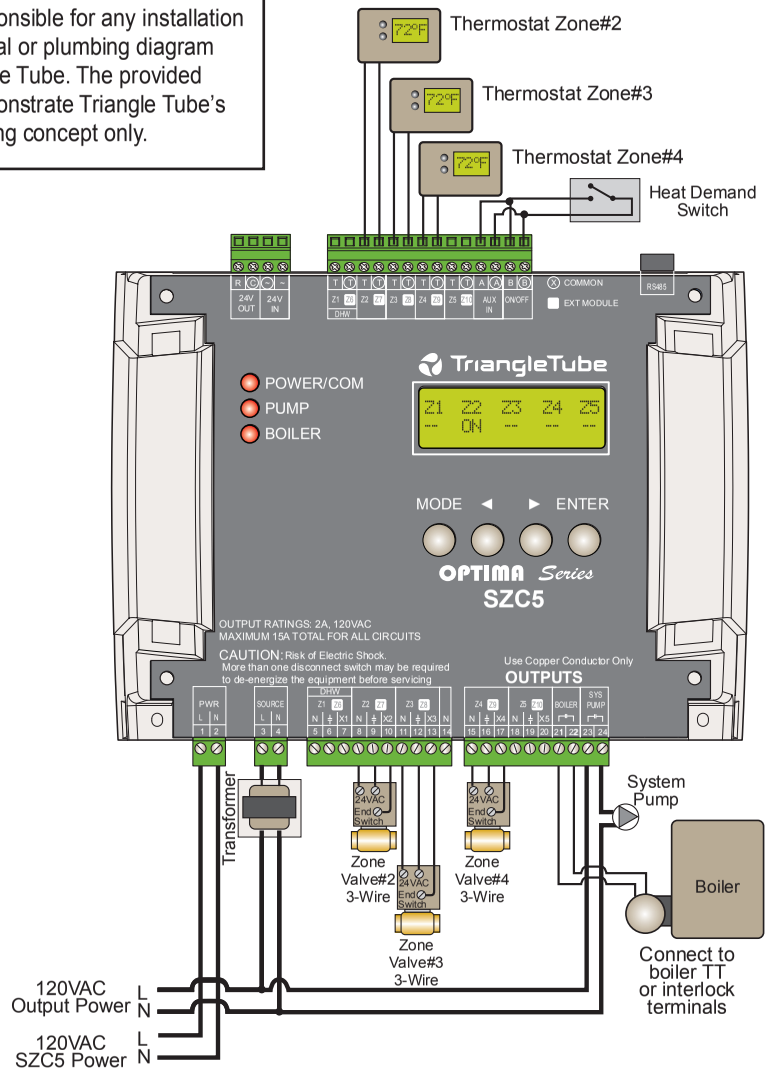
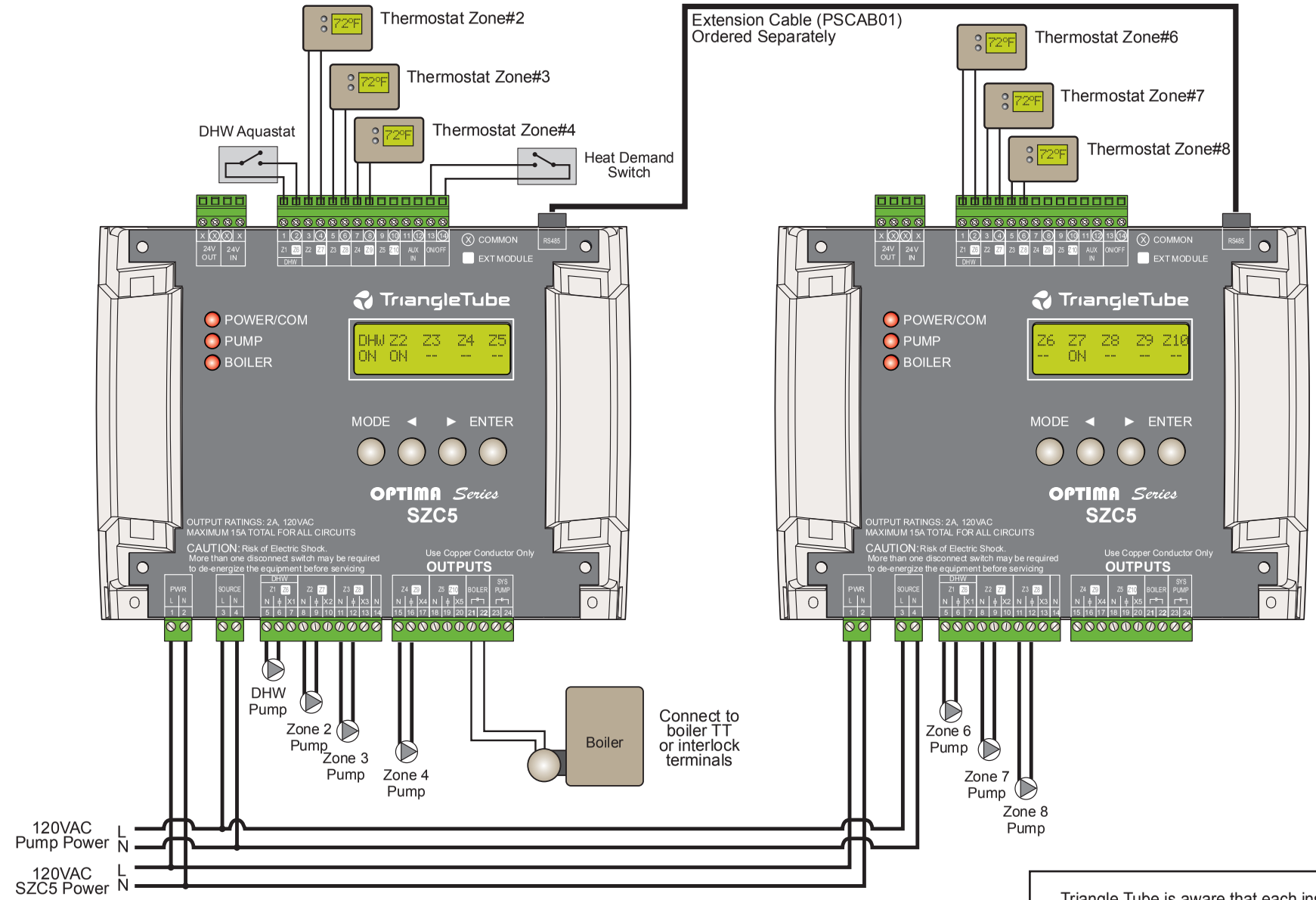


SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**

Switch Activates Two SZC5s (6 Zone Pumps) and Aquastat Activates DHW Operation



SZC5 MASTER SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**

SZC5 SLAVE SETTINGS:

- **Master Mode = N**
- **Zone Valves with End Switch = N**

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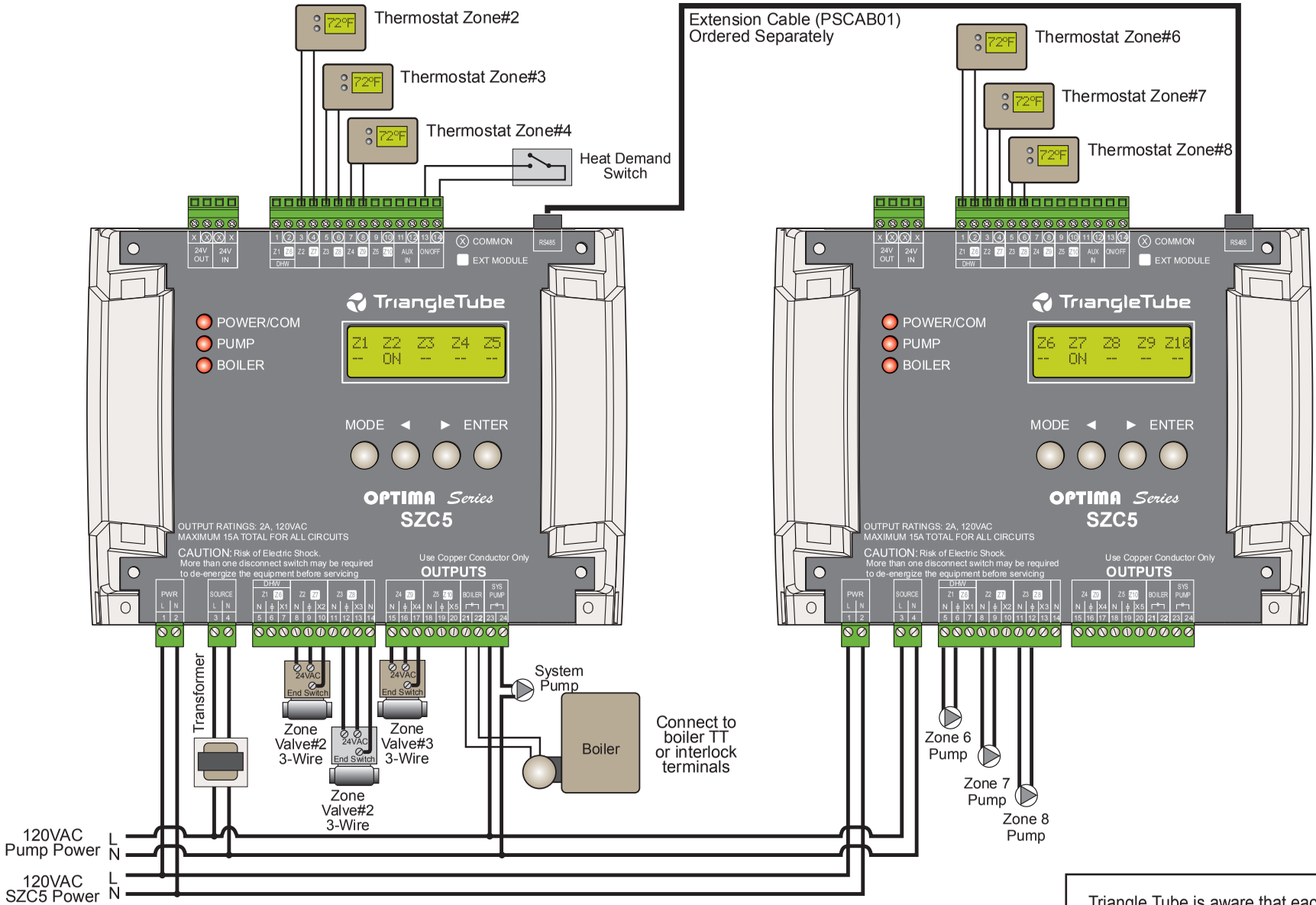
Switch Activates Two SZC5s (3 Zone Valves on Master and 3 Zone Pumps on Slave)



SZC5 MASTER SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SZC5 SLAVE SETTINGS:

- **Master Mode = N**
- **Zone Valves with End Switch = N**

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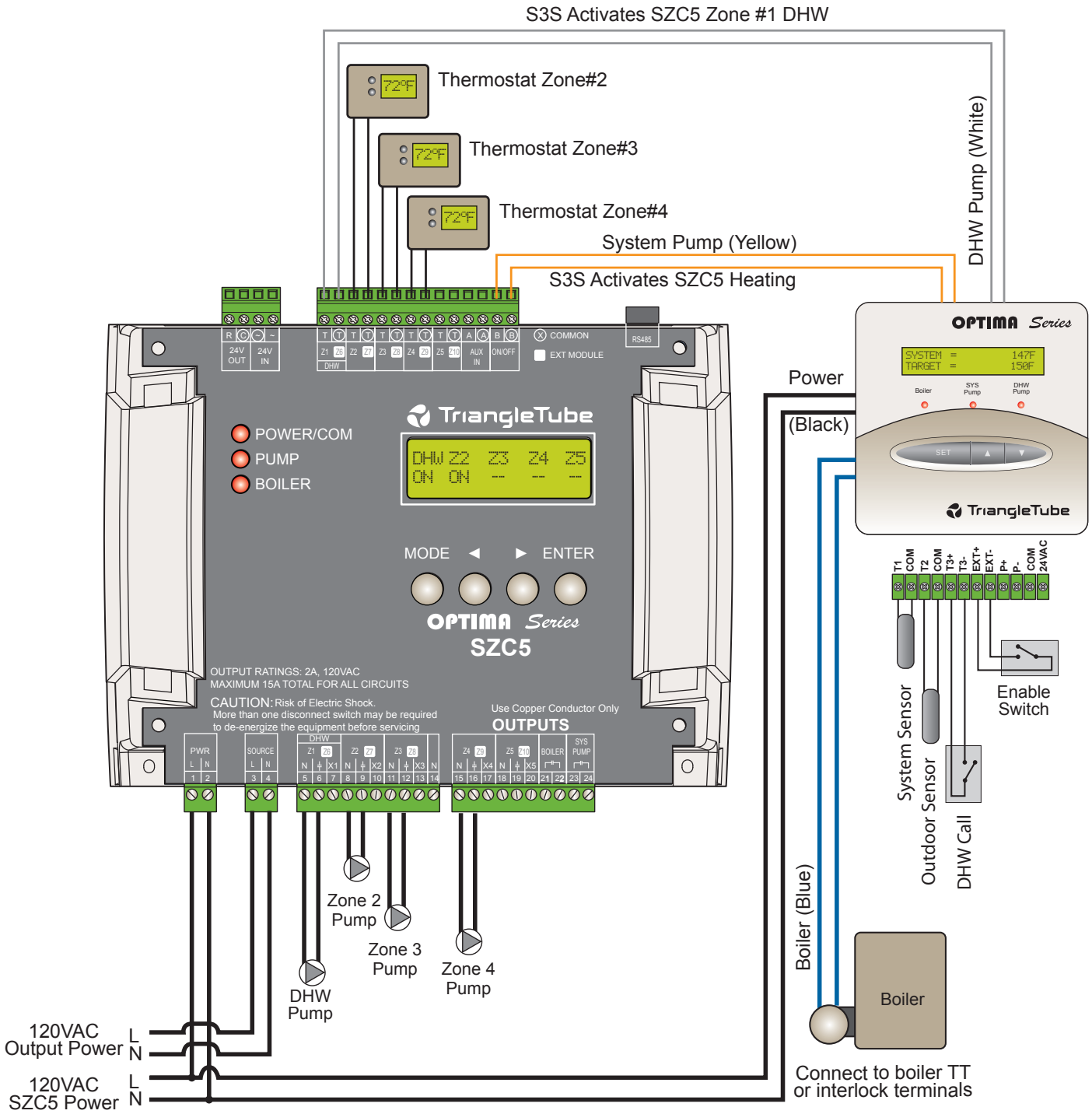
S3S Activates the SZC5 (Zone Pumps) and DHW Operation

(Non Triangle-Tube Boiler)



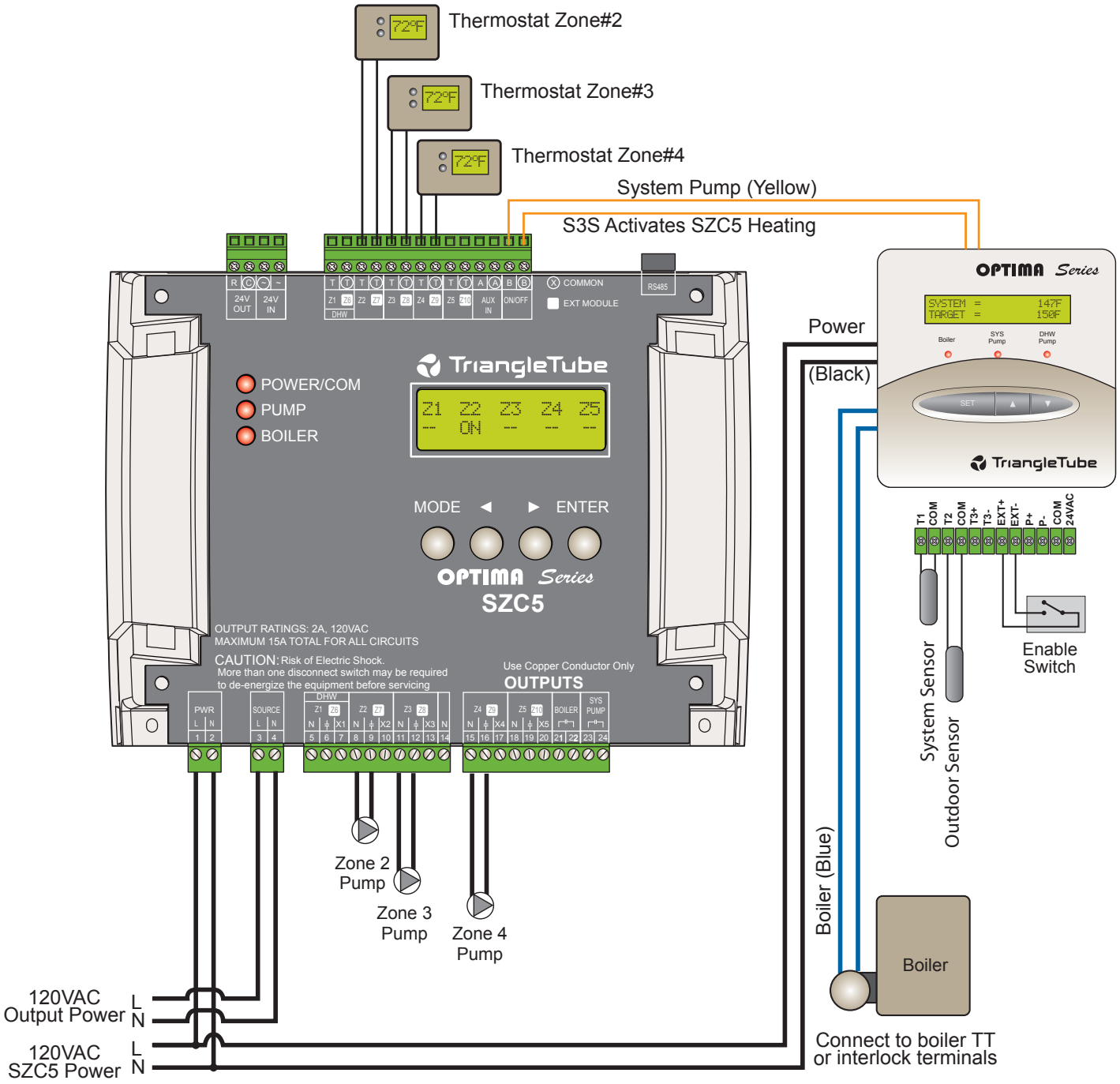
S3S SETTINGS:

- **Control Mode = Outdoor Reset**
- **DHW Priority = 30 minutes or more**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

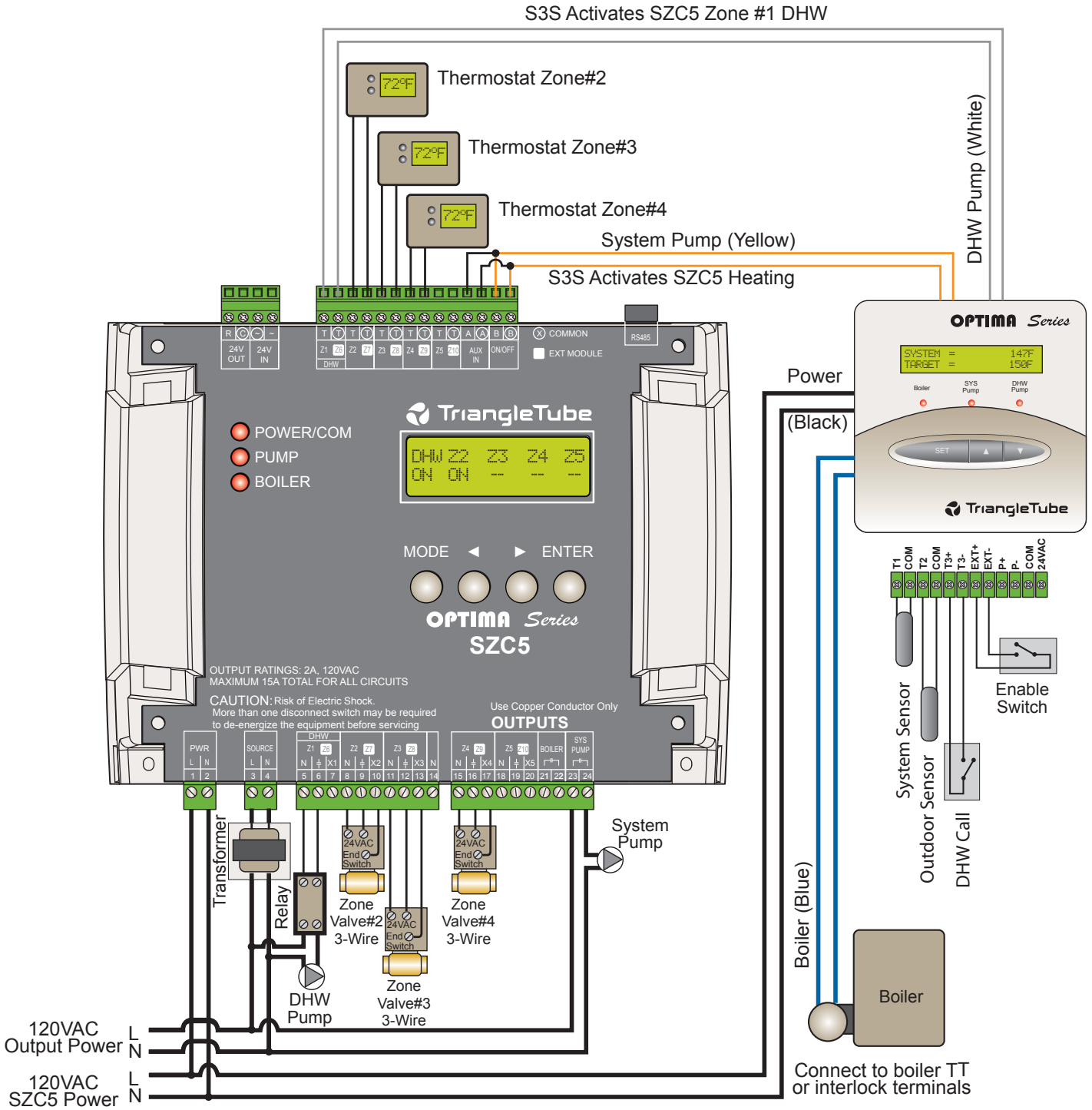
S3S Activates the SZC5 (Zone Pumps) No DHW Operation
(Non Triangle-Tube Boiler)



S3S SETTINGS:
- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:
- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

S3S Activates the SZC5 (Zone Valves) and DHW Operation
(Non Triangle-Tube Boiler)

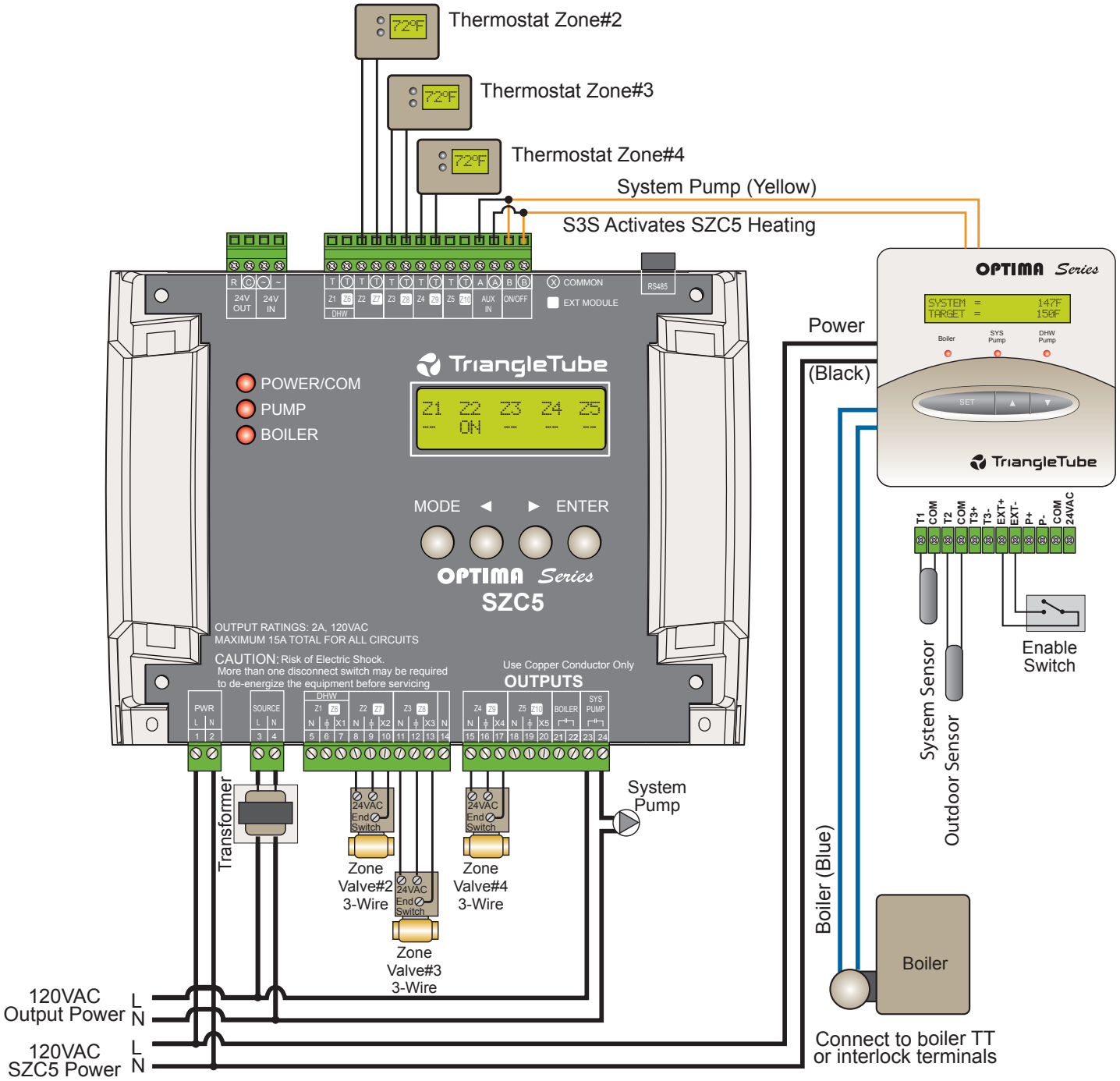


S3S SETTINGS:
- **Control Mode = Outdoor reset**
- **DHW Priority = 30 minutes or more**
- **Pump Run-On = 5 minutes**

SZC5 SETTINGS:
- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**

S3S Activates the SZC5 (Zone Valves) No DHW Operation

(Non Triangle-Tube Boiler)



S3S SETTINGS:

- **Control Mode = Outdoor reset**
- **Pump Run-On = 5 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**

SZC5 (Zone Pumps) Activates the S3S and S3S Activates DHW Operation

(Non Triangle-Tube Boiler)

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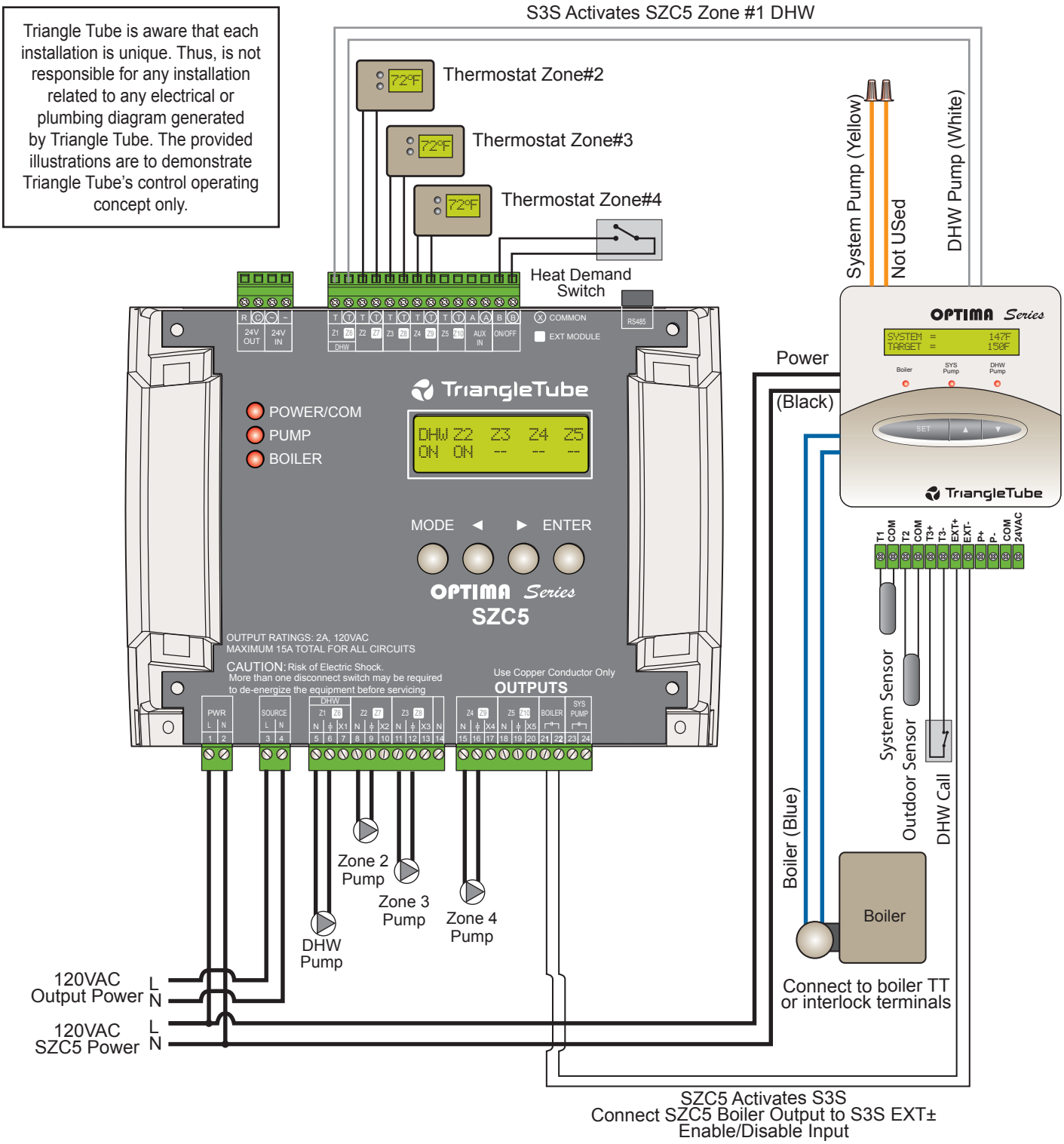


S3S SETTINGS:

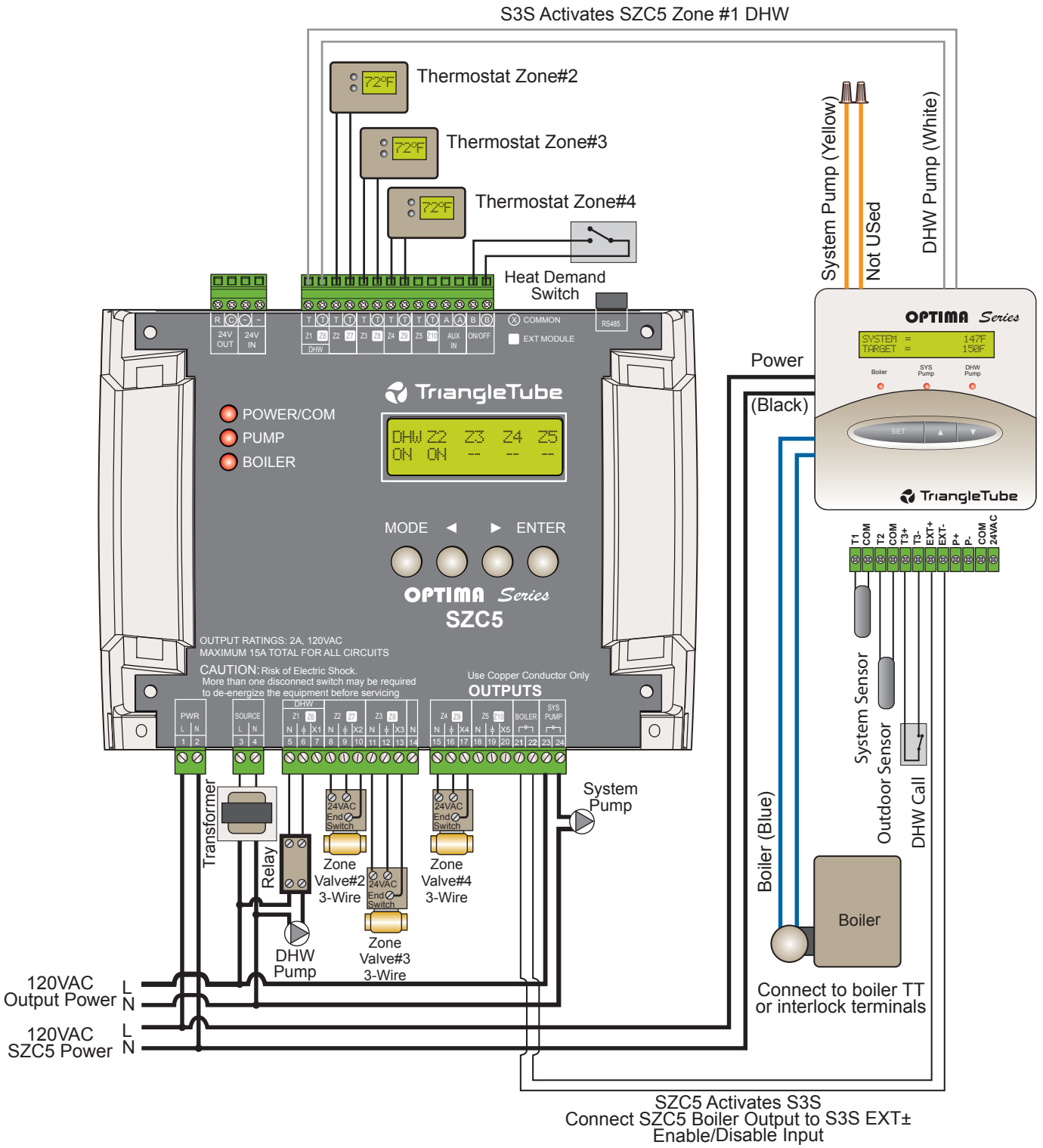
- **Control Mode = Outdoor reset**
- **DHW Priority = 30 minutes or more**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SZC5 (Zone Valves) Activates the S3S and the System Pump while S3S Activates DHW Operation

(Non Triangle-Tube Boiler)



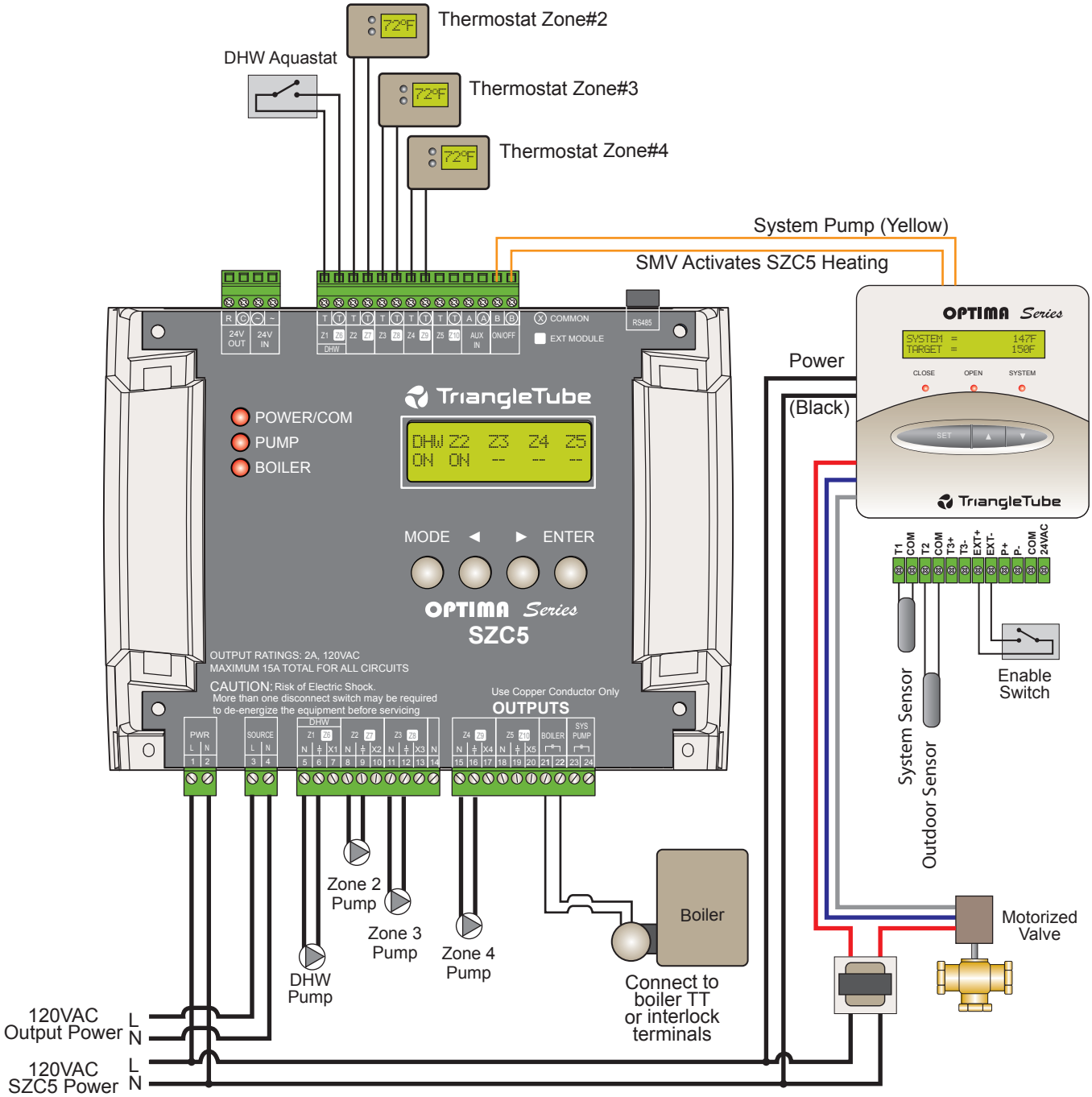
S3S SETTINGS:

- **Control Mode = Outdoor reset**
- **DHW Priority = 30 minutes or more**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SMV Activates the SZC5 (Zone Pumps) and DHW Operation



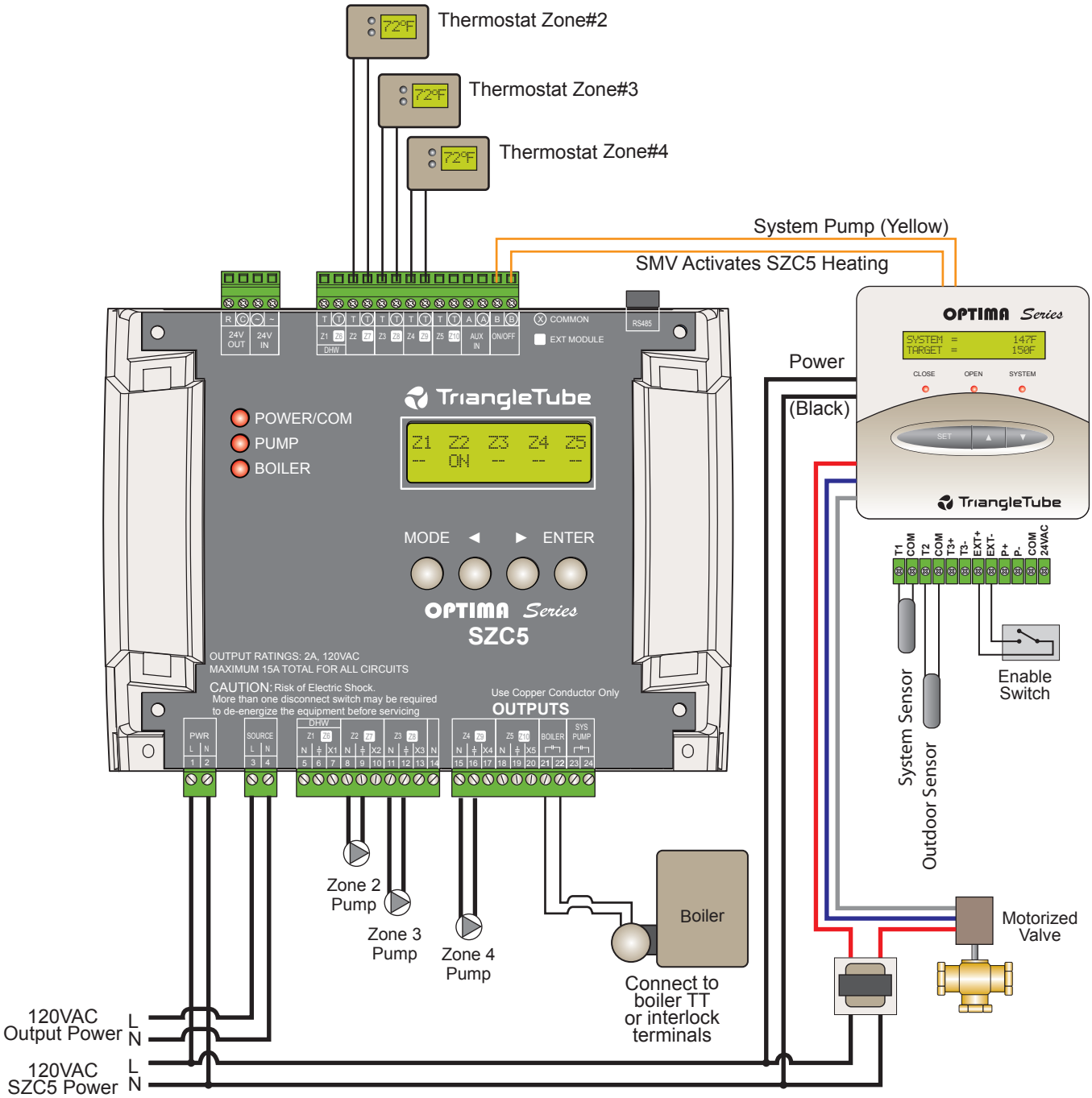
SMV SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SMV Activates the SZC5 (Zone Pumps) No DHW Operation



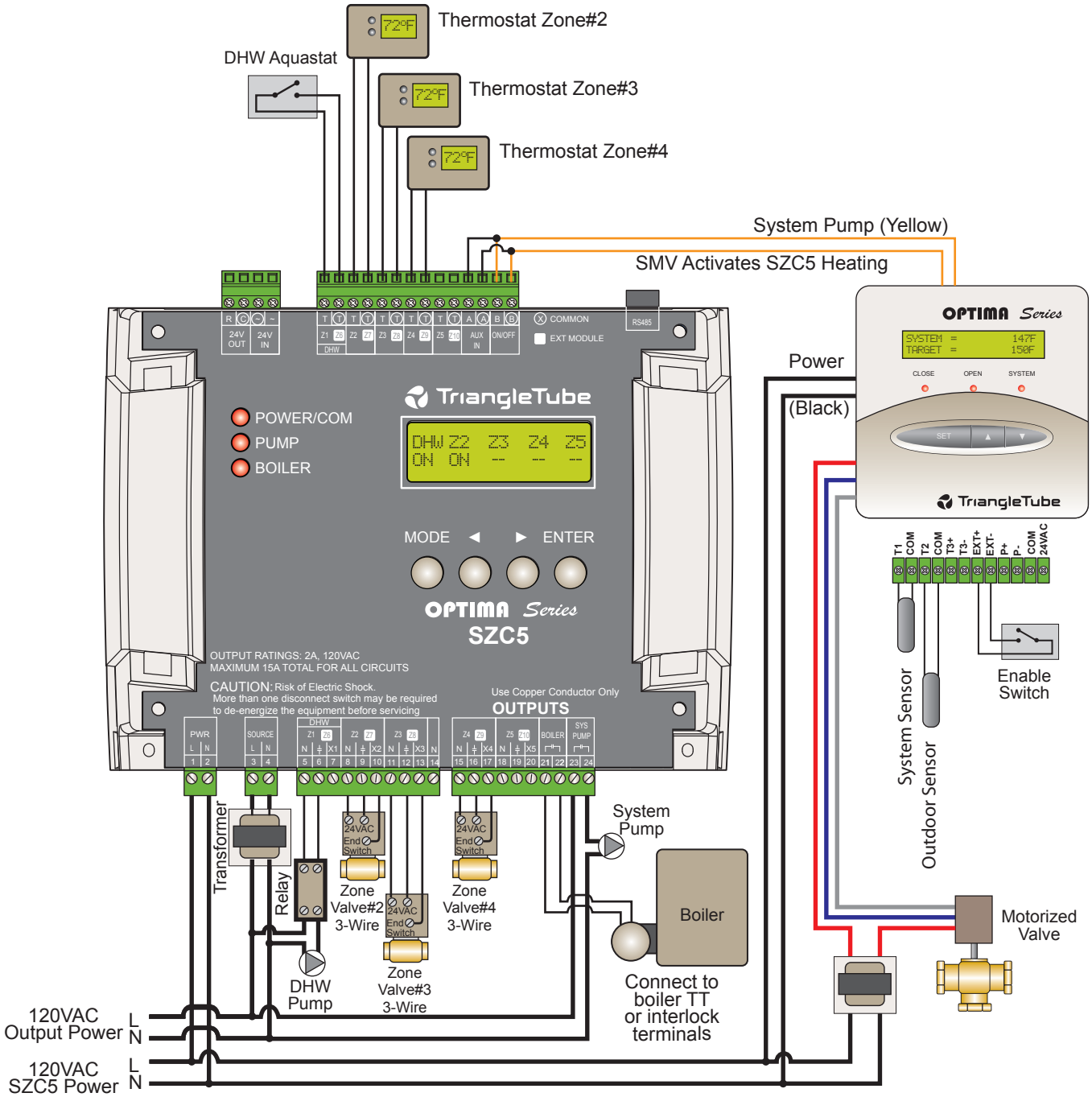
SMV SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SMV Activates the SZC5 (Zone Valves) and DHW Operation



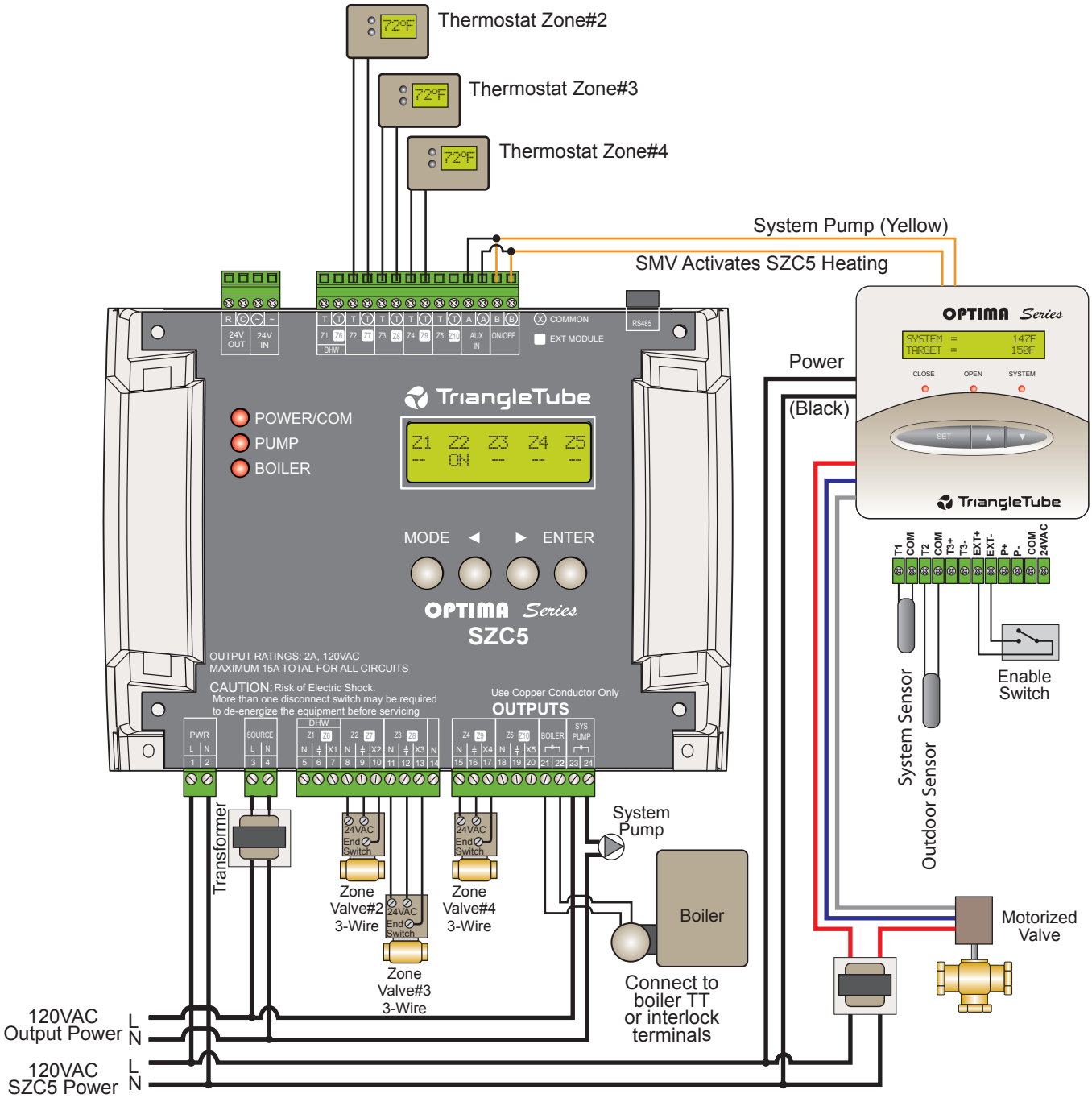
SMV SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SMV Activates the SZC5 (Zone Valves) No DHW Operation



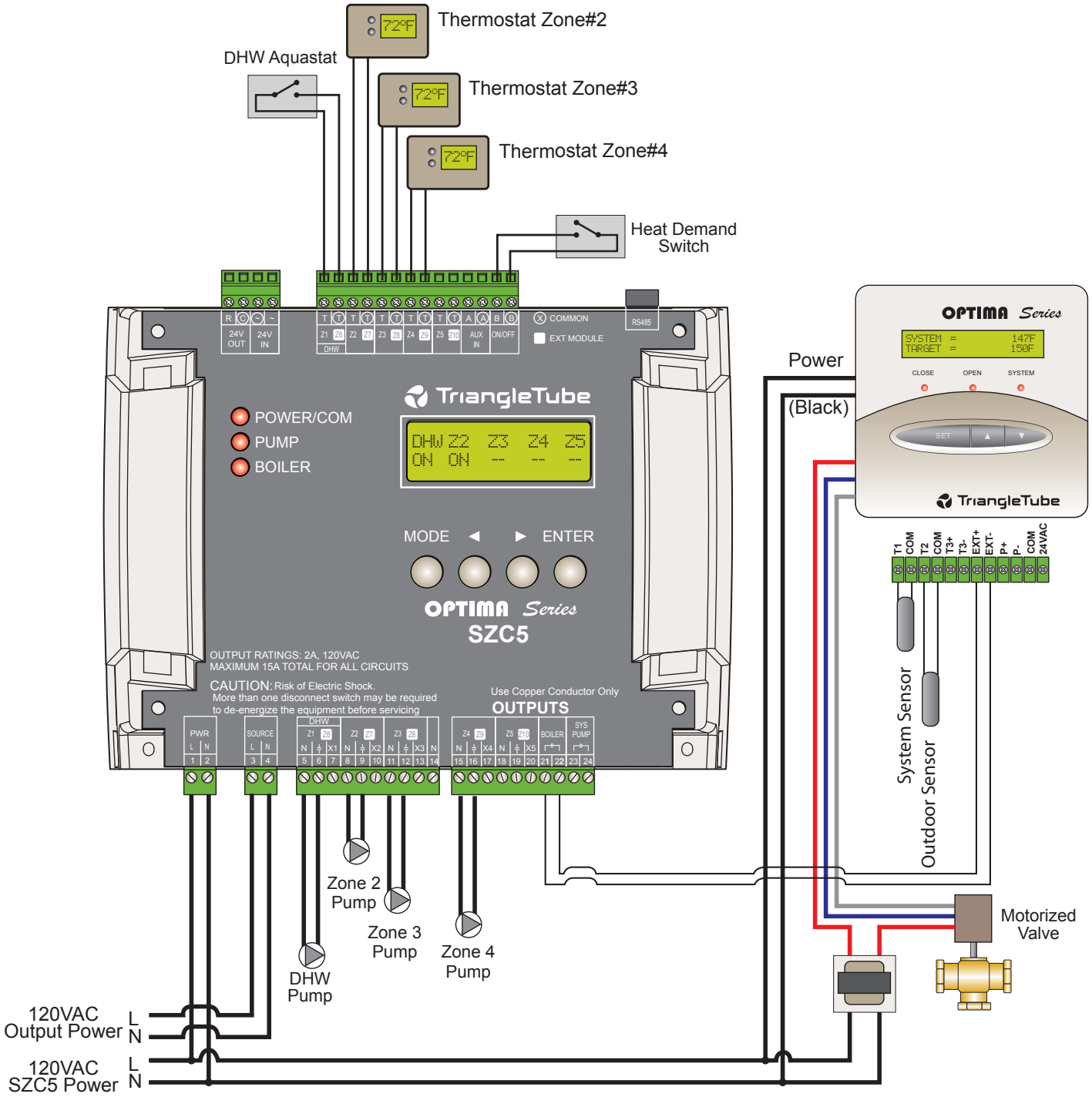
SMV SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SZC5 (Zone Pumps) Activates the SMV and DHW Operation



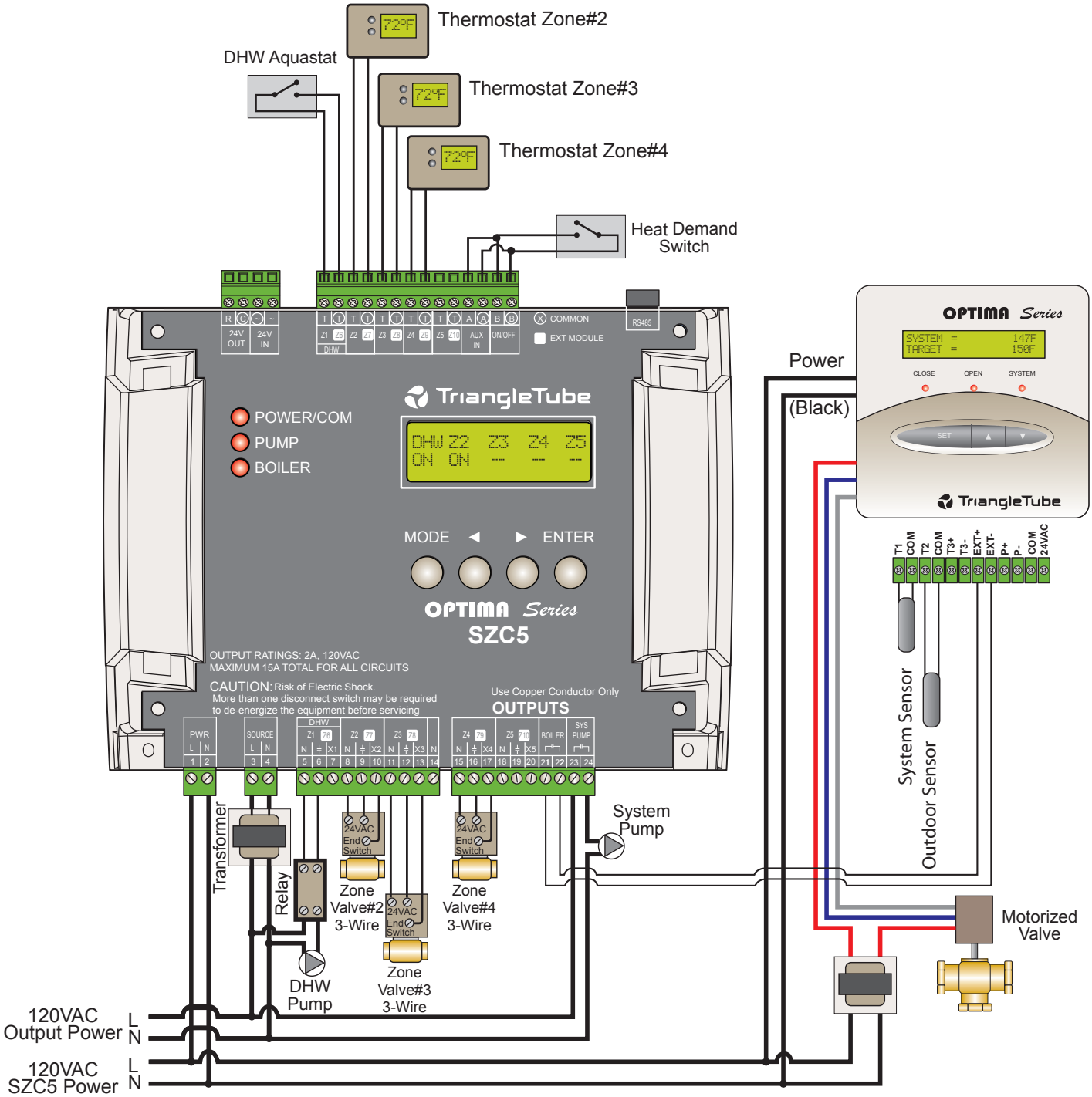
S3S SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SZC5 (Zone Valves) Activates the SMV and DHW Operation



S3S SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

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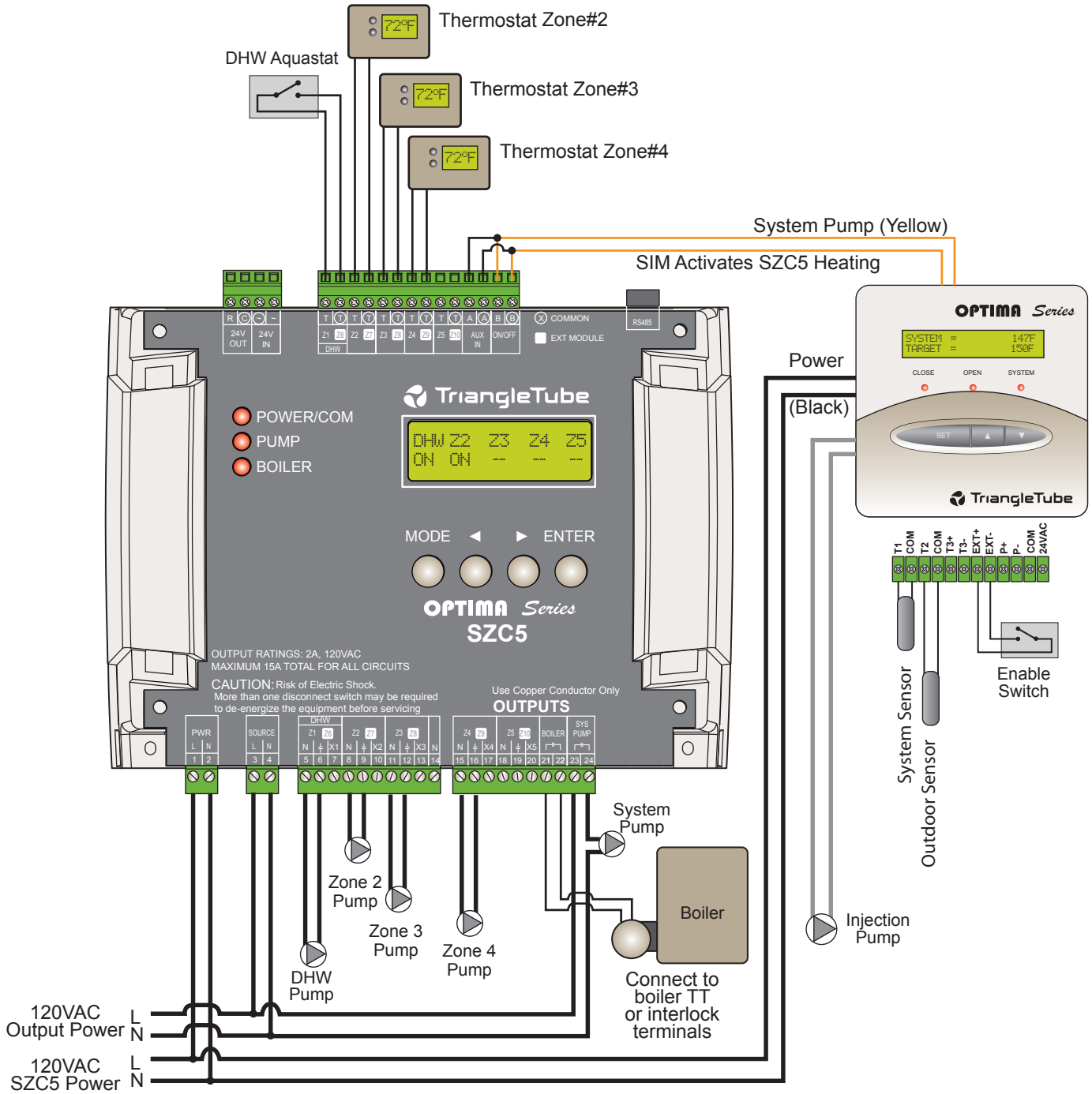
SIM Activates the SZC5 (Zone Pumps) and DHW Operation



SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

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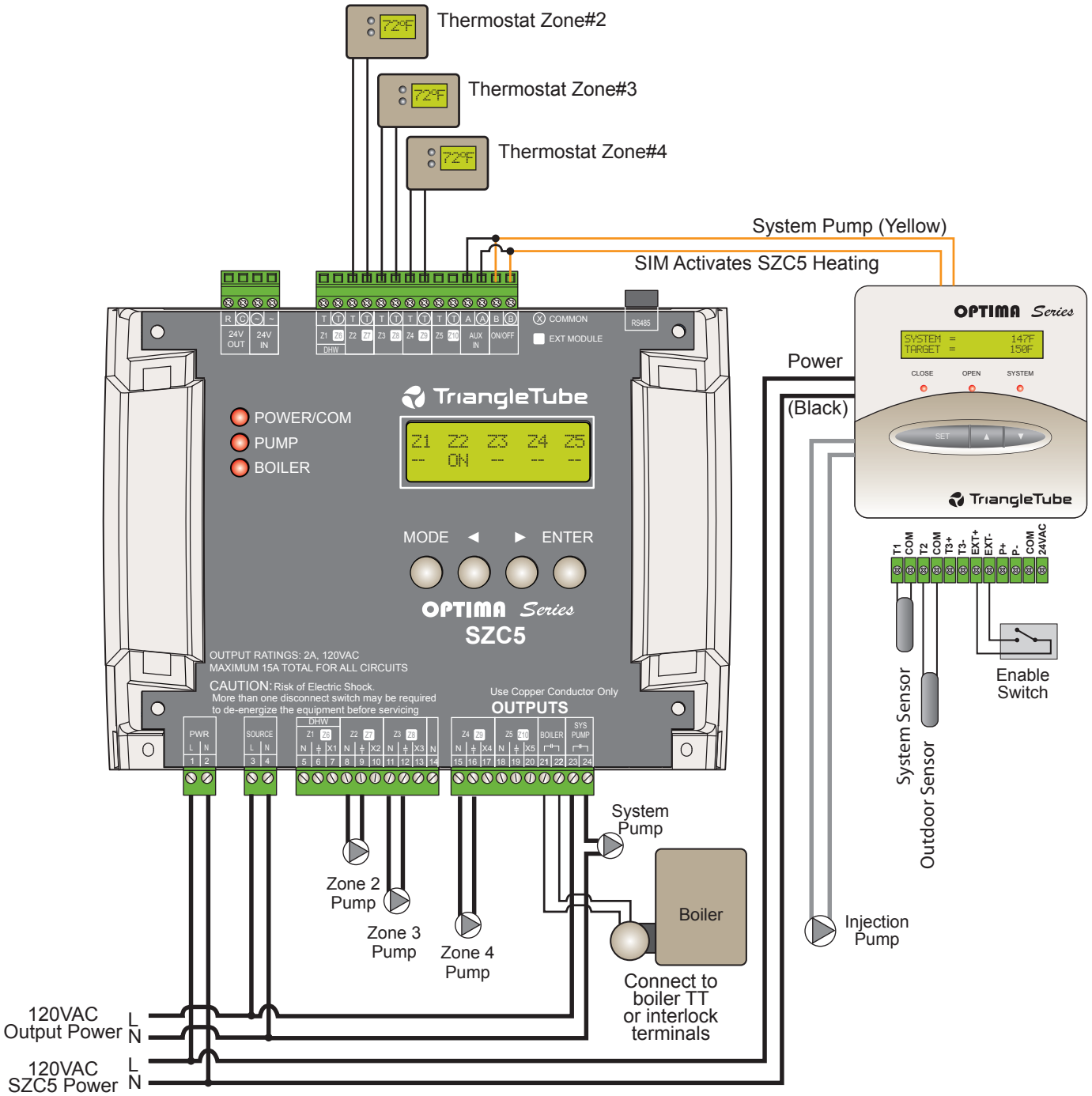
SIM Activates the SZC5 (Zone Pumps) No DHW Operation



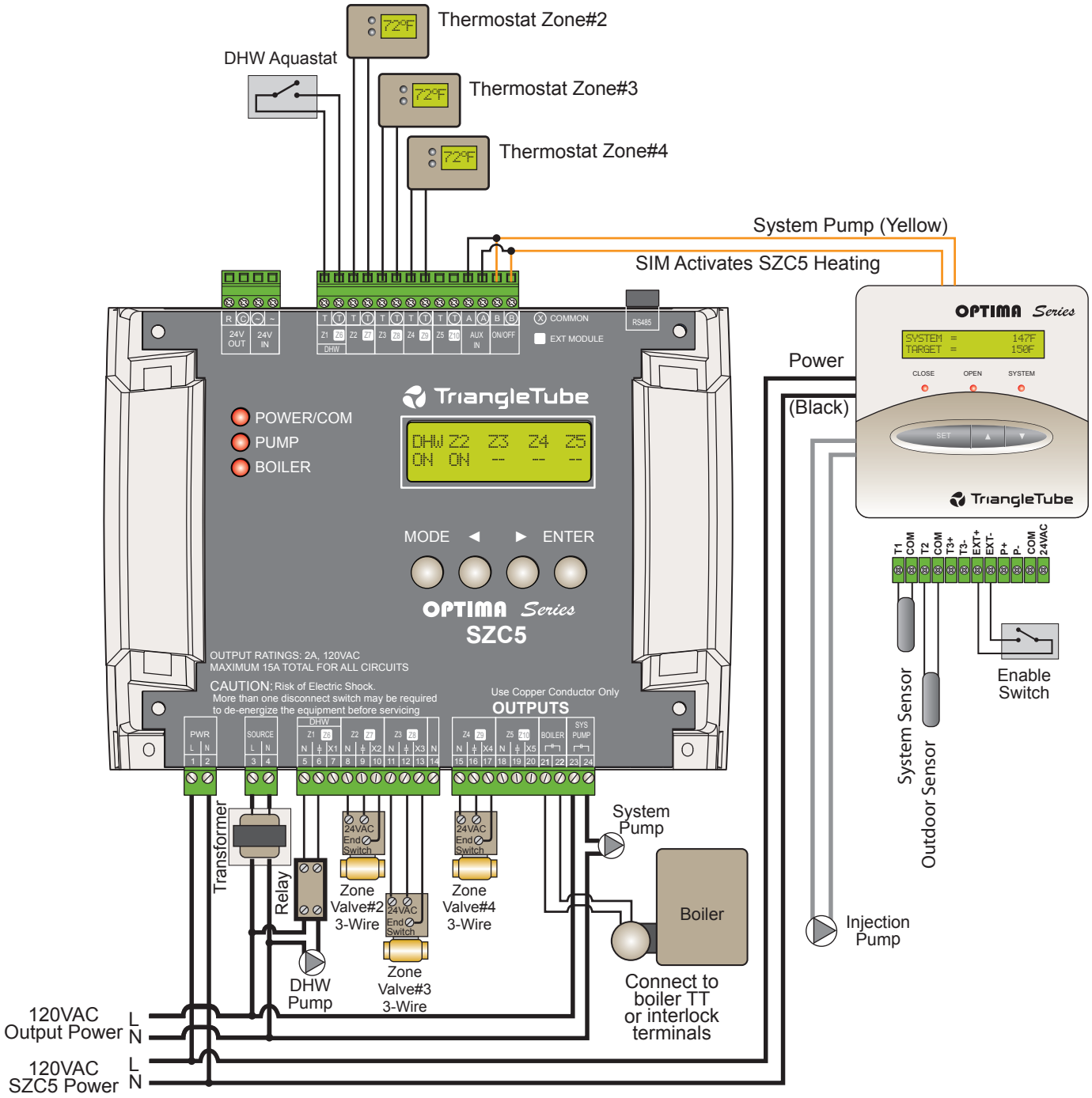
SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SIM Activates the SZC5 (Zone Valves) and DHW Operation



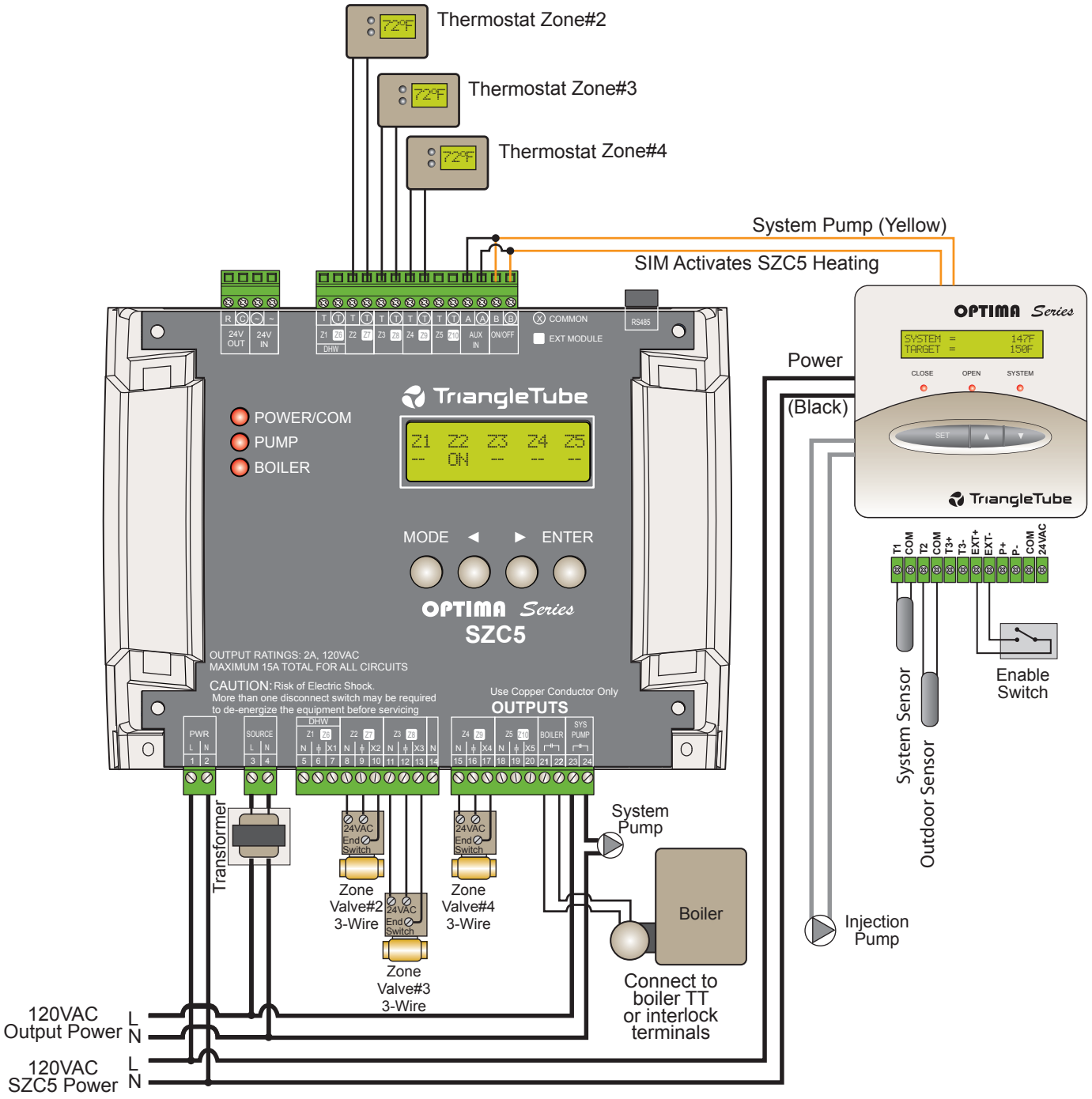
SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **DHW Priority (1) = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SIM Activates the SZC5 (Zone Valves) No DHW Operation



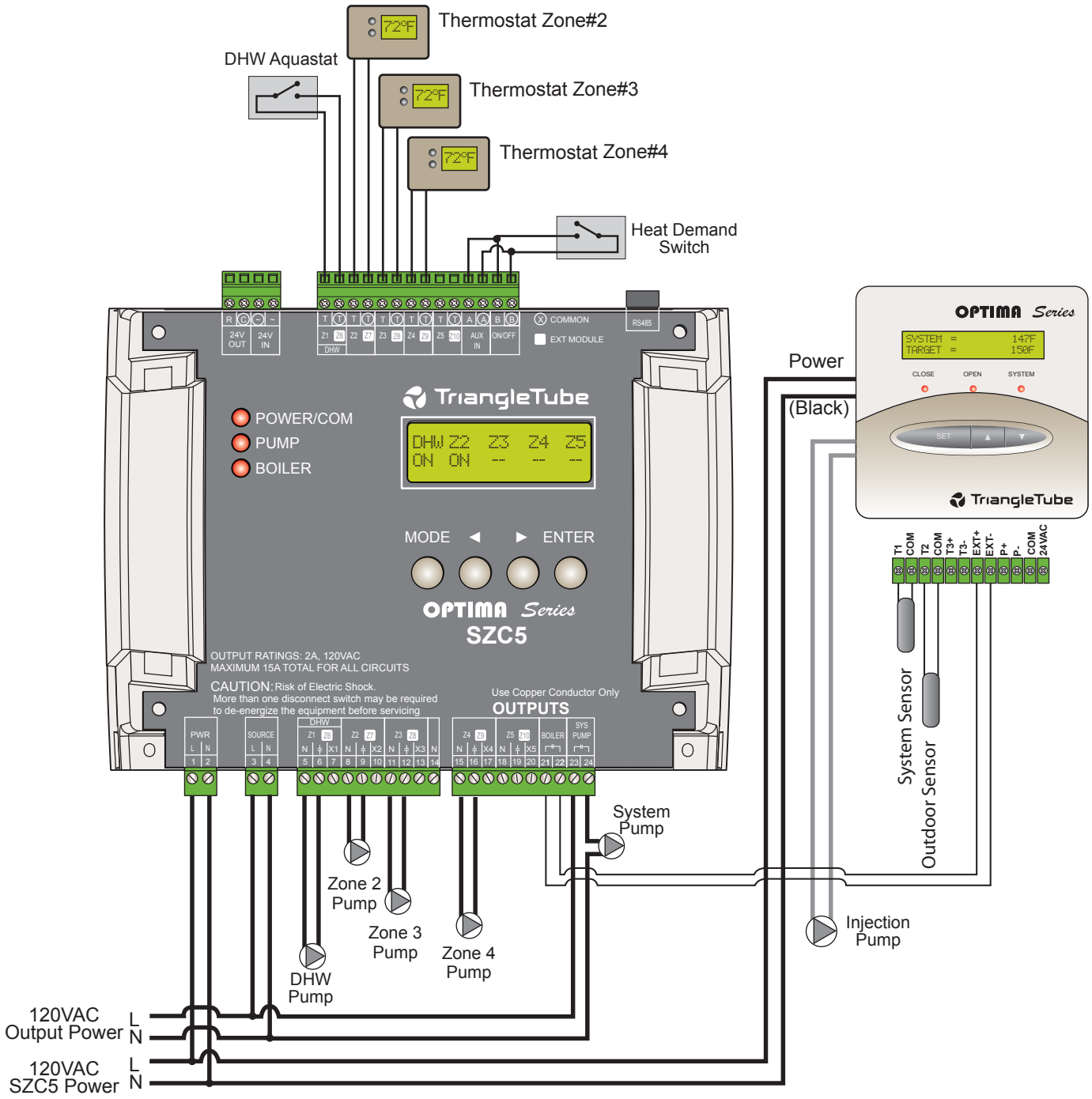
SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = N**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

SZC5 (Zone Pumps) Activates the SIM and DHW Operation



SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = N**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

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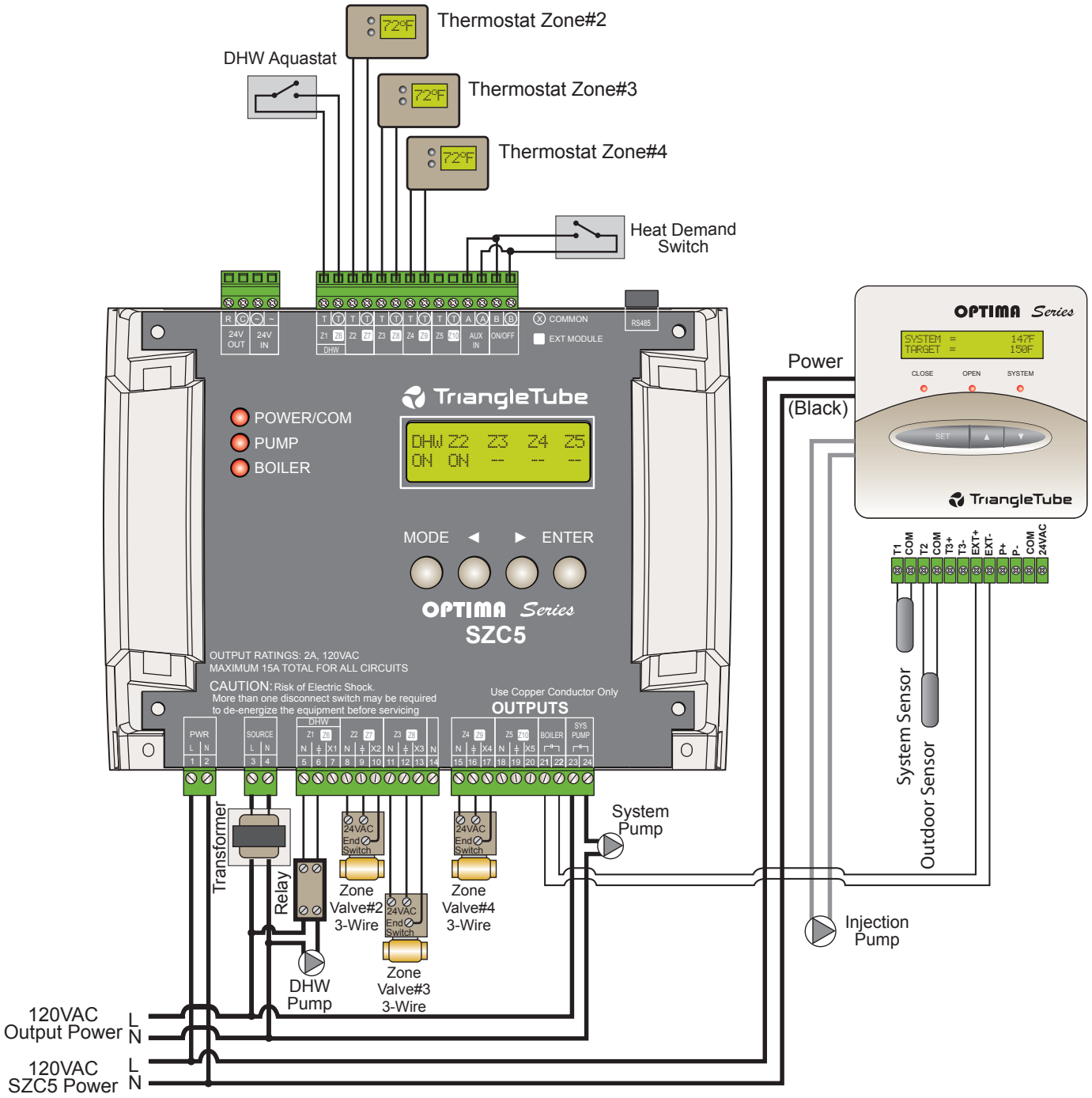
SZC5 (Zone Valves) Activates the SIM and DHW Operation



SIM SETTINGS:

- **Control Mode = Outdoor Reset**
- **Pump Run-On = 0 minutes**

SZC5 SETTINGS:

- **Master Mode = Y**
- **Zone Valves with End Switch = Y**
- **Zone (1) DHW = Y**
- **Heat Demand Enable = Short**
- **Pump Run-On = 5 minutes**

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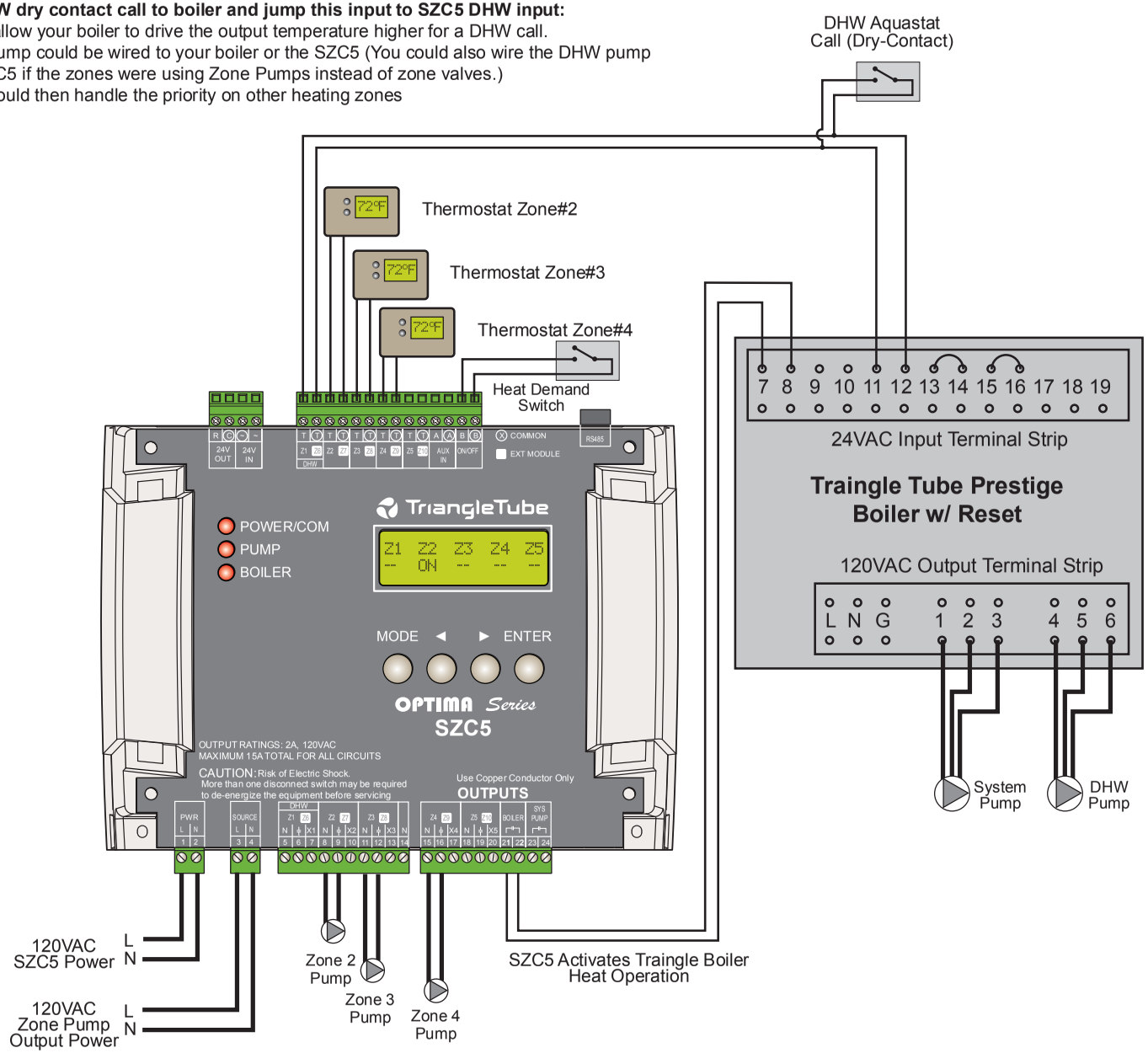
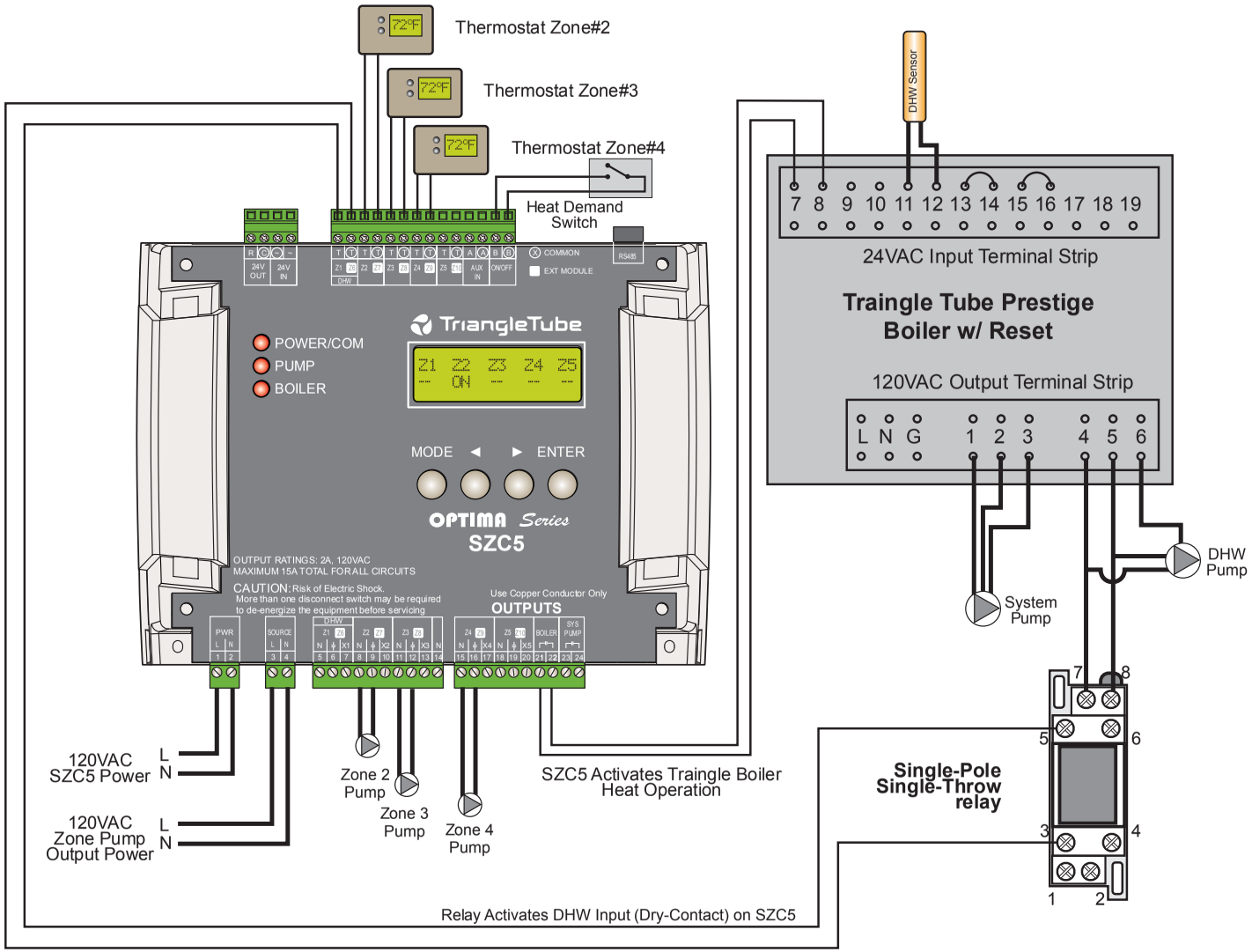
Option A: DHW Dry-Contact Call Wired to Both PRESTIGE and SZC5

A) Wire DHW dry contact call to boiler and jump this input to SZC5 DHW input:
This would allow your boiler to drive the output temperature higher for a DHW call.
The DHW Pump could be wired to your boiler or the SZC5 (You could also wire the DHW pump from the SZC5 if the zones were using Zone Pumps instead of zone valves.)
The SZC5 could then handle the priority on other heating zones



Option B: DHW Sensor Call Wired to PRESTIGE

B) If you wanted to bring the DHW Temperature Sensor to your boiler (instead of Dry DHW Call):
Wire DHW TEMPERATURE SENSOR to your boiler.
The DHW output of your boiler enables the DHW Pump along with a SPST relay.
The relay output would take a dry contact closure to the DHW input of the SZC5.
The SZC5 would then handle the priority of the heating zones.



Specifications

Voltage Input: . . . . . .120 VAC 60 Hz
Power Consumption: . . . . . 15 VA Max
System Pump and Boiler Outputs: . . . . . 2 N.O. S.P.S.T
Zone Outputs: . . . . . 5 Zones (Sourcing Power)
Zone Power: . . . . . Either 24VAC or 120VAC depending on the input to the Source terminals
Zone Pump Output Relay Ratings: . . . . . 1/6 HP, 120 VAC 60 Hz
Zone Valve Output Relay Ratings: . . . . . 24 VA (1 Amp, 24 VAC 60 Hz)
Display: . . . . . .32 character (2 rows with 16 characters each)
LEDs: . . . . . 3 (1 Power/Communication, 1 System Pump, and 1 Boiler)
Buttons: . . . . . 4 (Mode, ◄, ►, and Enter)
Control Operating Mode: . . . . . .Master or Slave
Zone Operation Modes: . . . . . Zone Valve or Zone Pump
Boiler warm-up: . . . . . 0, 2, 5, 10 minutes
Pump Run-On: . . . . . 0, 2, 5, 10 minutes
Domestic Hot Water Zone: . . . . . Zone 1 is adjustable as heating zone or DHW zone
DHW Priority: . . . . . Can be set to No Priority, 30, or 60 minute priority
Pump Exercise: . . . . . .Can be enabled or disabled
Thermostat Inputs: . . . . . 5 Thermostat inputs (can be dry contact, 24 VAC, or Honeywell Power Robbing)
Enable/Disable Input: . . . . . 1 Dry-contact adjustable to enable on Short or Open
Maximum number of SZC5s connected: . . . . . .2 (Set one as Master and the other as Slave)
System Pump Enable Input: . . . . . 1 Dry-contact to enable System Pump Output on Short
Dimensions: . . . . . .3-½" x 13-¼" x 8-¾"
Weight: . . . . . 2 pounds
SZC5 Communication Cable: . . . . . PSCAB01 Ordered Separately

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