



Instruction Sheet

SR503-EXP Switching Relay

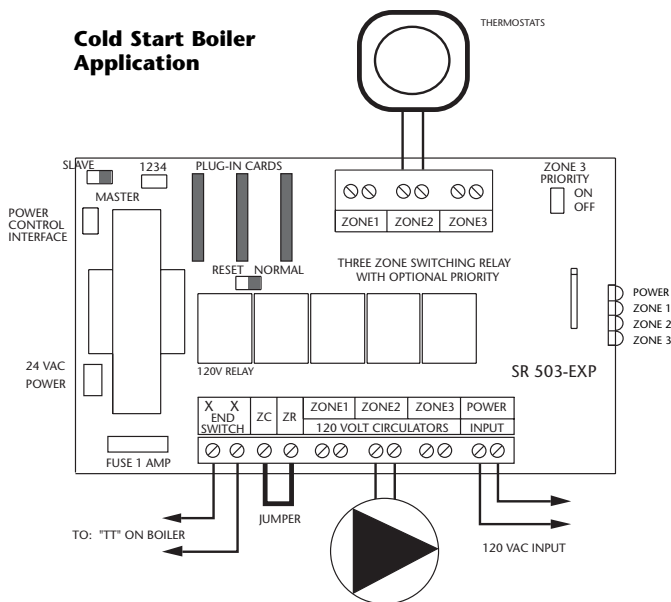
102-086

SUPERSEDES: 102-086 December 1, 1998

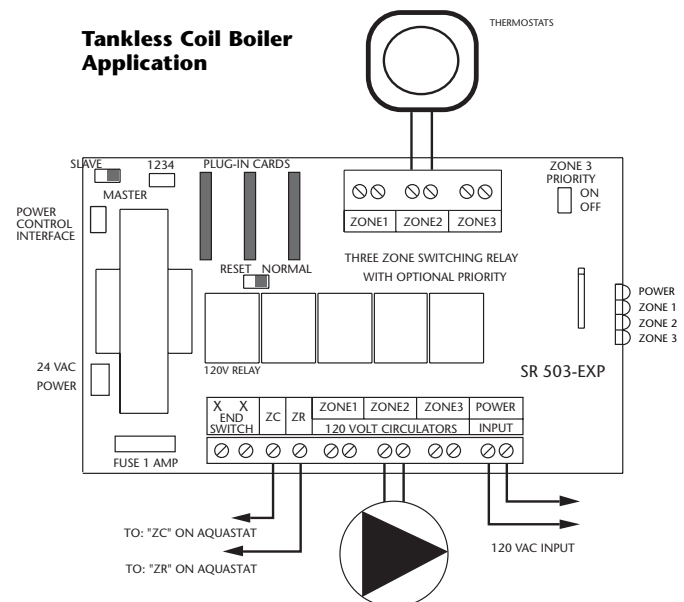
EFFECTIVE: December 1, 1999

Plant ID# 9300-860

Cold Start Boiler Application



Tankless Coil Boiler Application



Operation: When the thermostat calls for heat, the appropriate circulator is energized and the isolated end switch (X and X) will start the boiler.

Priority Operation: When zone 3 is switched to the priority setting and is actuated, all other zones will stop operation until zone 3 is satisfied. When zone 3 is not switched to priority, all zones will operate independently.

Mode Operation: When the mode switch is set to NORMAL, the end switch relay will be energized if any zone is in operation. When the switch is set to RESET, the end switch relay will only be energized if priority zone is in operation, or through the operation of a plug-in reset control.

Jumper Placement: The jumper should be placed between terminals ZC and ZR. Connect the isolated end switch (X and X) to the aquastat control on the boiler.

Power Input: Connect 120 volt ac power input to terminals N and H. Neutral wire to terminal N. Hot wire to terminal H.

Expansion Connections: Set the expansion switch to MASTER on the switching relay that has the designated priority zone or is utilizing the PowerPort options. Set all other daisy chained controls to SLAVE. Connect thermostat wire (18-22 gauge) between terminals 1, 2, 3, 4 on the master control to the corresponding 1, 2, 3, 4 on the SLAVE control(s). Controls may be daisy chained up to 20 zones using any combination of -EXP controls.

Operation: When any thermostat calls for heat, the boiler is given a signal to start. The appropriate circulator is energized only when the boiler temperature is above the set low limit.

Priority Operation: When zone 3 is switched to the priority setting and is actuated, all other zones will stop operation until zone 3 is satisfied. When zone 3 is not switched to priority, all zones will operate independently.

Mode Operation: When the mode switch is set to NORMAL, the end switch relay will be energized if any zone is in operation. When the switch is set to RESET, the end switch relay will only be energized if priority zone is in operation, or through the operation of a plug-in reset control.

Jumper Placement: REMOVE the jumper between terminals ZC and ZR. Connect terminal ZC to ZC terminal on the aquastat control. Connect terminal ZR to ZR terminal on the aquastat control. Confirm polarity is consistent between boiler aquastat and switching relay.

Power Input: Connect 120 volt ac power input to terminals N and H. Neutral wire to terminal N. Hot wire to terminal H.

Expansion Connections: Set the expansion switch to MASTER on the switching relay that has the designated priority zone or is utilizing the PowerPort options. Set all other daisy chained controls to SLAVE. Connect thermostat wire (18-22 gauge) between terminals 1, 2, 3, 4 on the master control to the corresponding 1, 2, 3, 4 on the SLAVE control(s). Controls may be daisy chained up to 20 zones using any combination of -EXP controls.

Features: External Indicator Lights
Plug-In PowerPort Cards
Switchable Priority
Simplified Wiring
Add-On Power Controls
Fully Enclosed Snap-Out Relays
Compact Design
Fuse Protected
100% Factory Tested

Isolated End Switch
Expandable to 20 Zones
Contractor Friendly PC Board Layout
Universal Thermostat Compatibility
UL Approved
24 volt Power Input or Output Terminal
Extended 3 Year Warranty
Made in the USA

External Diagnostics: Externally visible lights show full functionality of the switching relay. The green light should always be on, indicating that power is connected. When the thermostat calls for heat, both the appropriate circulator and red indicating light is energized.

Specifications:

| PRODUCT NUMBER | NUMBER OF ZONES | POWER PORTS | TRANSFORMER VOLTAGE | MAXIMUM COMBINED LOAD | DIMENSIONS OF ENCLOSURE WIDTH | HEIGHT | DEPTH |
|----------------|-----------------|-------------|---------------------|-----------------------|-------------------------------|--------|--------|
| SR503-EXP | 3 with Priority | 3 | 120 VAC Input | 20 amps | 10 1/4" | 6 3/4" | 2 3/4" |

All Switching Relays are relay type DPST, have a thermostat current of .18, and have a single phase motor rating per zone of 1/3 hp (7.2A) @ 120 VAC.

Warning: 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. 10-18 gauge wire recommended for 120 VAC connections with 9 in.lbs. max torque, 12-22 gauge wire for thermostat connections with 9 in.lbs. max torque, and 12-22 gauge wire for 24 VAC source with 5 in.lbs. max torque.

Do it Once. Do it Right.

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