

FOR  
THE  
HEATING  
PROFESSIONAL



# Guide *to* Energy Savings

WIRING THE BECKETT **AquaSmart**® ADVANCED BOILER CONTROL

*Beckett*

# Table of Contents

<b>Section I: Single Zone Relays .....</b>	<b>4</b>
AquaSmart A or B single-zone connections .....	5
AquaSmart A or B multi-zone connections with main zone circulator.....	6
AquaSmart A or B multi-zone connections with indirect H/W circulator.....	7
AquaSmart A or B circulator on-delay on all zones .....	8
<b>Section II: Zone Valves.....</b>	<b>9</b>
AquaSmart A or B with Honeywell V8043E/V8044E zone valves .....	10
AquaSmart A or B with Honeywell V8043F zone valves .....	11
AquaSmart A or B with Taco 550 zone valves.....	12
AquaSmart A or B with Honeywell V8043E/V8044E zone valves & main zone circulator.....	13
AquaSmart A or B with Honeywell V8043E/V8044E zone valves & indirect H/W circulator.....	14
AquaSmart A or B with Taco 550 zone valves & main zone circulator .....	15
AquaSmart A or B with Taco 550 zone valves & indirect H/W circulator .....	16
AquaSmart A or B with Honeywell V8043F & main zone circulator.....	17
AquaSmart A or B with Honeywell V8043F zone valves & indirect H/W circulator.....	18
AquaSmart A or B with Honeywell V8043E/8044E zone valves with indirect H/W wired as priority.....	19
AquaSmart A or B with Honeywell V8043F zone valves with indirect H/W wired as priority .....	20
AquaSmart A or B with Taco 550 zone valves with indirect H/W wired as priority.....	21
AquaSmart B only. Zone valves powered with 7600B. Circulator on-delay on all valves.....	22
<b>Section III: Zone Panels .....</b>	<b>23</b>
AquaSmart A or B Taco SR503 zone panel & indirect H/W circulator .....	24
AquaSmart A or B with Taco SR503 zone panel & main zone circulator.....	25
AquaSmart A or B with Taco SR504 zone panel .....	26
AquaSmart A or B with Taco SR504 zone panel & indirect H/W circulator.....	27
AquaSmart A or B with Taco ZVC406 zone valve wiring panel .....	28
AquaSmart A or B with Taco ZVC406 zone valve wiring panel & indirect H/W circulator .....	29
AquaSmart A or B with Argo 861 zone panel.....	30
AquaSmart A or B with Argo 861 zone panel & main zone circulator.....	31
AquaSmart A or B with Argo 861 zone panel & indirect H/W circulator .....	32
AquaSmart A or B with Taco HAFC101 Hydro-Air wiring panel.....	33
<b>Section IV: Install AquaSmart with Line Voltage Thermostat.....</b>	<b>34</b>
AquaSmart A or B with line voltage thermostat .....	35
AquaSmart A or B with line voltage thermostat & indirect H/W circulator .....	36
<b>Section V: Direct Replacement of Honeywell Aquastat® Relays to Beckett AquaSmart .....</b>	<b>37</b>
AquaSmart B only. Single zone connections to replace with millivolt gas valve.....	38
AquaSmart A only. Single-zone replacement for Honeywell R8182H .....	39
Direct Replacement of Honeywell L8148A with AquaSmart A.....	40
Direct Replacement of Honeywell L8124A with AquaSmart A.....	41

\*Aquastat is a registered trademark of Honeywell International, Inc.

Direct Replacement of Honeywell L7224U with AquaSmart A.....	42
Direct Replacement of Honeywell L8182D with AquaSmart A & GeniSys 7505A .....	43
RIB (Relay In a Box).....	44
<b>Section IV - Cross-Reference Guide.....</b>	<b>45</b>
AquaSmart Cross-Reference Guide - Direct Replacements .....	46
AquaSmart Cross-Reference Guide - Functional Replacements .....	47

Please refer to the latest edition of 61738 AquaSmart manual for complete specifications and installation instructions.

**This is your Guide to Energy Savings, it is not intended to supersede the appliance manufacturer’s published specifications. Always follow the appliance manufacturer’s published instructions, wiring diagrams and recommendations.**  
**\*For technical assistance please call 1-800-645-2876 (8:00am - 5:00pm Mon-Fri)\***

**⚠ WARNING** Do not use in steam applications. For use in hot water boilers or water heaters only. Do not use outside of the intended use and specifications.

**⚠ WARNING** Electrical Shock, Fire, Explosion and Burn Hazards  
*This control must be installed, adjusted and put into operation only by a trained, licensed, qualified professional or service agency in accordance with the latest revision of the National Electric Code ANSI/NFPA 70 (Canada CSA C22.1) state, local codes and authorities having jurisdiction.*

- Follow the appliance manufacturer’s wiring diagrams and note all safety controls.
- Typical safety controls include high temperature or pressure limits, low water cut-offs, anti-scald valves, pressure relief valves and water feed valves.
- Verify all limits and safety controls are installed and functioning correctly, as specified by the appliance manufacturer, applicable safety standards, codes and all authorities having jurisdiction.
- Provide ground wiring to the appliance, burner and controls.

**⚠ WARNING** Explosion Hazard. Can Cause Severe Injury, Death or Property Damage.  
 Use this product only in systems with a pressure relief valve.

**⚠ WARNING** Electrical Shock Hazard. Can Cause Severe Injury, Death, or Equipment Damage.  
*Disconnect power before wiring to prevent electrical shock or equipment damage.*

- All wiring must comply with local electrical codes and ordinances. The limits given in the specifications section must not be exceeded when applying this control. Terminals on the AquaSmart are approved for copper wire only.
- Refer to the label on the inside of the AquaSmart door or to Technical Specifications in this manual for Electrical ratings and maximum load information. Use manufacturer instructions when wiring controlled equipment or refer to typical hook-ups in the AquaSmart Manual. (#61738).
- More than one service switch may be needed to disconnect all power to the AquaSmart. The optional power disconnect switch interrupts power to the AquaSmart control. Depending on system wiring, some terminals and connections (most notably ZR and the input to the optional power disconnect switch) may still be live.

## Section I: Single Zone Relays

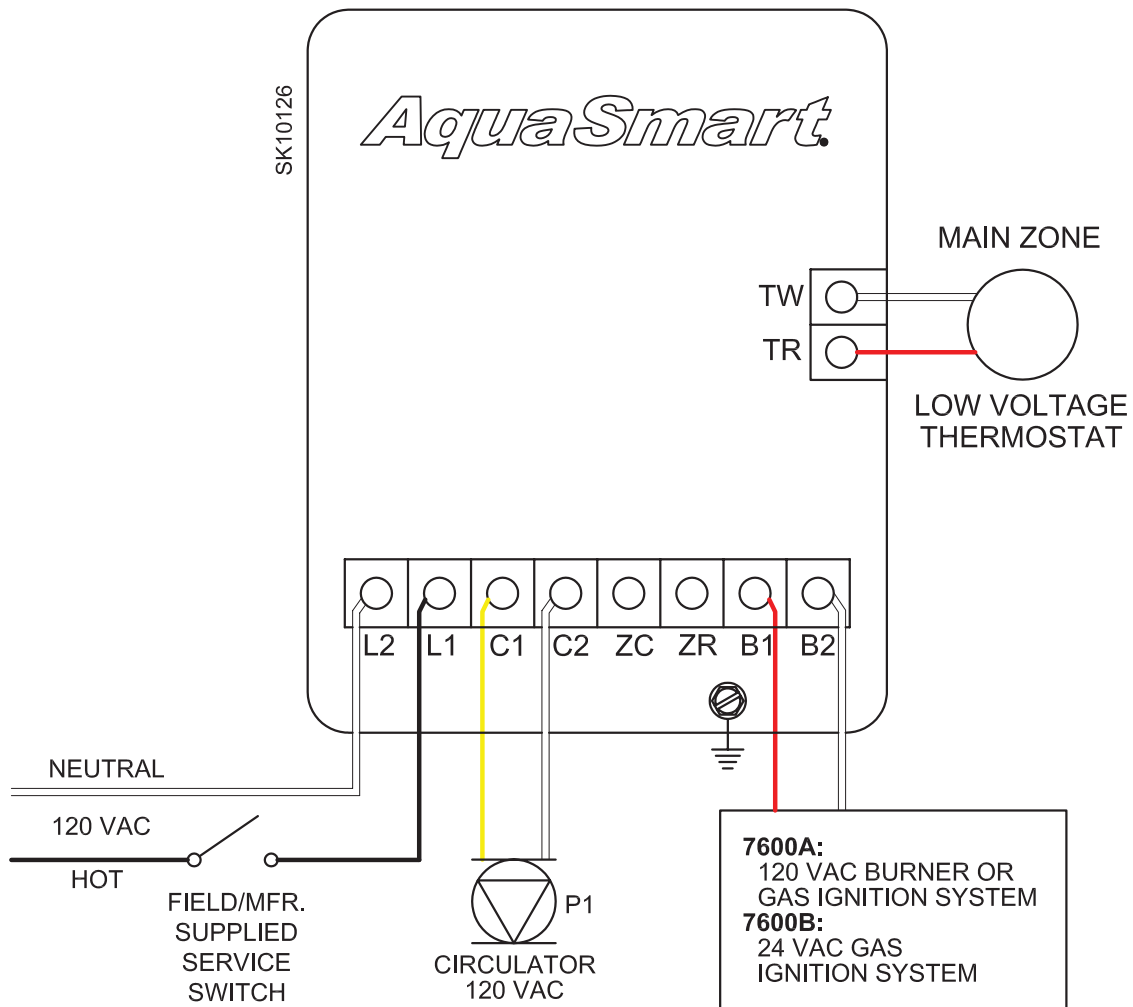
SPECIAL NOTICE: All temperature designations in this guide are degrees Fahrenheit (°F).

- Use the temperatures shown in the examples for typical reference only.
- Always follow the appliance manufacturer's instructions regarding temperature settings.

## AquaSmart A or B single-zone connections (with or without tankless H/W coil)

### Control Programming - *for optimal energy savings*

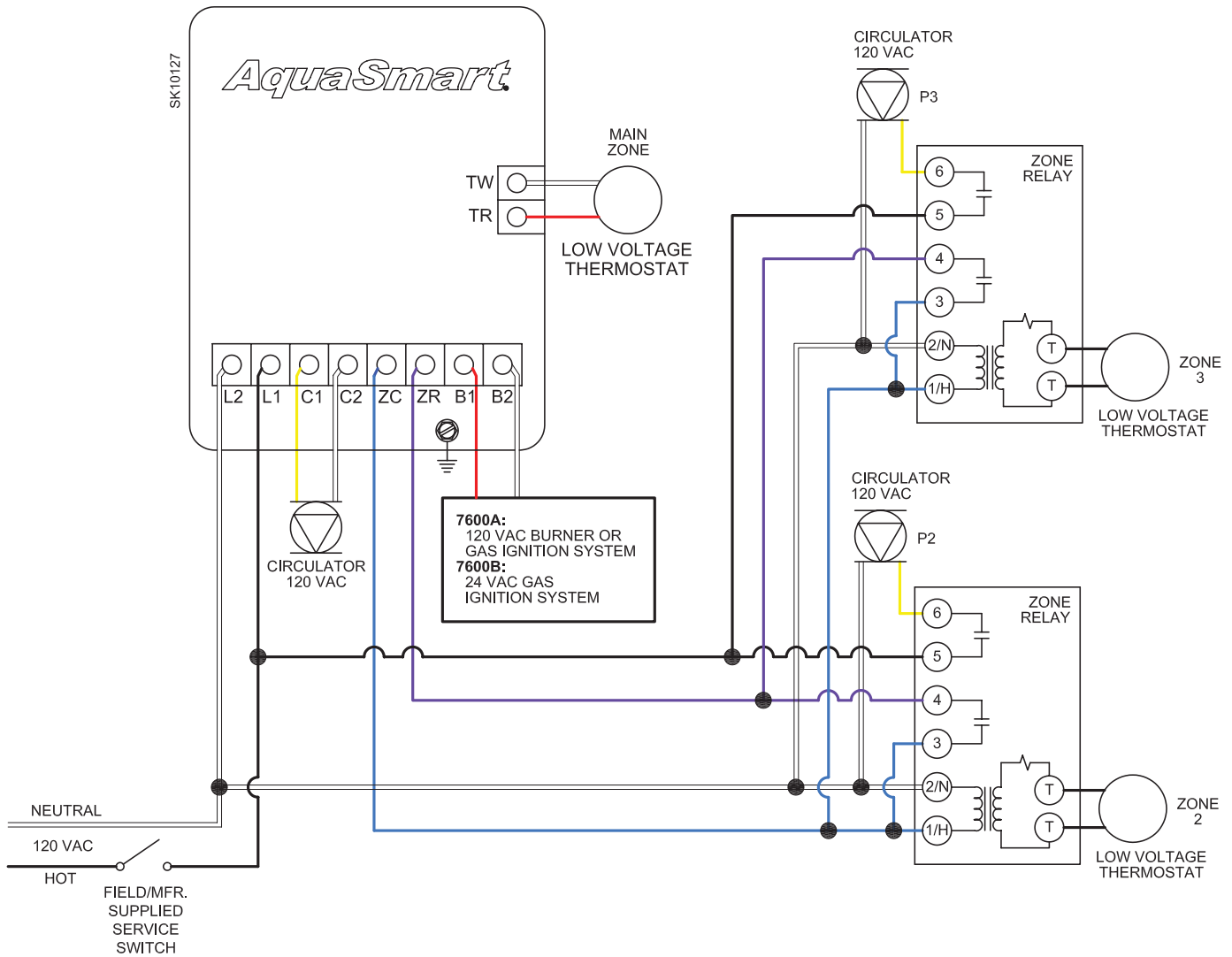
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: 4 Minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B multi-zone connections with main zone circulator (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

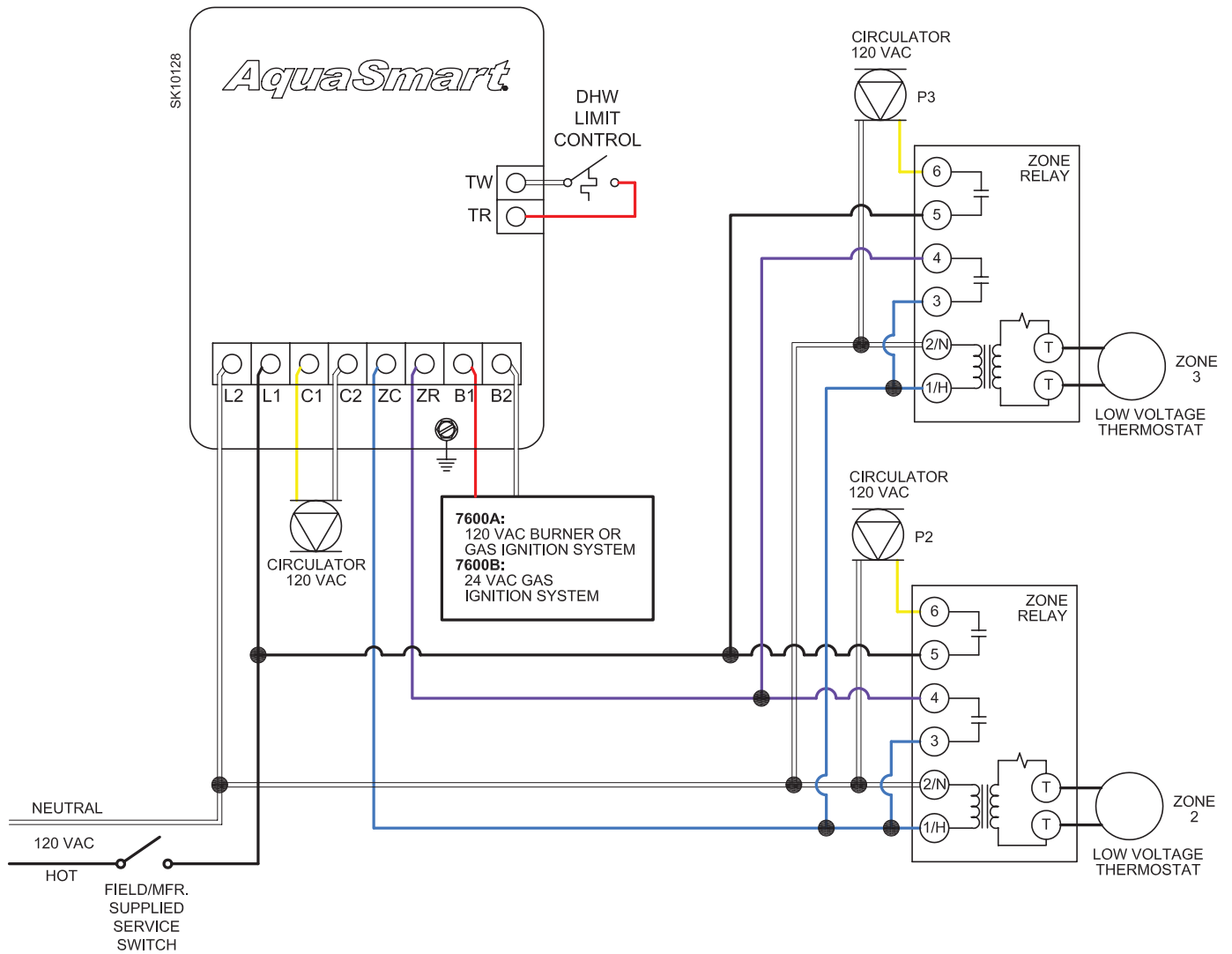
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: "OFF"
9. Circulator Off-Delay: 4 Minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B multi-zone connections with indirect H/W circulator

## Control Programming - for optimal energy savings

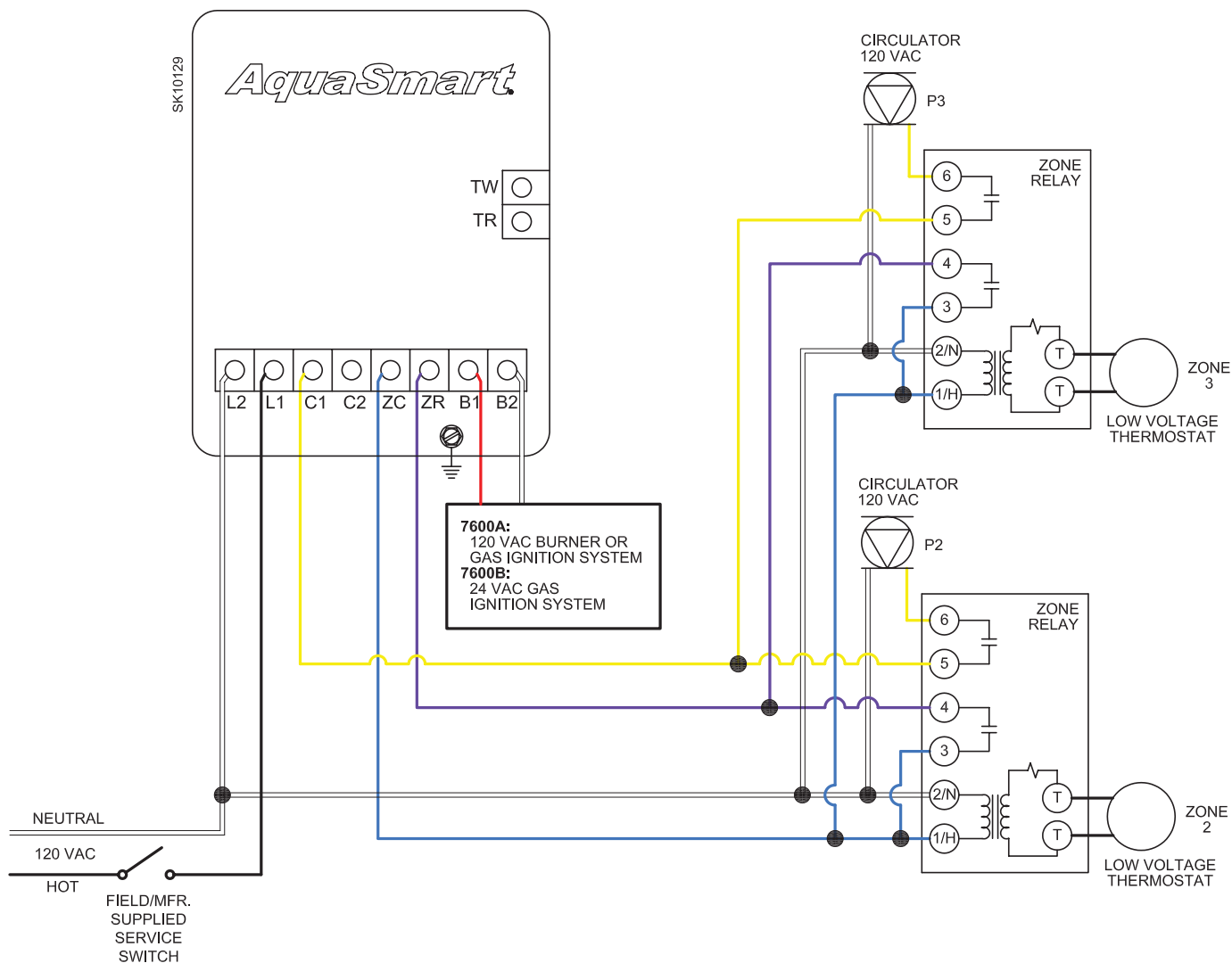
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B circulator on-delay on all zones (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "ZR"
8. Circulator On-Delay: As Needed
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"





## Section II: Zone Valves

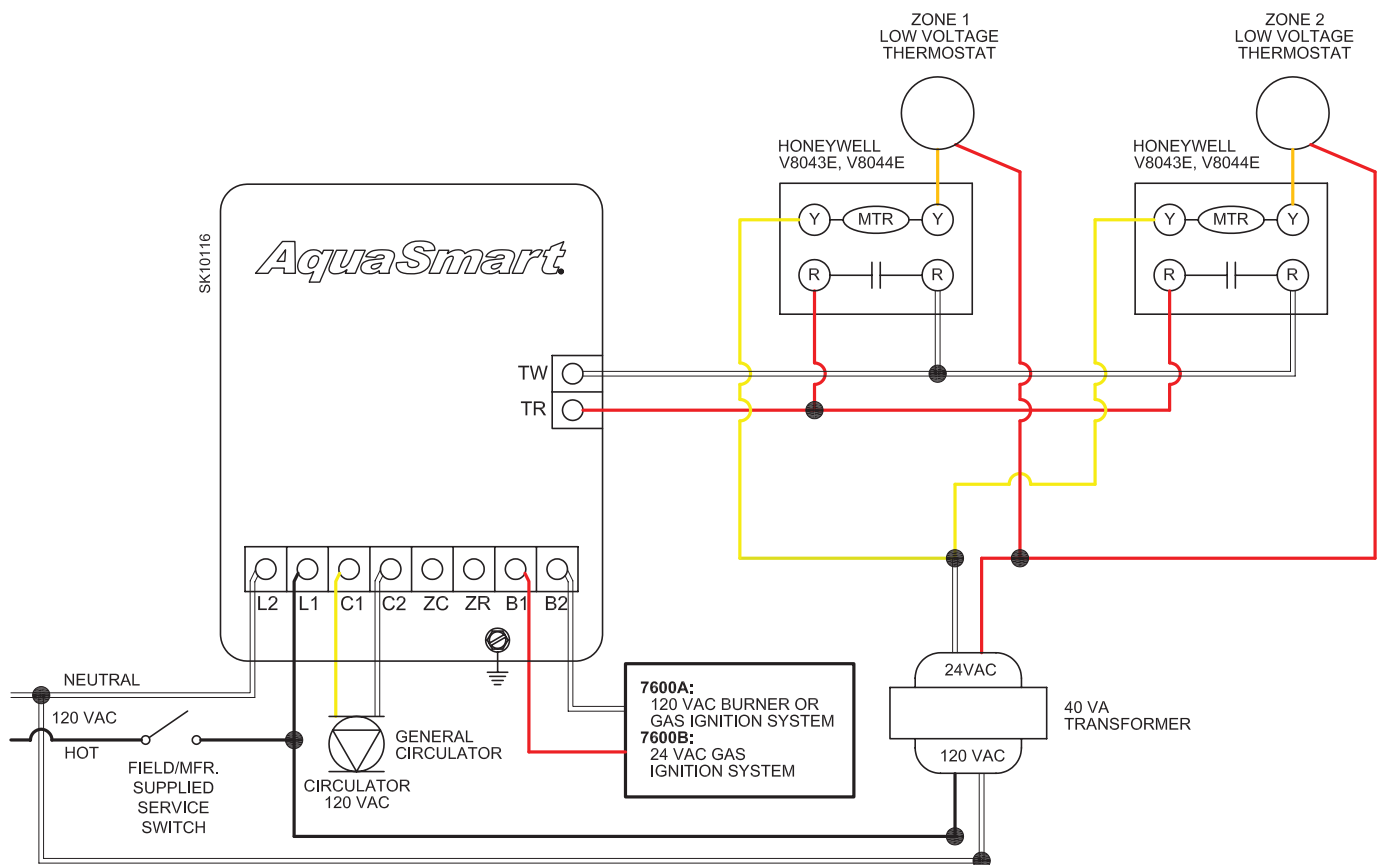
SPECIAL NOTICE: All temperature designations in this guide are degrees Fahrenheit (°F).

- Use the temperatures shown in the examples for typical reference only.
- Always follow the appliance manufacturer's instructions regarding temperature settings.

# AquaSmart A or B with Honeywell V8043E/V8044E zone valves (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

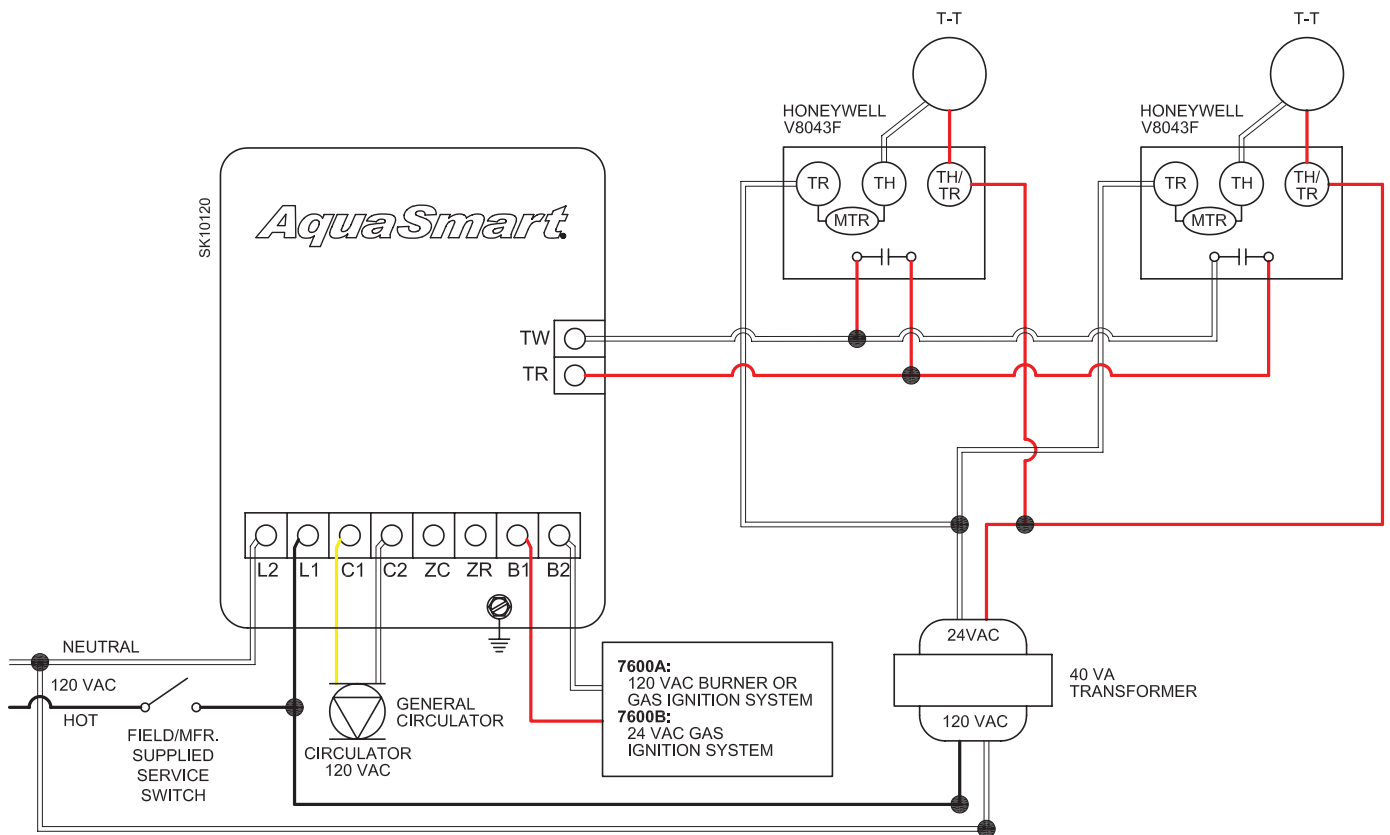
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043F zone valves (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

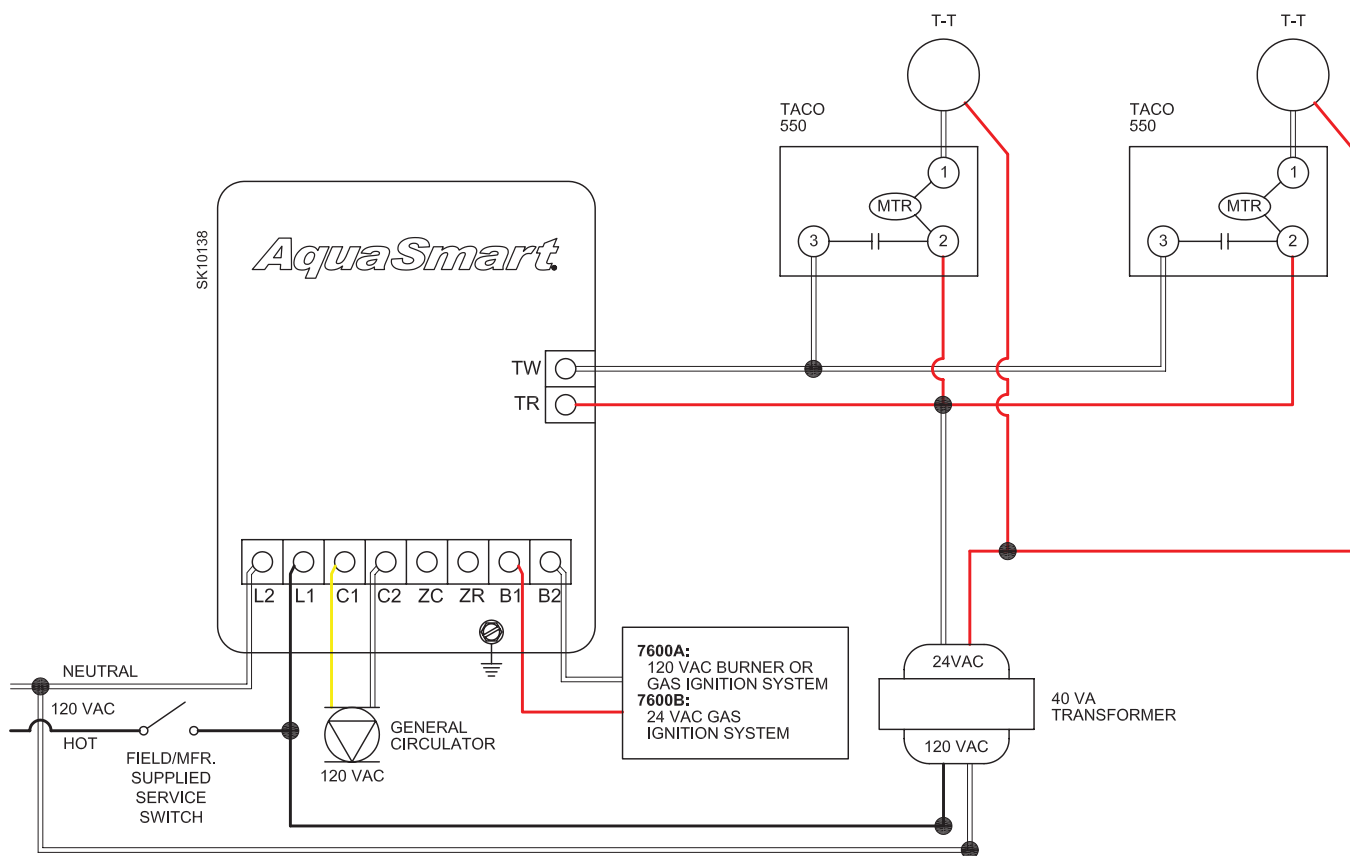
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



## AquaSmart A or B with Taco 550 zone valves (with or without tankless H/W coil)

### Control Programming - for optimal energy savings

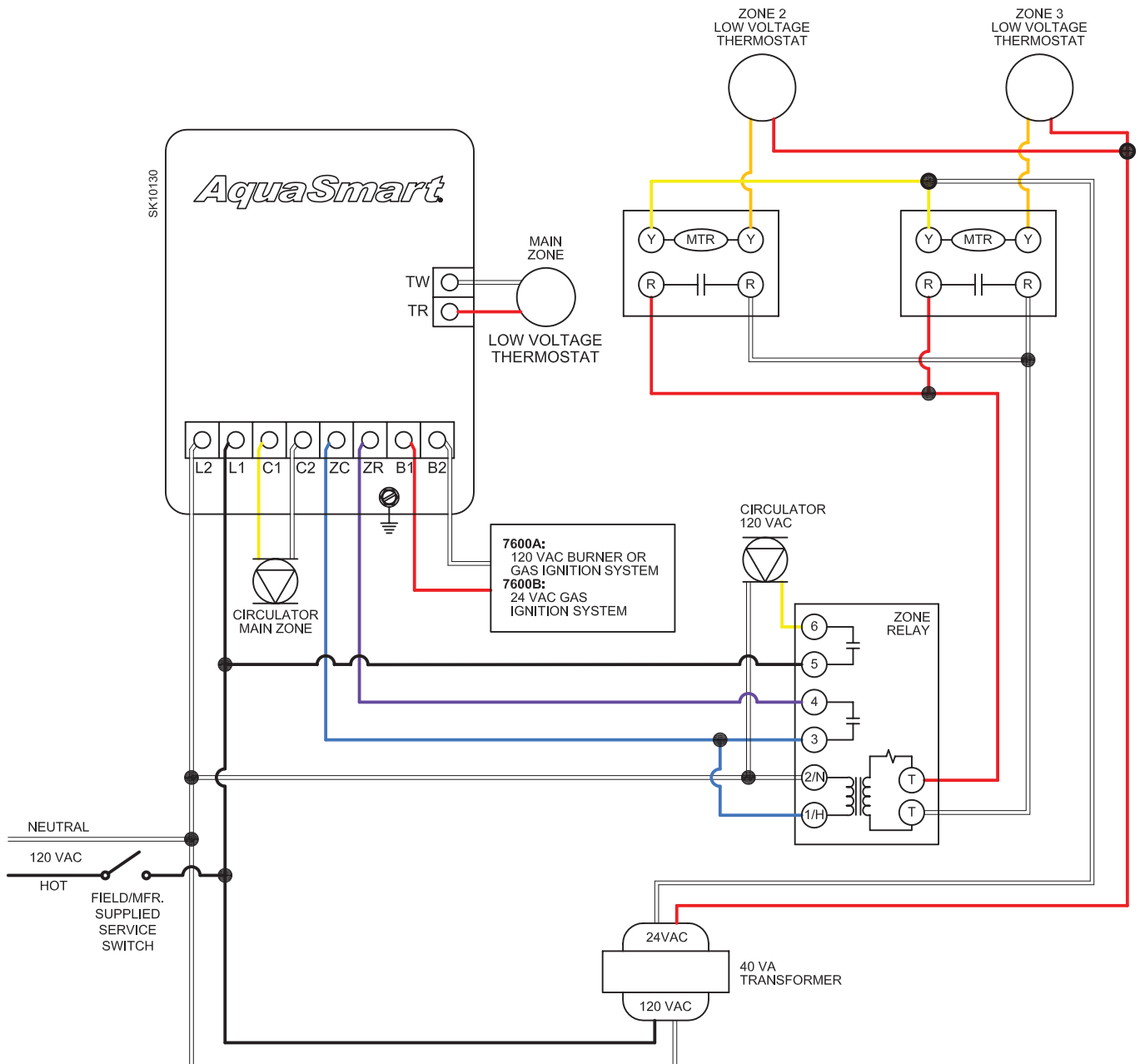
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043E/V8044E zone valves & main zone circulator (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

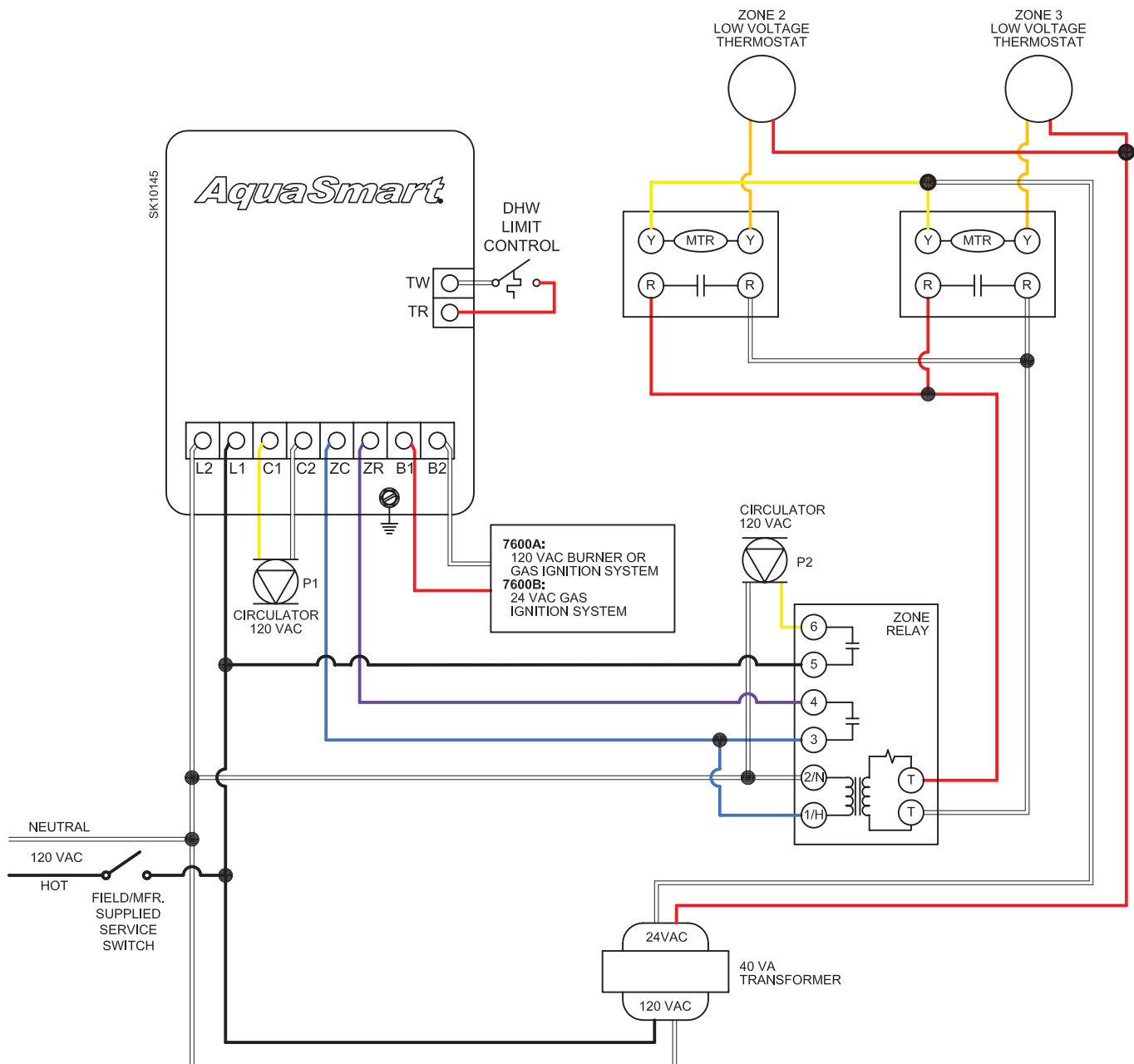
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: "30 Seconds"
9. Circulator Off-Delay: 4 minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043E/V8044E zone valves & indirect H/W circulator

## Control Programming - for optimal energy savings

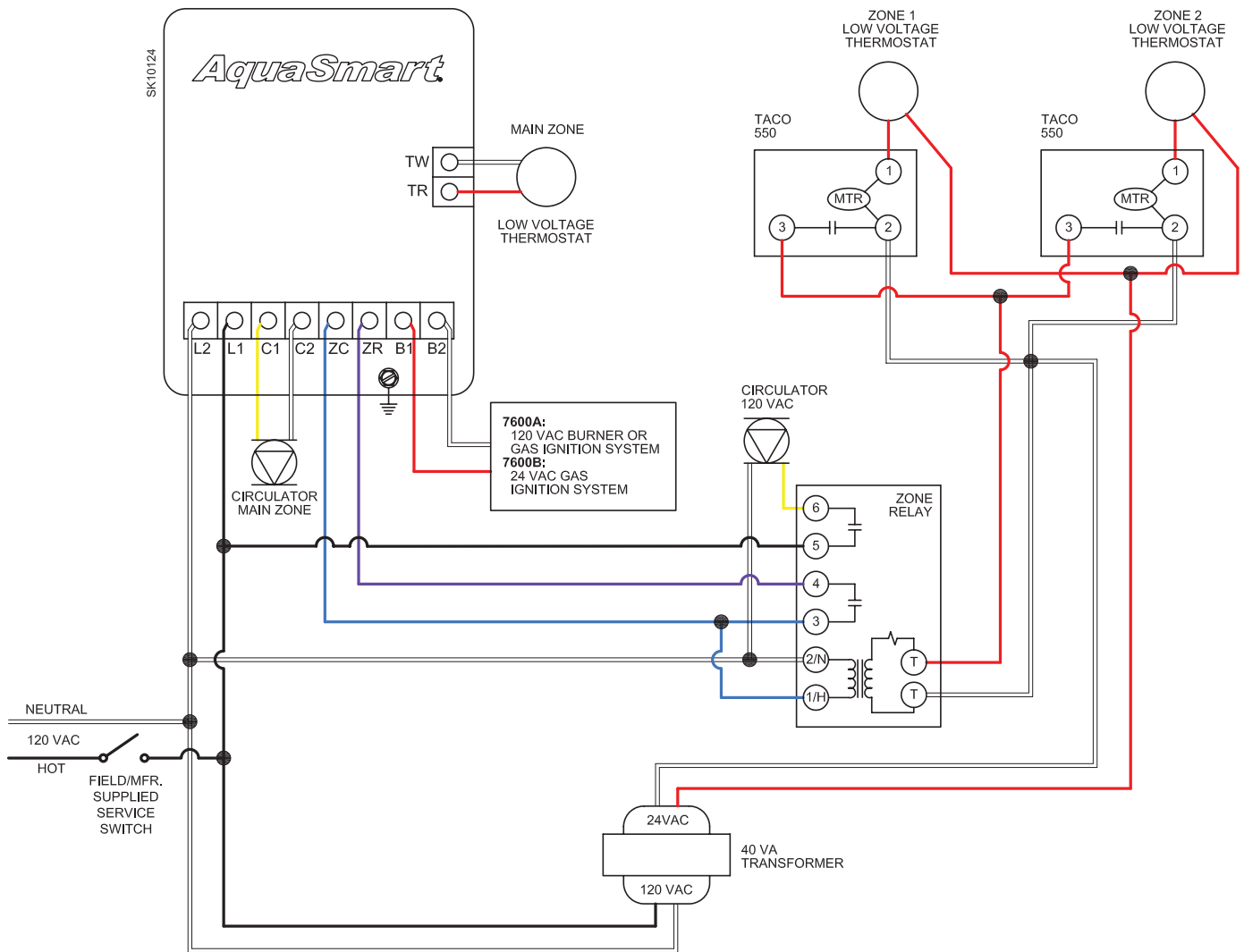
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B with Taco 550 zone valves & main zone circulator (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

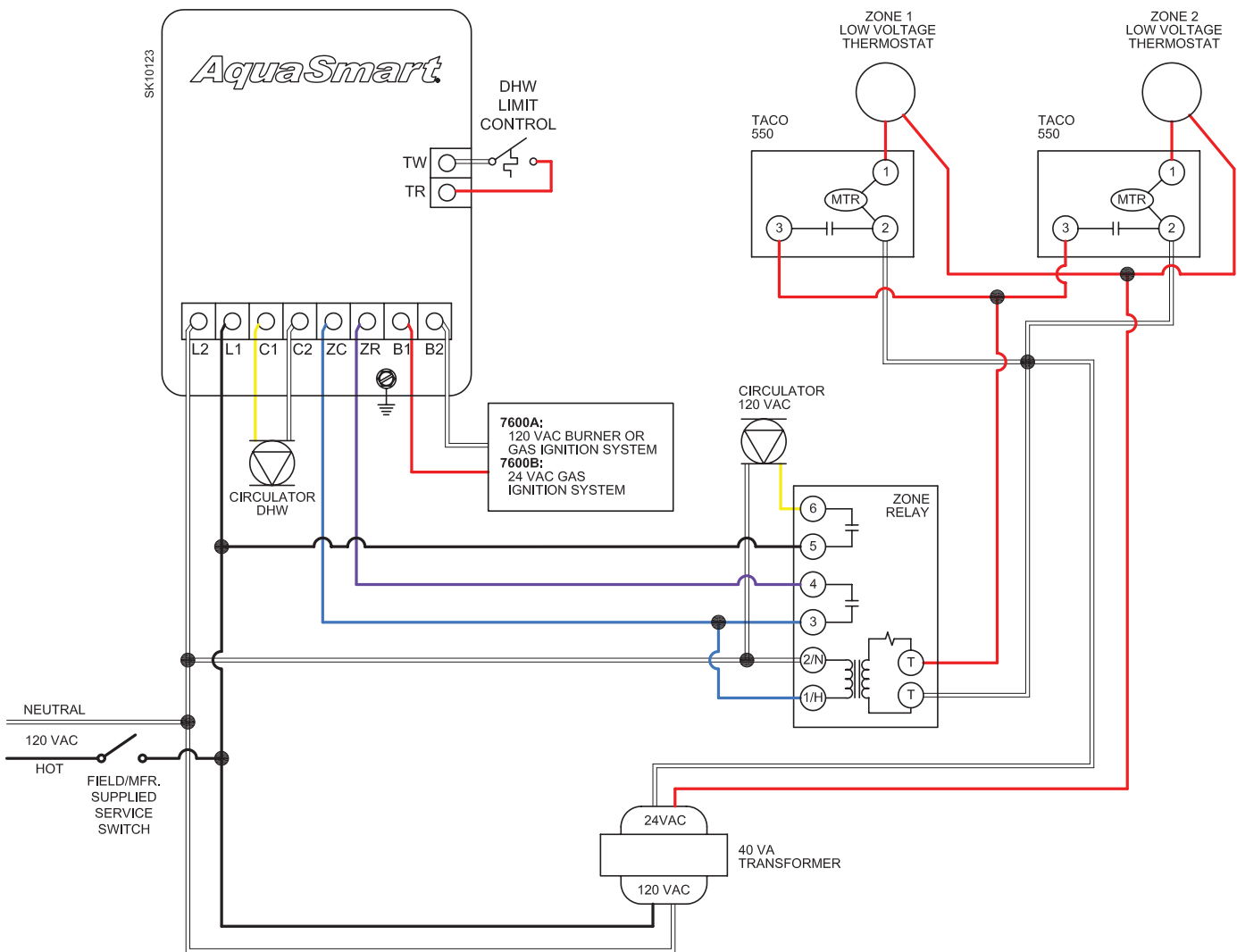
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: 4 Minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Taco 550 zone valves & indirect H/W circulator

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"

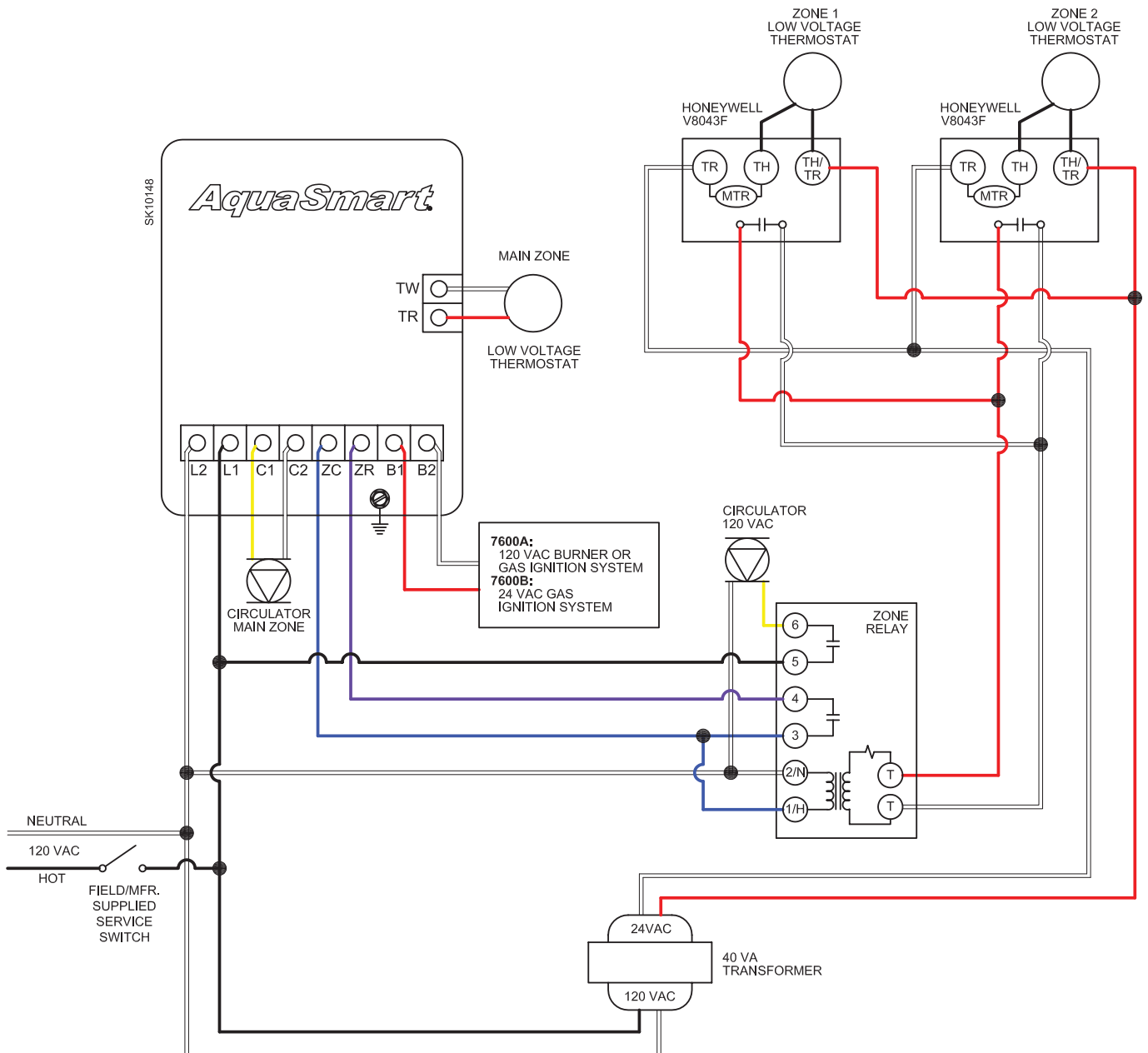




# AquaSmart A or B with Honeywell V8043F & main zone circulator (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

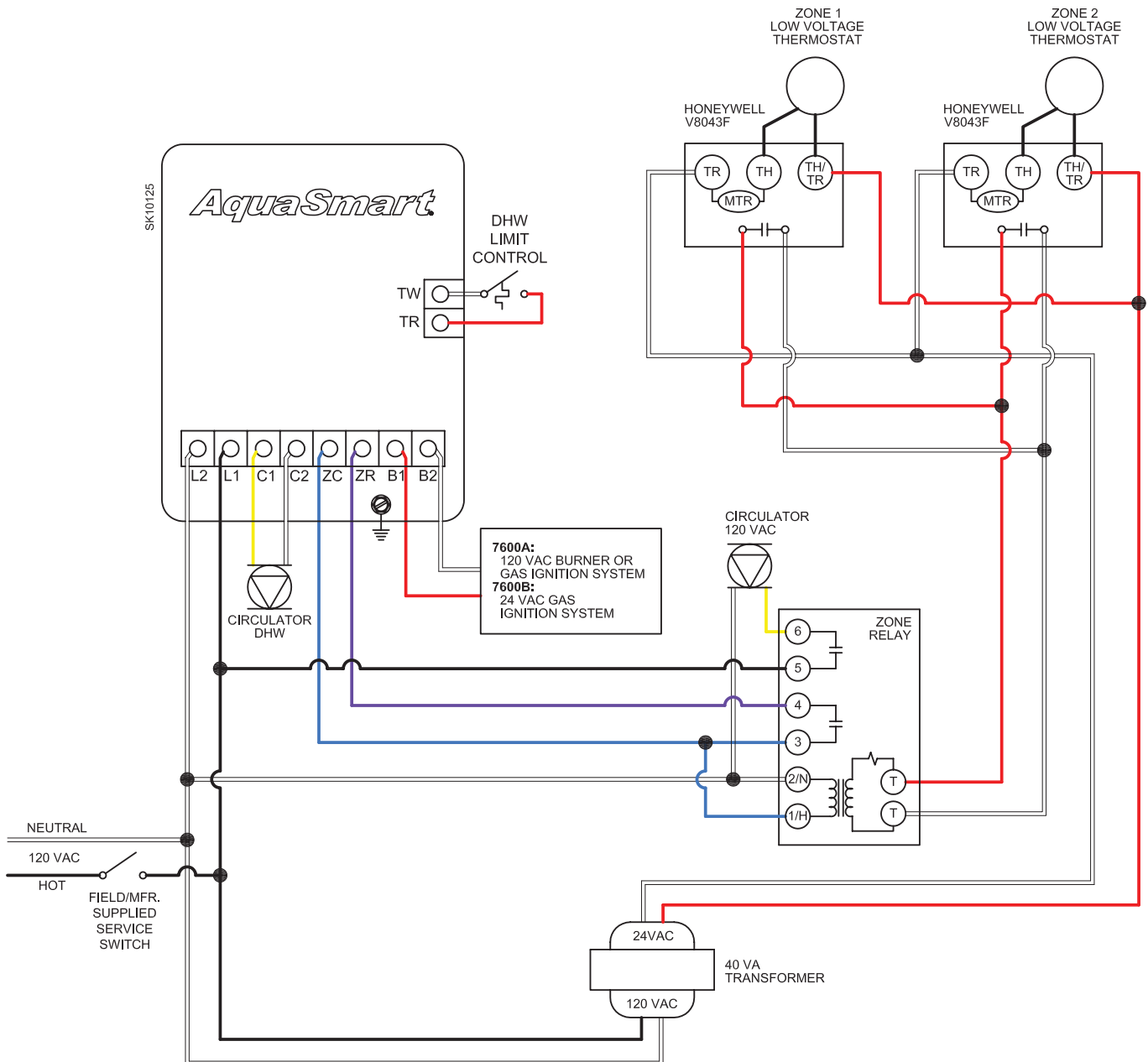
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: "OFF"
9. Circulator Off-Delay: 2 - 4 Minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043F zone valves & indirect HW circulator

## Control Programming - for optimal energy savings

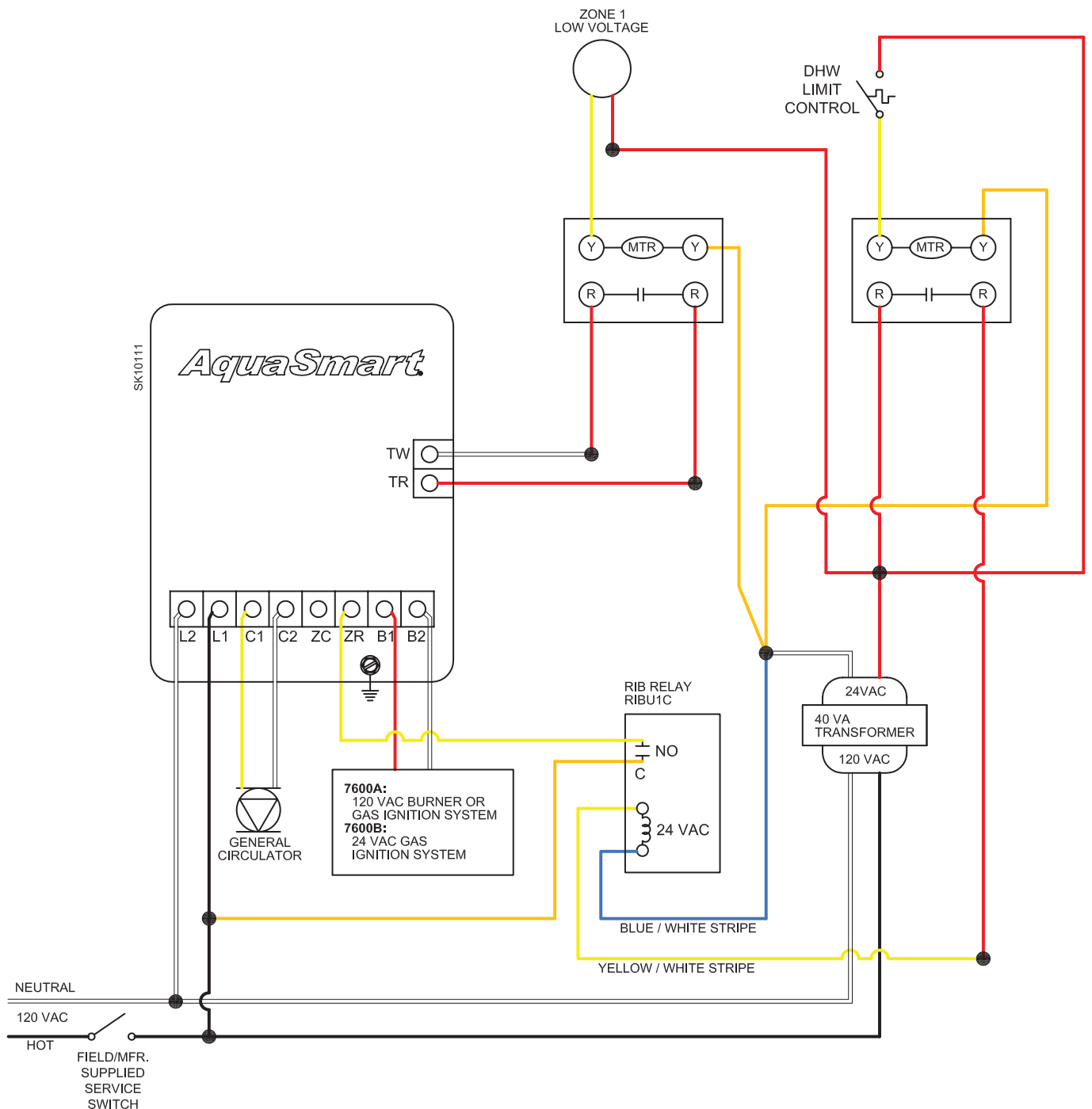
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043E/8044E zone valves with indirect H/W wired as priority

## Control Programming - for optimal energy savings

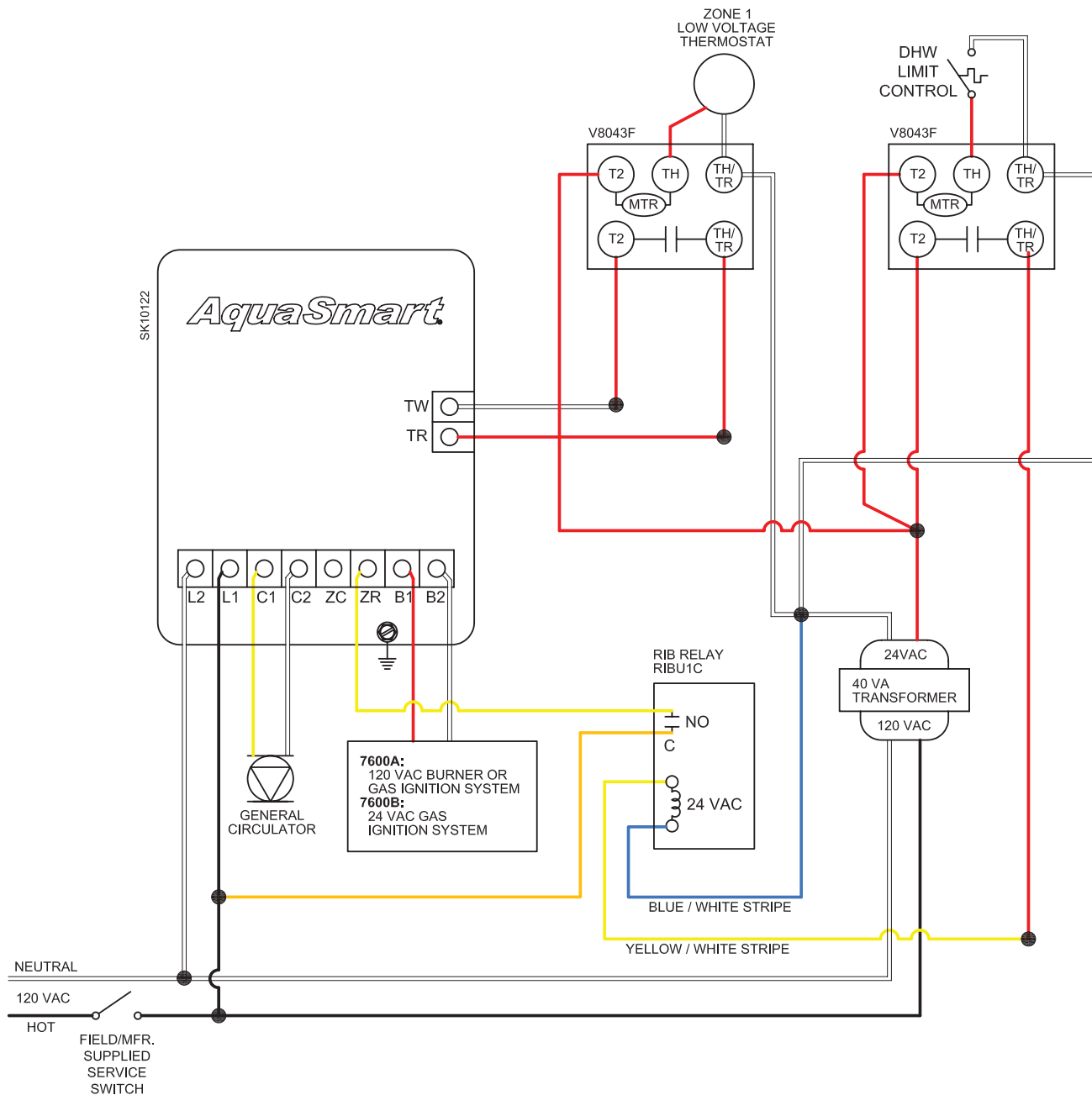
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "ZR"
5. Set Circulator on "BOTH"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: "OFF"
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B with Honeywell V8043F zone valves with indirect H/W wired as priority

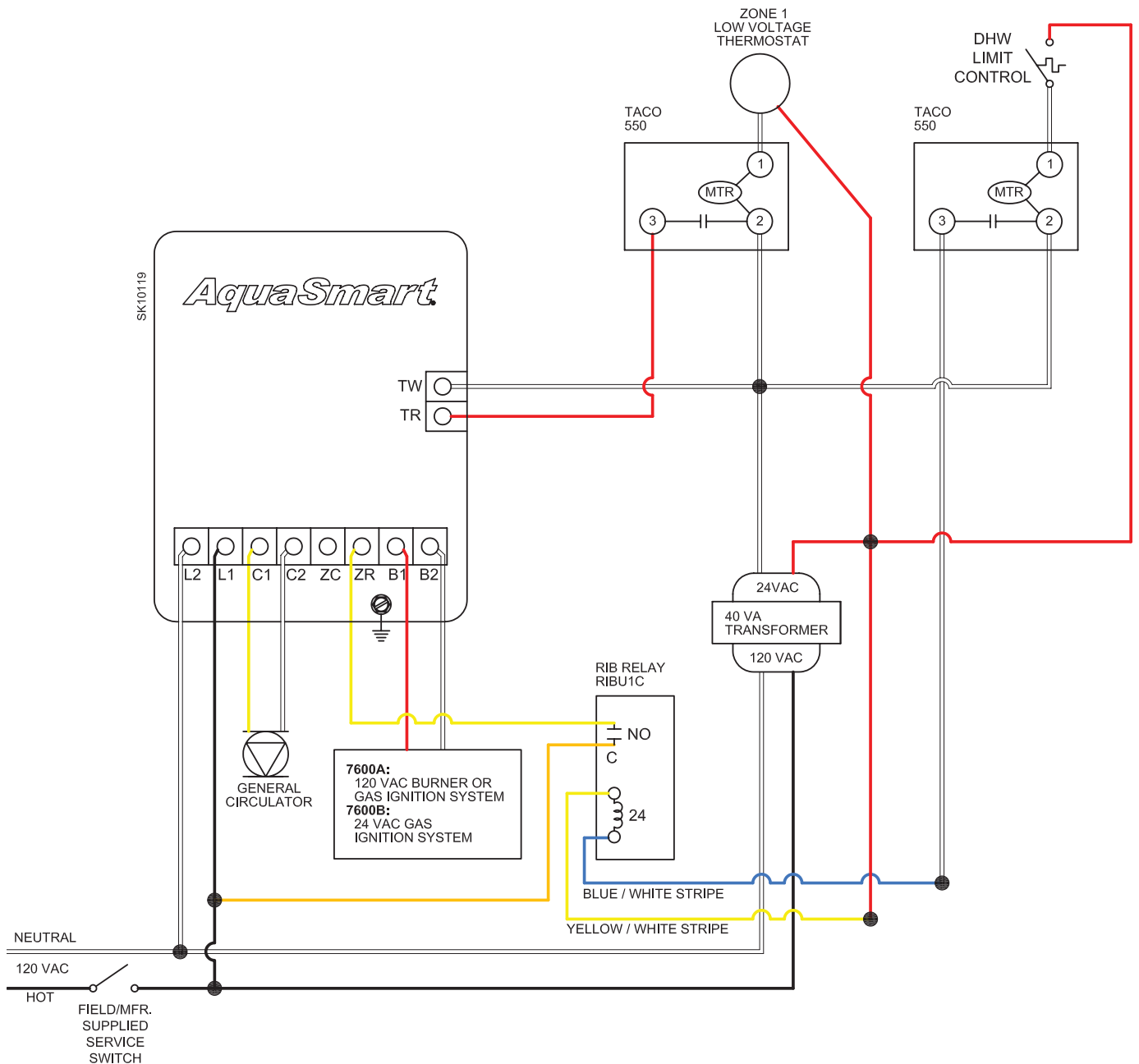
## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "ZR"
5. Set Circulator on "BOTH"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: "OFF"
8. Set Economizer to "ON"
9. Set Efficiency "HI"



**Control Programming - for optimal energy savings**

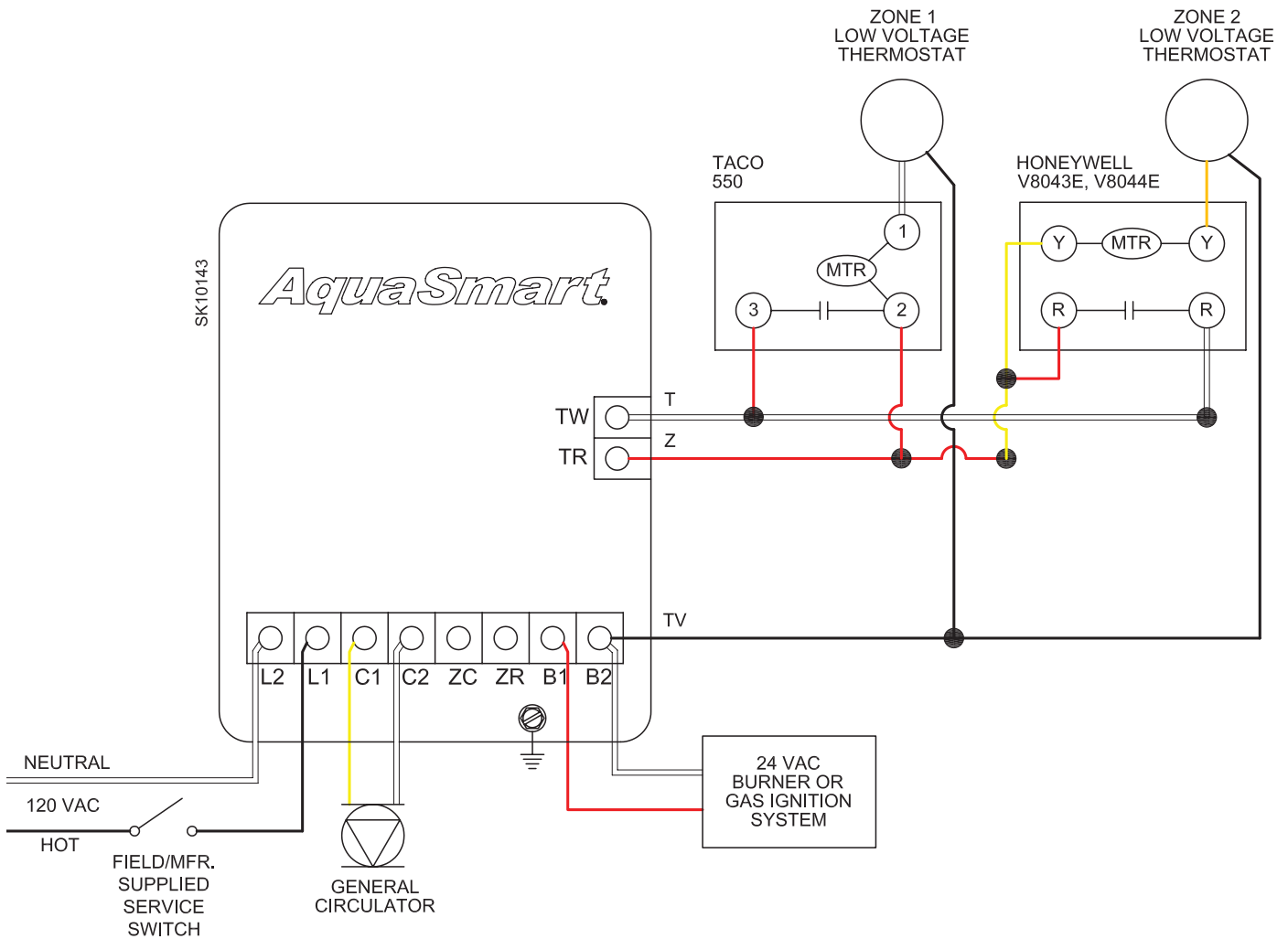
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "ZR"
5. Set Circulator on "BOTH"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: "OFF"
8. Set Economizer to "ON"
9. Set Efficiency "HI"



AquaSmart B only. Zone valves powered with 7600B. Circulator on-delay on all valves.

**Control Programming - for optimal energy savings**

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Set Circulator on "TT"
6. Circulator On-Delay: "30 Seconds"
7. Circulator Off-Delay: "OFF"
8. Set Economizer to "ON"
9. Set Efficiency "HI"



## Section III: Zone Panels

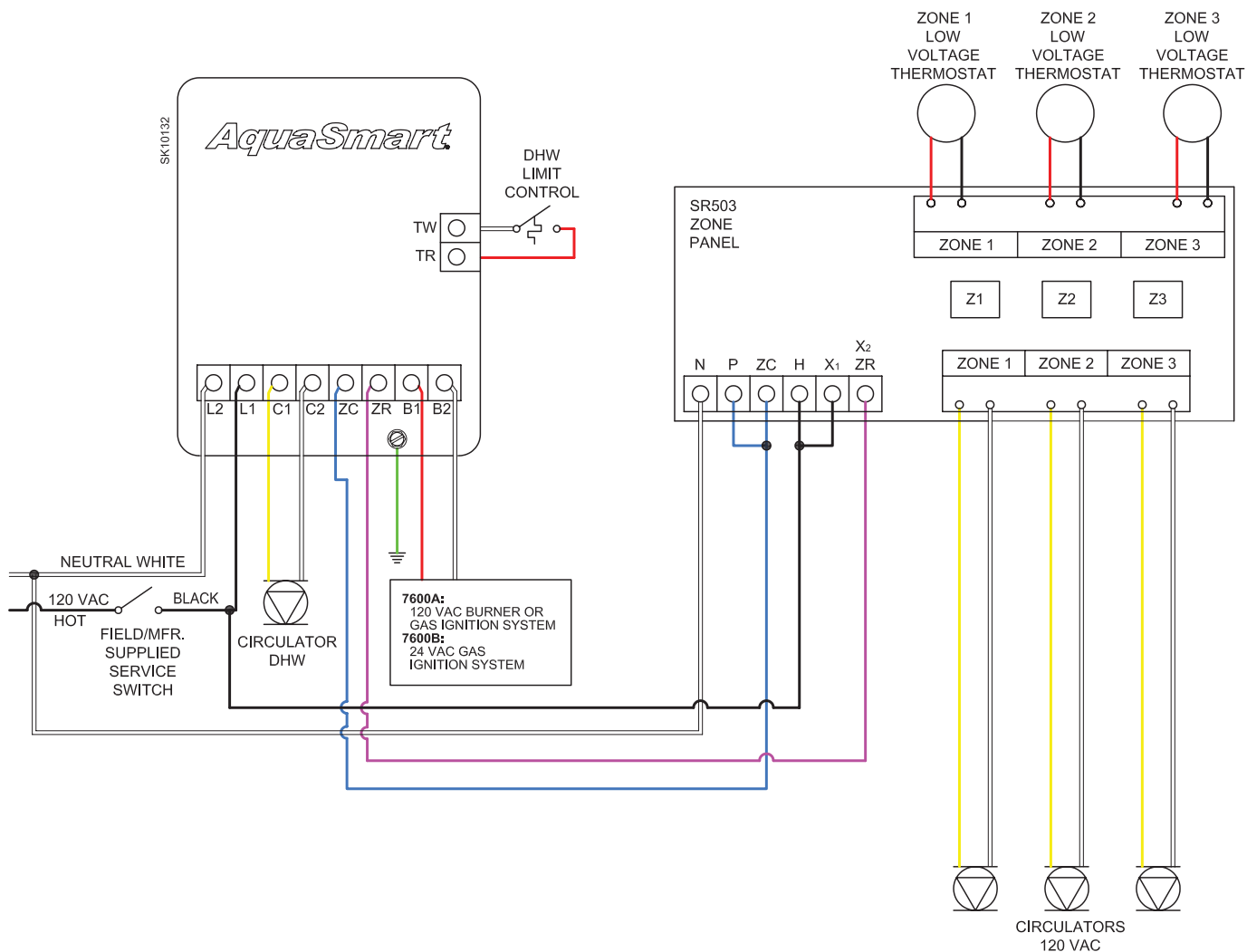
SPECIAL NOTICE: All temperature designations in this guide are degrees Fahrenheit (°F).

- Use the temperatures shown in the examples for typical reference only.
- Always follow the appliance manufacturer's instructions regarding temperature settings.

# AquaSmart A or B Taco SR503 zone panel & indirect H/W circulator

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Set DHWP to "TT"
4. Set Circulator on "TT"
5. Circulator On-Delay: "OFF"
6. Circulator Off-Delay: 2 - 4 Minutes
7. Set Economizer to "ON"
8. Set Efficiency "HI"

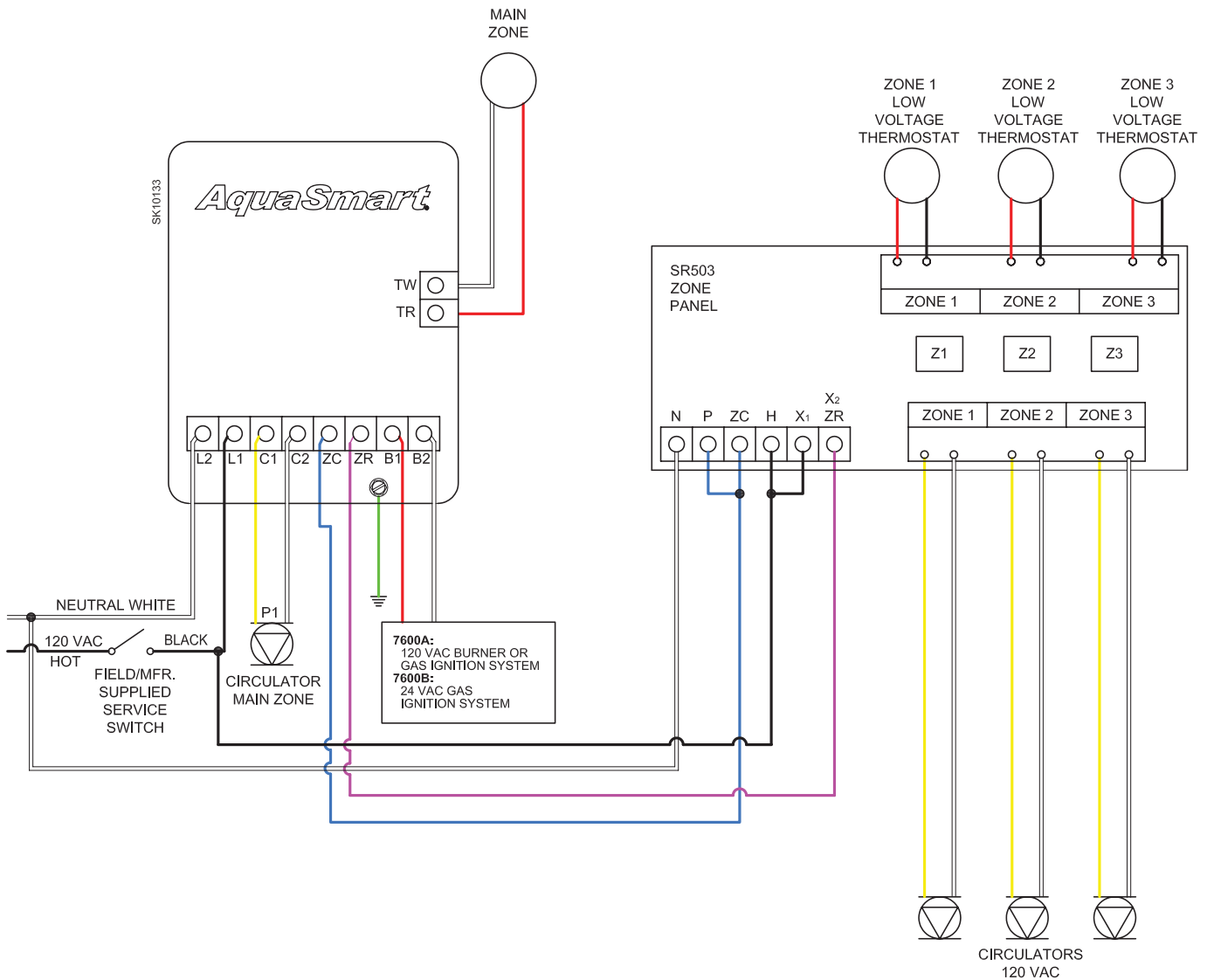




# AquaSmart A or B with Taco SR503 zone panel & main zone circulator (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

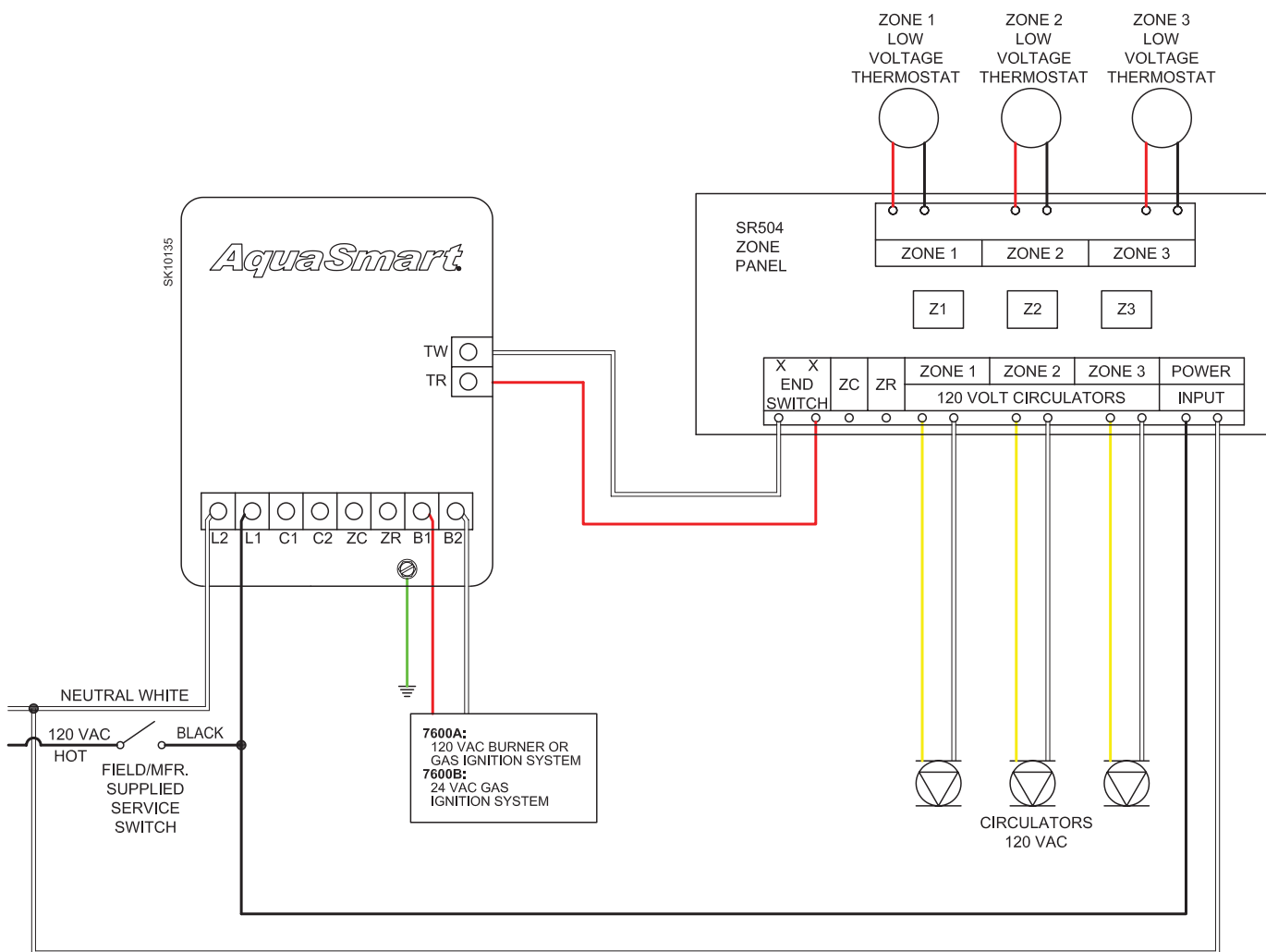
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: 4 Minutes
10. Set Efficiency "HI"



## AquaSmart A or B with Taco SR504 zone panel (without tankless H/W coil)

### Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: "OFF"
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"

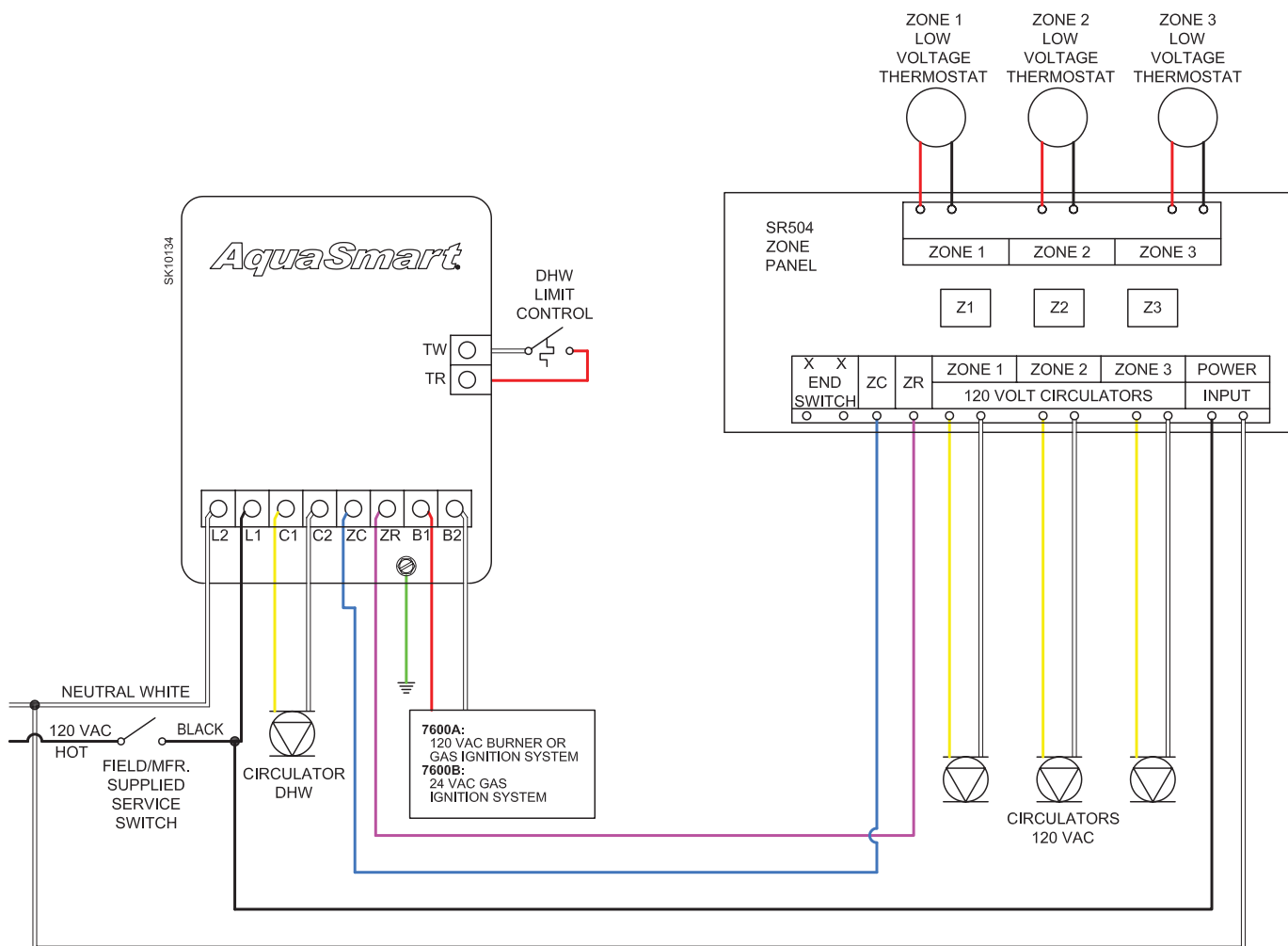


**Note: If tankless H/W coil installed, run wire between ZC terminals on AquaSmart & Zone Panel and set low limit to 160°**

# AquaSmart A or B with Taco SR504 zone panel & indirect H/W circulator

## Control Programming - for optimal energy savings

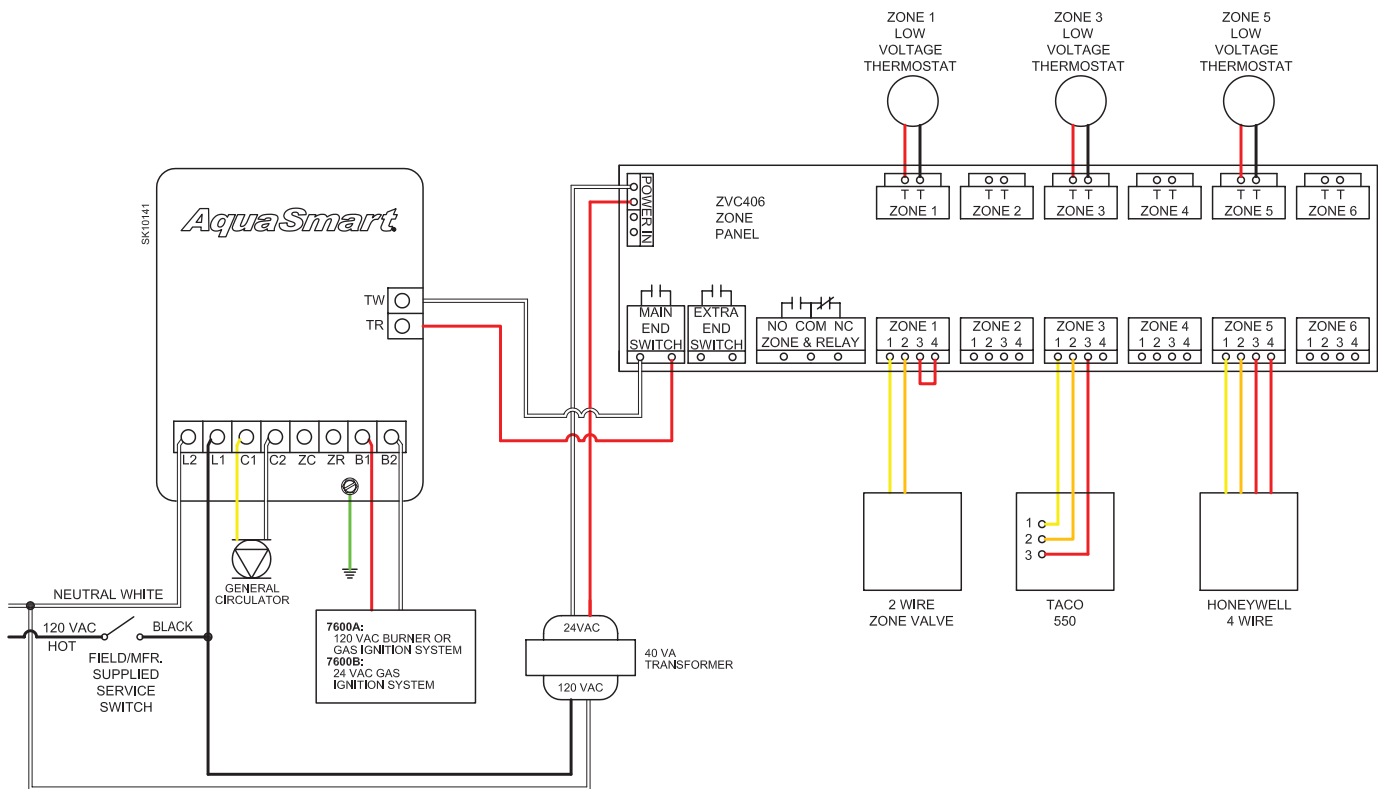
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B with Taco ZVC406 zone valve wiring panel (without tankless H/W coil)

## Control Programming - for optimal energy savings

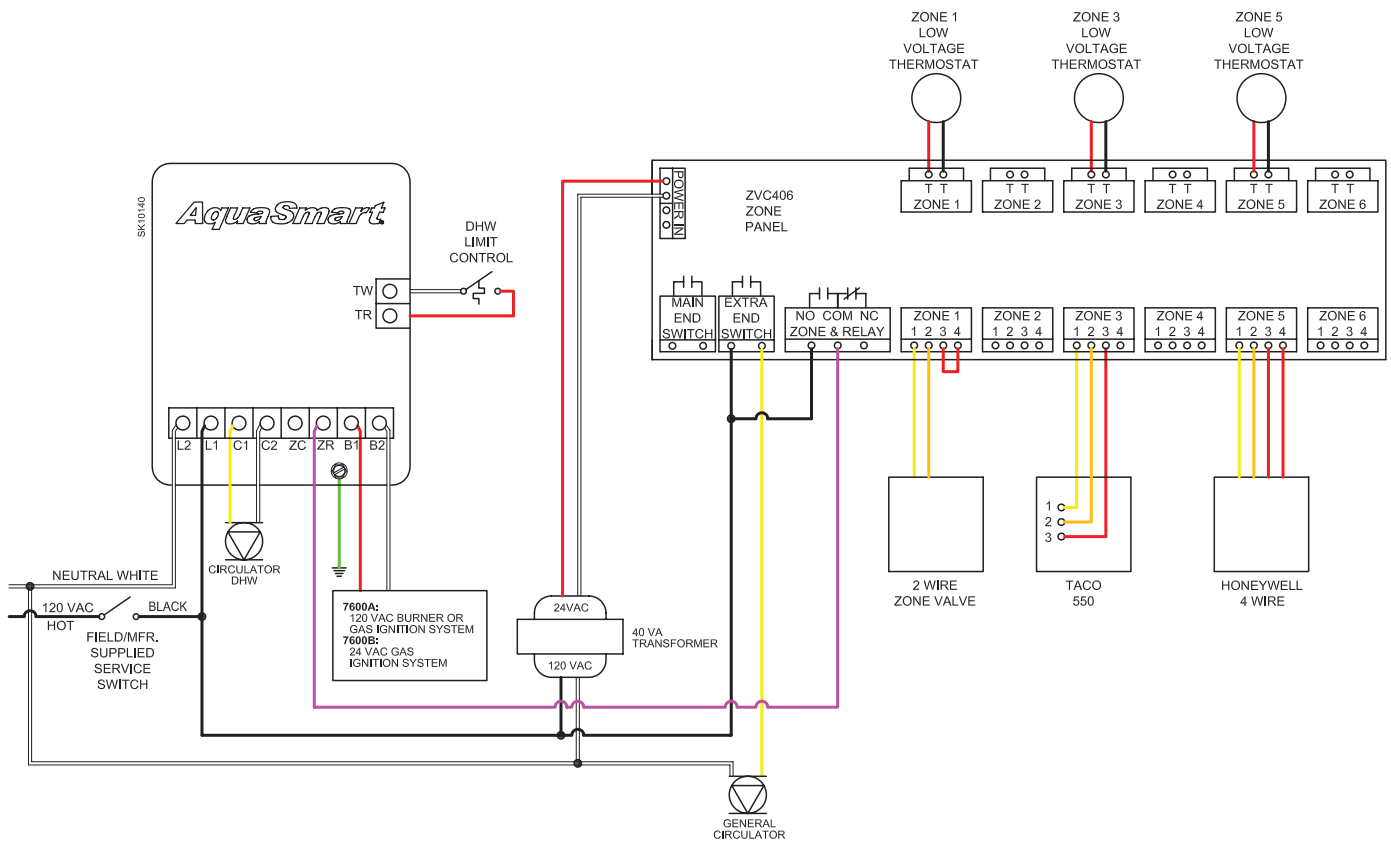
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Taco ZVC406 zone valve wiring panel & indirect H/W circulator

## Control Programming - for optimal energy savings

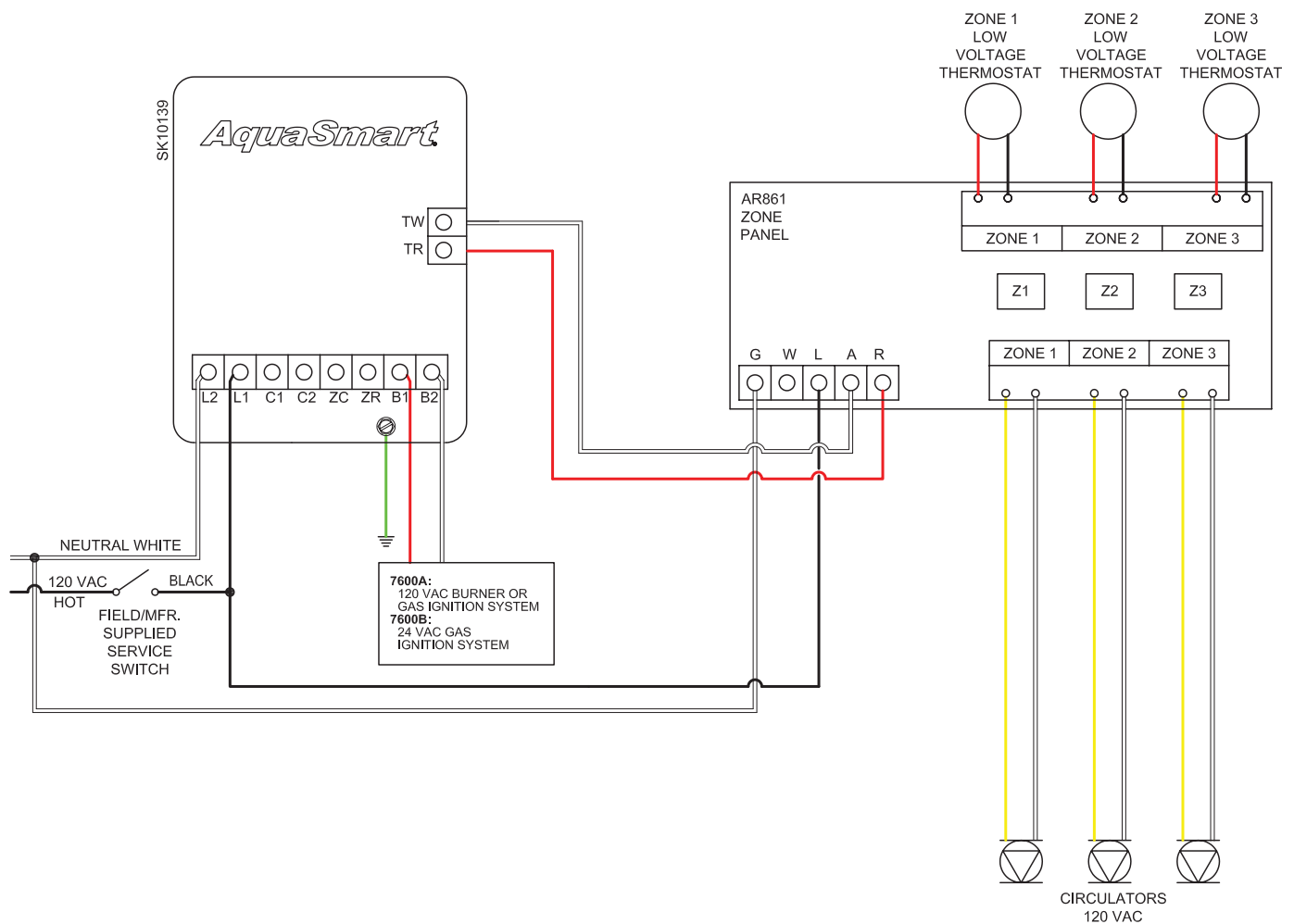
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



# AquaSmart A or B with Argo 861 zone panel (without tankless H/W coil)

## Control Programming - for optimal energy savings

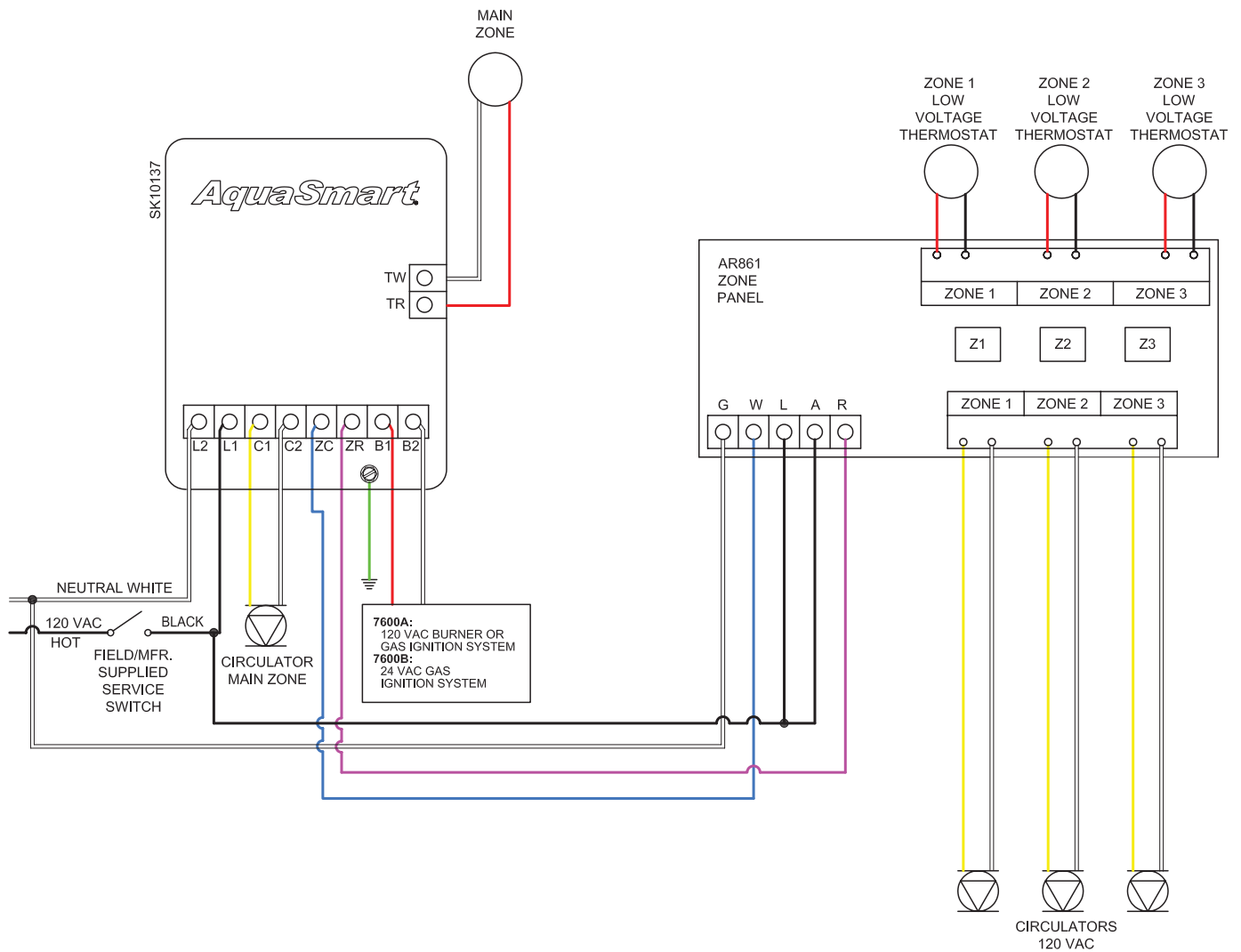
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: "OFF"
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Argo 861 zone panel & main zone circulator (with or without tankless H/W coil)

## Control Programming - *for optimal energy savings*

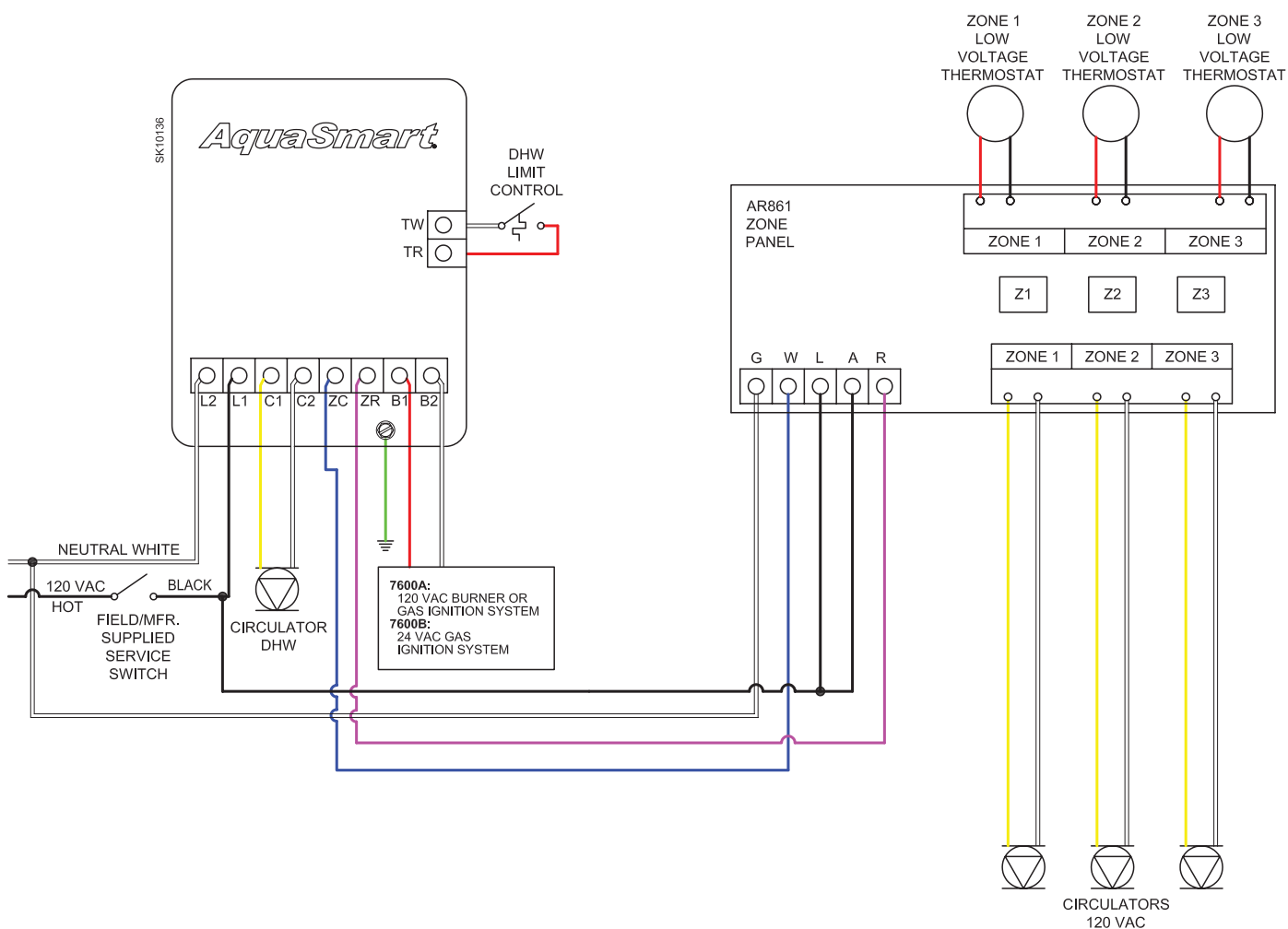
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: 4 Minutes
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with Argo 861 zone panel & indirect H/W circulator

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"

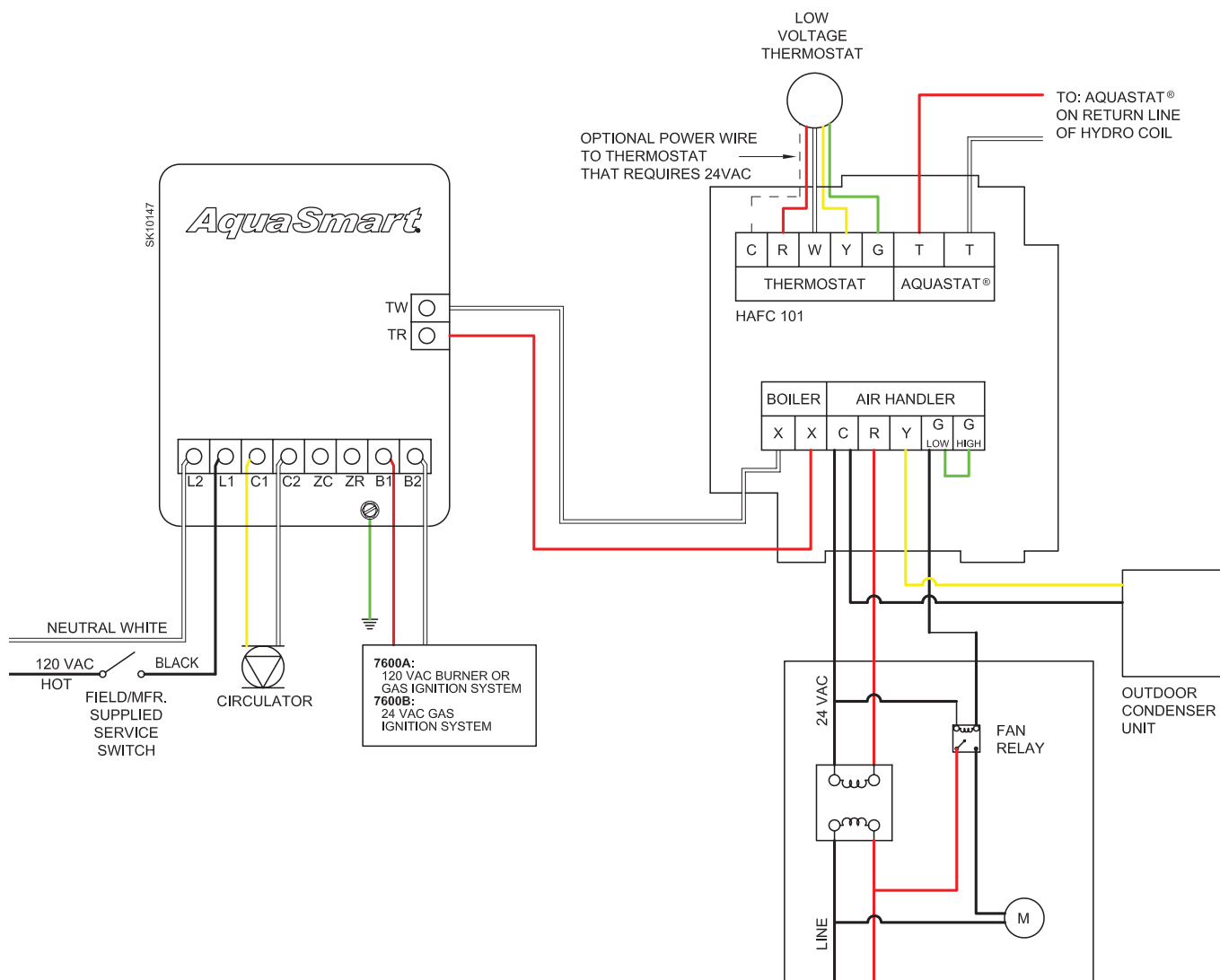




# AquaSmart A or B with Taco HAFC101 Hydro-Air wiring panel

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Set Circulator on "TT"
6. Circulator On-Delay: 30 Seconds
7. Circulator Off-Delay: 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



\*Aquastat is a registered trademark of Honeywell International, Inc.

## Section IV: Install AquaSmart with Line Voltage Thermostat

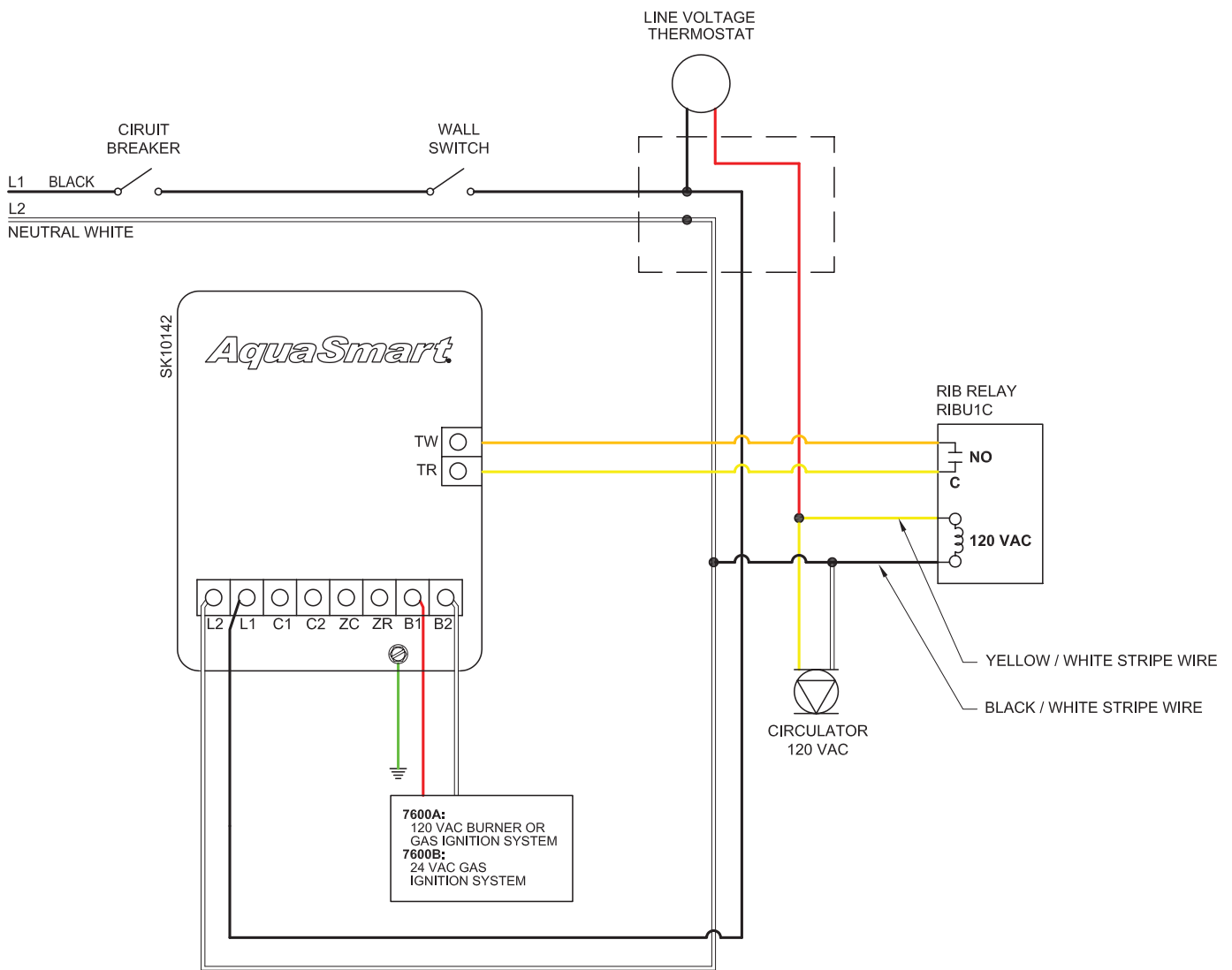
SPECIAL NOTICE: All temperature designations in this guide are degrees Fahrenheit (°F).

- Use the temperatures shown in the examples for typical reference only.
- Always follow the appliance manufacturer's instructions regarding temperature settings.

# AquaSmart A or B with line voltage thermostat (with or without tankless H/W coil)

## Control Programming - for optimal energy savings

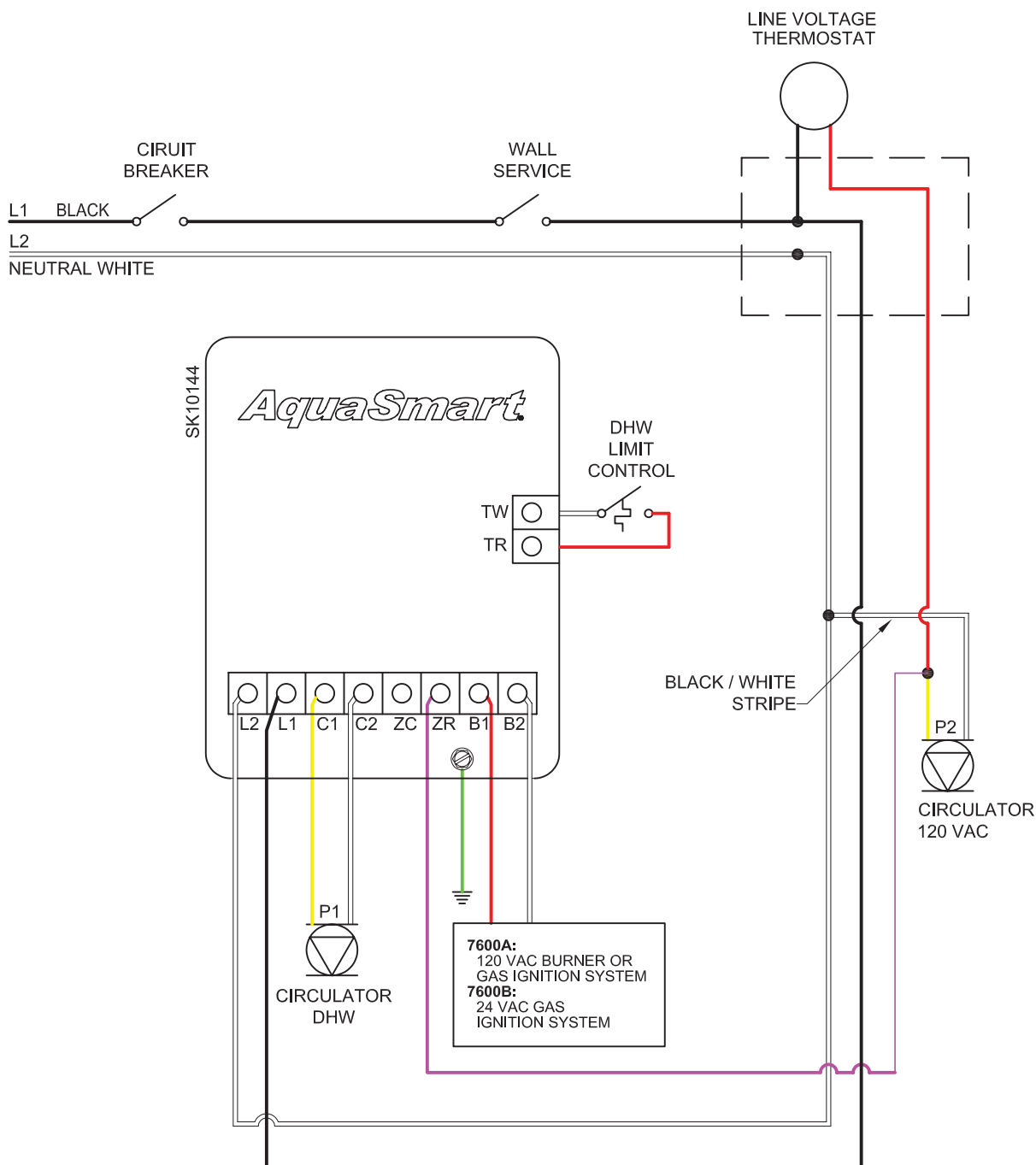
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. Set DHWP to "OFF"
7. Set Circulator on "TT"
8. Circulator On-Delay: "OFF"
9. Circulator Off-Delay: "OFF"
10. Set Economizer to "ON"
11. Set Efficiency "HI"



# AquaSmart A or B with line voltage thermostat & indirect H/W circulator

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "TT"
5. Set Circulator on "TT"
6. Circulator On-Delay: "OFF"
7. Circulator Off-Delay: 2 - 4 Minutes
8. Set Economizer to "ON"
9. Set Efficiency "HI"



## Section V: Direct Replacement of Honeywell Aquastat® Relays to Beckett AquaSmart®

\*Aquastat is a registered trademark of Honeywell International, Inc.

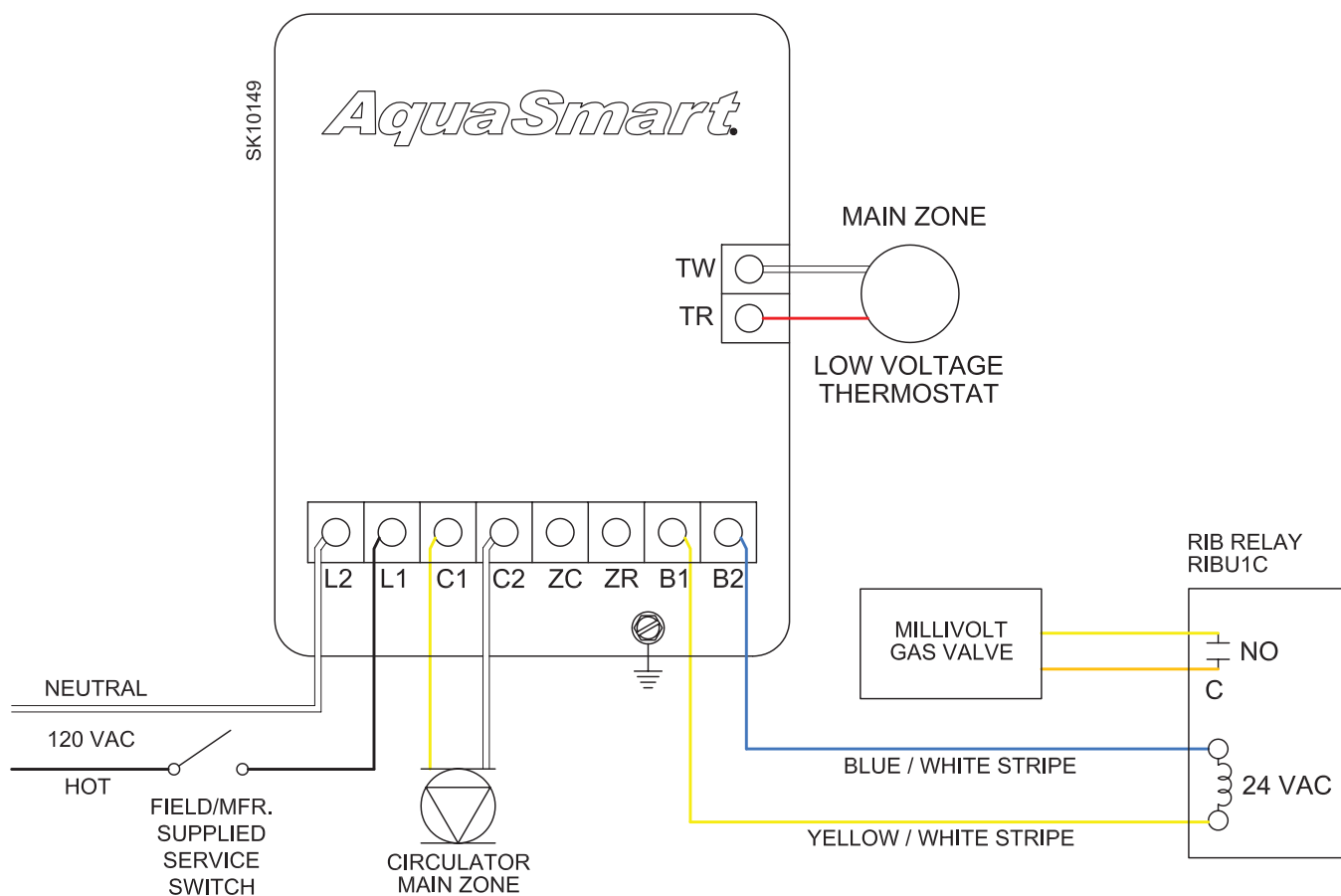
SPECIAL NOTICE: All temperature designations in this guide are degrees Fahrenheit (°F).

- Use the temperatures shown in the examples for typical reference only.
- Always follow the appliance manufacturer's instructions regarding temperature settings.

AquaSmart B only. Single zone connections to replace with millivolt gas valve

Control Programming - *for optimal energy savings*

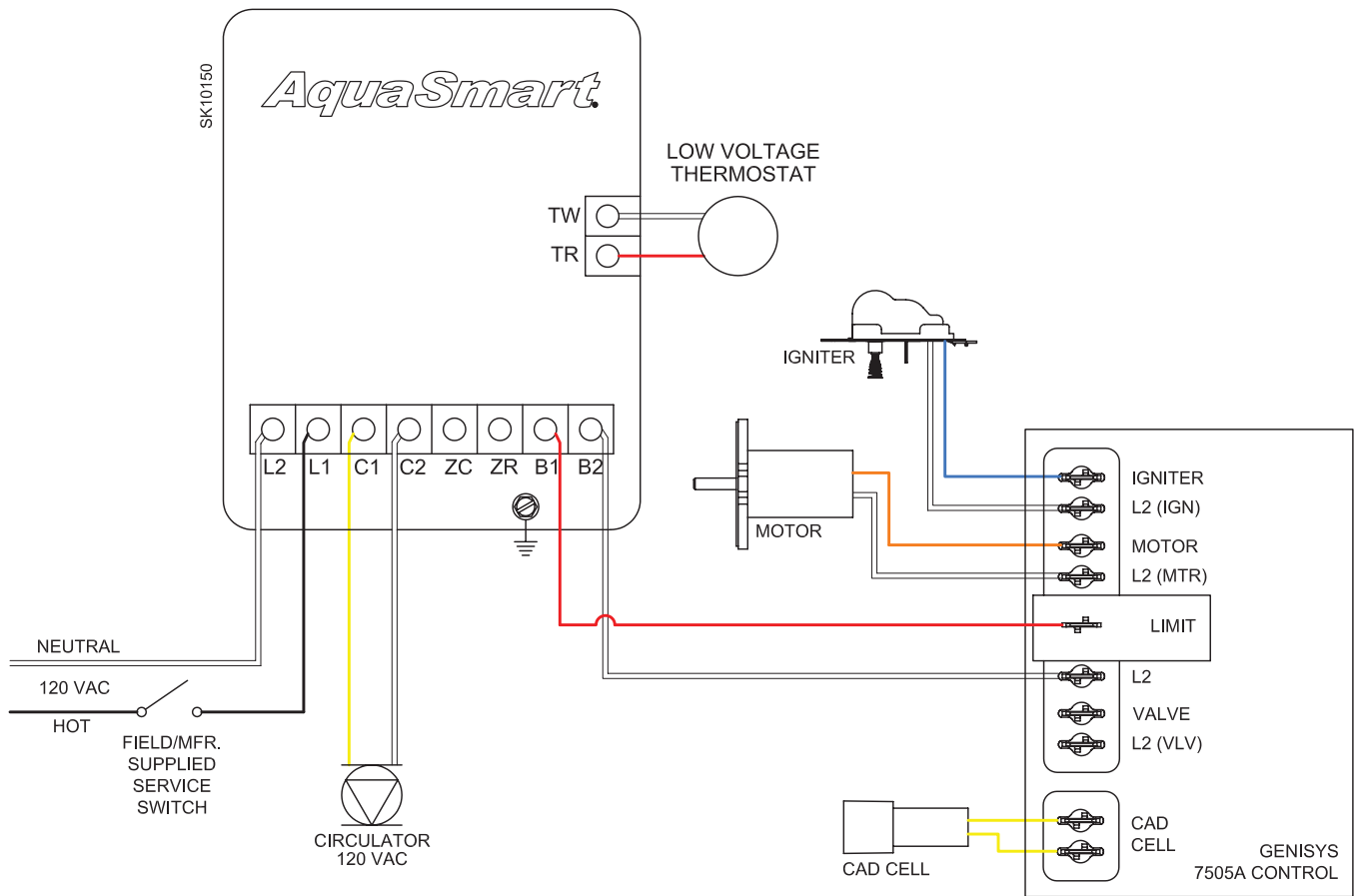
1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Low Limit: 160 (with tankless H/W coil)
5. Low Differential: 10
6. DHWP: "OFF" Set Circulator on "TT"
7. Circulator On-Delay: 30 Seconds
8. Circulator Off-Delay: 4 Minutes
9. Set Economizer to "ON"
10. Set Efficiency "HI"



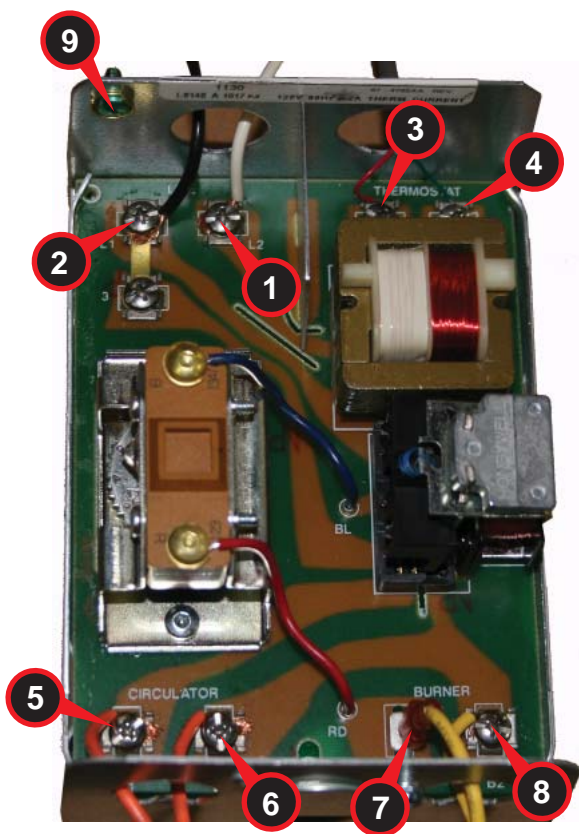
# AquaSmart A only. Single-zone replacement for Honeywell R8182H

## Control Programming - for optimal energy savings

1. High Limit: 180
2. High Differential: 10
3. Low Limit: "OFF"
4. Set DHWP to "OFF"
5. Low Limit: 160 (with tankless H/W coil)
6. Low Differential: 10
7. Set Circulator on "TT"
8. Circulator On-Delay: 30 Seconds
9. Circulator Off-Delay: 4 Minutes
10. Set Economizer to "ON"
11. Set efficiency "HI"



## Direct Replacement of Honeywell L8148A with AquaSmart A



### Legend

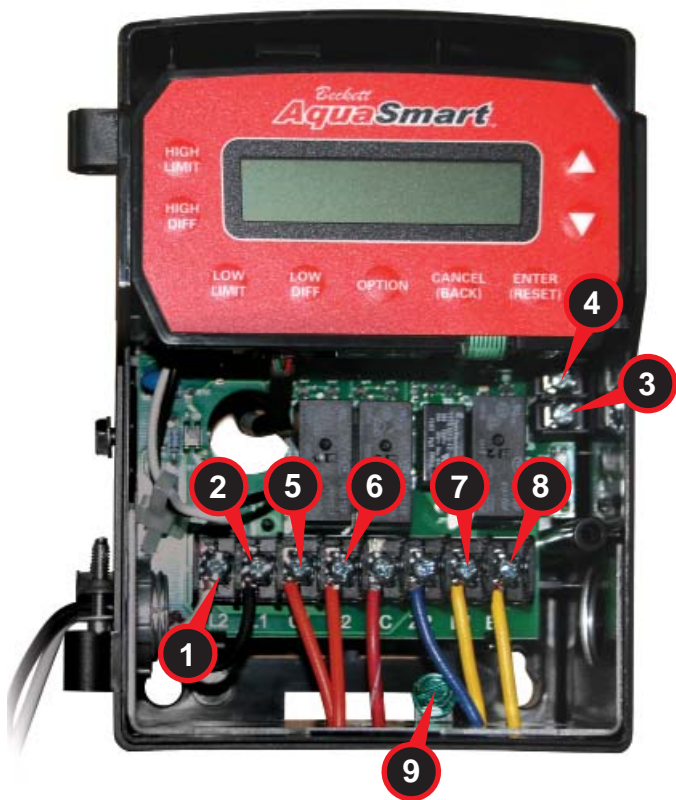
- 1 - Neutral / White
- 2 - Hot / From Low Water Cut Off
- 3 - Red / To Thermostat
- 4 - White / To Thermostat
- 5 - Hot / To Circulator
- 6 - Neutral / To Circulator
- 7 - Hot / To Burner Ignition
- 8 - Neutral / To Burner Ignition
- 9 - Ground

### Notes on AquaSmart:

1. Terminals ZC and ZR are not used in this application.
2. If using the 2-in-1 probe, the hot to L1 will be supplied from Service Switch. Also remove current Low Water Cut Off.

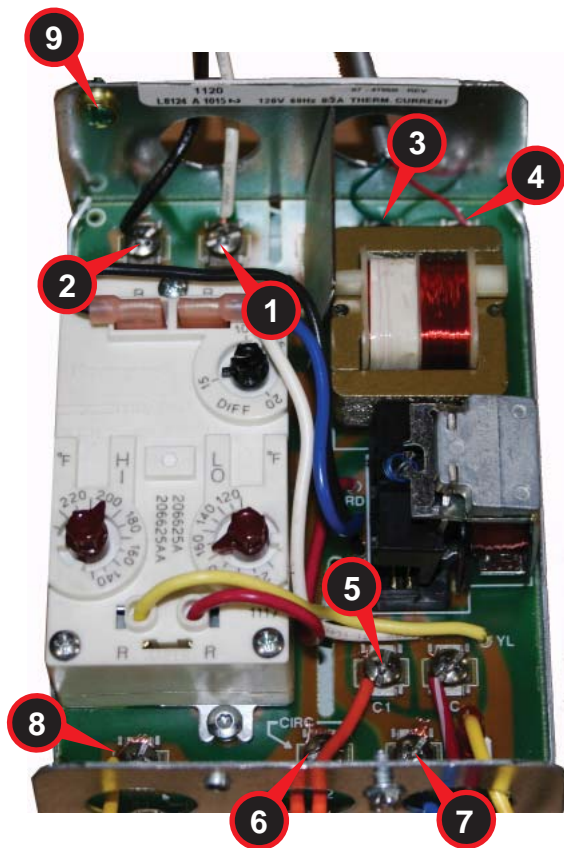
### AquaSmart Settings:

- High Limit: 180
- High Differential: 10
- Low Limit: "OFF"
- Set DHWP to "OFF"
- Set Circulator on "TT"
- Circulator On-Delay: 30 Seconds
- Circulator Off-Delay: 4 Minutes
- Set Economizer to "ON"
- Set Efficiency "HI"





## Direct Replacement of Honeywell L8124A with AquaSmart A



### Legend

- 1 - Neutral / White
- 2 - Hot / From Low Water Cut Off
- 3 - Red / To Thermostat
- 4 - White / To Thermostat
- 5 - Hot / To Circulator
- 6 - Neutral / To Circulator
- 7 - Hot / To Burner Ignition
- 8 - Neutral / To Burner Ignition
- 9 - Ground

### Notes on AquaSmart:

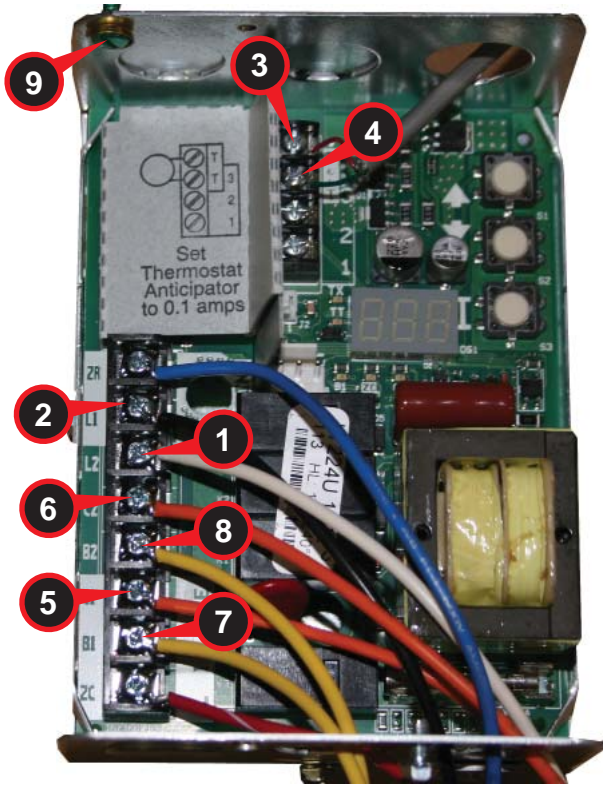
1. Terminals ZC and ZR are not used in this application.
2. If using the 2-in-1 probe, the hot to L1 will be supplied from Service Switch. Also remove current Low Water Cut Off.



### AquaSmart Settings:

- High Limit: 180
- High Differential: 10
- Low Limit: "OFF"
- Set DHWP to "OFF"
- Low Limit: 160 (with Tankless H/W Coil)
- Low Differential: 10
- Set Circulator on "TT"
- Circulator On-Delay: 30 Seconds
- Circulator Off-Delay: 4 Minutes
- Set Economizer to "ON"
- Set Efficiency "HI"

## Direct Replacement of Honeywell L7224U with AquaSmart A



### Legend

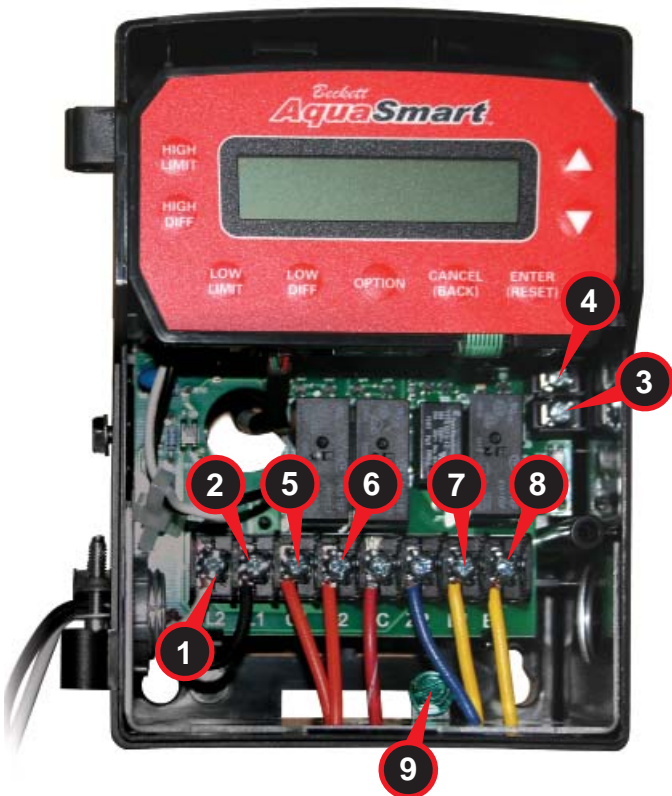
- 1 - Neutral / White
- 2 - Hot / From Low Water Cut Off
- 3 - Red / To Thermostat
- 4 - White / To Thermostat
- 5 - Hot / To Circulator
- 6 - Neutral / To Circulator
- 7 - Hot / To Burner Ignition
- 8 - Neutral / To Burner Ignition
- 9 - Ground

### Notes on AquaSmart:

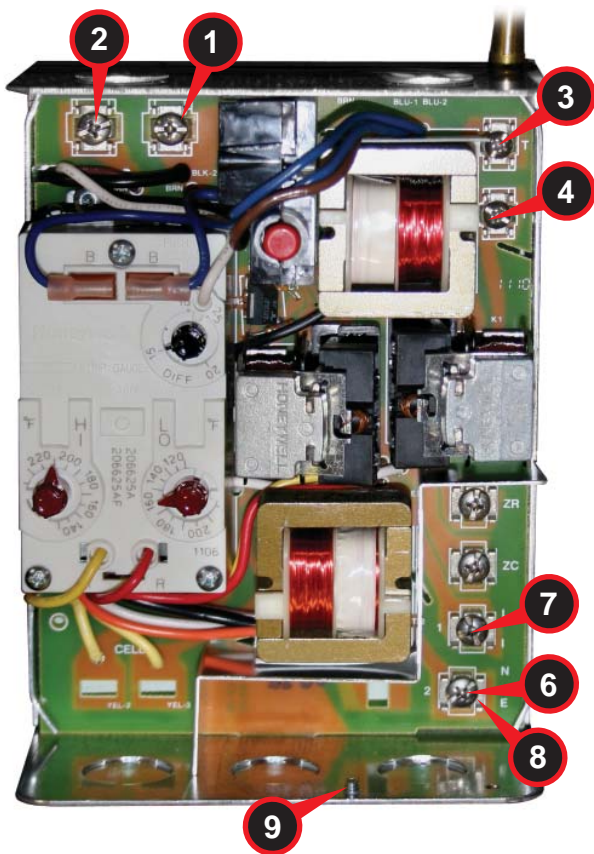
1. Set control to match determined High Limit or Low Limit application.
2. Terminals ZC and ZR are not used in this application.
3. If using the 2-in-1 probe, the hot to L1 will be supplied from Service Switch. Also remove current Low Water Cut Off.

### AquaSmart Settings:

- High Limit: 180
- High Differential: 10
- Low Limit: "OFF"
- Set DHWP to "OFF"
- Low Limit: 160 (with Tankless H/W Coil)
- Low Differential: 10
- Set Circulator on "TT"
- Circulator On-Delay: 30 Seconds
- Circulator Off-Delay: 4 Minutes
- Set Economizer to "ON"
- Set Efficiency "HI"



## Direct Replacement of Honeywell L8182D with AquaSmart A & GeniSys 7505A



### Legend

- 1 - Neutral / White
- 2 - Hot / From Low Water Cut Off
- 3 - Red / To Thermostat
- 4 - White / To Thermostat
- 5 - Hot / To Circulator
- 6 - Neutral / To Circulator
- 7 - Hot / To Burner Ignition
- 8 - Neutral / To Burner Ignition
- 9 - Ground

### Notes on AquaSmart:

1. Must add a primary control to the burner. (Example: GeniSys 7505A).
2. Terminals ZC and ZR are not used in this application.
3. If using the 2-in-1 probe, the hot to L1 will be supplied from Service Switch. Also remove current Low Water Cut Off.

### AquaSmart Settings:

- High Limit: 180
- High Differential: 10
- Low Limit: "OFF"
- Set DHWP to "OFF"
- Low Limit: 160 (with Tankless H/W Coil)
- Low Differential: 10
- Set Circulator on "TT"
- Circulator On-Delay: 30 Seconds
- Circulator Off-Delay: 4 Minutes
- Set Economizer to "ON"
- Set Efficiency "HI"





## Description:

Enclosed Relay 10 Amp SPDT with 10-30 VAC/dc/120Volt Coil

## Specifications:

- Coil Voltage - AC/DC 10-30
- Coil Voltage - AC 120V
- Contact Rating - Motor 1/3HP
- Contact Rating - Ballast 480 VA
- Contact Rating - Tungsten 600W
- Contact Rating - Pilot Duty 480VA
- Gold Flash - Yes
- Override Switch - No

## Section IV - Cross-Reference Guide

**Table 1 - Direct Replacements**

Honeywell		
L8124A (All)	L8124C (All)	<b>Replace with AquaSmart 7600A</b> 7600 outputs are not rated for 240 VAC.
L7124A (All) L7124C (All) L7148A (All) L7224A (All)	L7224C (All) L7224U (All) L7248A (All) L7248C (All)	<b>Replace with AquaSmart 7600A</b> The 7600 has no Honeywell EnviraCOM™ Communications port. The diagnostic LED lights are replaced by the 7600's display.
L8148A (All)		<b>Replace with AquaSmart 7600A</b> 7600 outputs are not rated for 240 VAC. B1 terminal on 7600 utilizes a 1/4" quick connect. Set low limit on 7600 to OFF.
L8124E 1016	L8148E 1265	<b>Replace with AquaSmart 7600B</b> 7600 outputs are not rated for 240 VAC. B2, TW and TR terminals replace TV, T and Z, respectively.
L8124M (All)		<b>Replace with AquaSmart 7600A</b> For replacement with the 7600: Turn low limit off so the circulator is controlled directly by the thermostat and ZC is constantly powered.
L8151A		<b>Replace with AquaSmart 7600A</b> 7600 outputs are not rated for 240 VAC. Remote mount sensor cable needed (Part No. 52120)
Hydrolevel		
3100		<b>Replace with AquaSmart 7600B</b> Not a suitable replacement if Low Water Cutoff (LWCO) functionality is used.
3150		<b>Replace with AquaSmart 7600A</b> Not a suitable replacement if Low Water Cutoff (LWCO) functionality is used.
Carlin		
90524A		<b>Replace with AquaSmart 7600A</b> Make sure 7600 outputs do not exceed 7.4A. Available operating limit and differential ranges are not equivalent.
White Rodgers		
11C15-11		<b>Replace with AquaSmart 7600A</b> Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC. Available operating limit and differential ranges may not be equivalent.
11C30-3	11B54-4	
8B48A-217		<b>Replace with AquaSmart 7600A</b>
11C61-12		<b>Replace with AquaSmart 7600A</b> Not a suitable replacement if SPDT switch action is required; only break-on-rise available on 7600. Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC.
8F48A-351	8B43A-601	<b>Replace with AquaSmart 7600B</b>

**Functional replacements on next page ►**

**Table 2 - Functional Replacement (Advanced Wiring Needed)**

Note: Available operating limit and/or differential ranges may not be equivalent. Compare settings to the AquaSmart ranges before replacing.

Honeywell	
L4006A (All) L4006G 1022 L4006H 1004 L4008A (All) L4080B,D	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC. • 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF. • To use with a millivolt system an appropriate voltage relay with isolated gold plated contacts must be added to switch the millivolt circuit.
L4006E (All) L4008E (All) L4080F,G	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Requires the addition of a manual-reset high limit. • Make sure 7600 outputs do not exceed 7.4A @ 120VAC. • 7600 outputs are not rated for 240 VAC. • 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF. • To use with a millivolt system an appropriate voltage relay with isolated gold plated contacts must be added to switch the millivolt circuit.
L6006A (All) L6006C 1018 L6008A 1192 L6008A 1242	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Not a suitable replacement if SPDT switch action is required; only break-on-rise available on 7600. • To use with a millivolt system an appropriate voltage relay with isolated gold plated contacts must be added to switch the millivolt circuit. • Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC. • 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF.
L8124B 1039 L8148J 1009	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> To use with a millivolt system an appropriate voltage relay with isolated gold plated contacts must be added to switch the millivolt circuit. 7600 outputs are not rated for 240 VAC.
L7148F (All) L8148E (All)	<b>Replace with AquaSmart 7600B</b> Must confirm that 7600 VA rating is adequate to meet VA requirements of system. • Make sure 7600 B1 output does not exceed 1.25A @ 24VAC (30 VA). • 7600 outputs are not rated for 240 VAC. B2, TW and TR terminals replace TV, T and Z, respectively. • If damper is used, consult damper manufacturer's wiring instructions for using damper without damper plug.
L4081A/B L6081A/C	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Remove switching relay, if used, from the system when replacing the L4081 or L6081. • Make sure 7600 outputs do not exceed 7.4A@120VAC. 7600 outputs are not rated for 240 VAC.
Carlin	
90200A	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Make sure 7600 outputs do not exceed 7.4A. Set low limit on 7600 to OFF.
90000 (All) 90200E	90200EL 90300B <b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Requires the addition of a manual-reset high limit. Make sure 7600 outputs do not exceed 7.4A. • Set low limit on 7600 to OFF.
90200D	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Not a suitable replacement if SPDT switch action is required; only break-on-rise available on 7600. Make sure 7600 outputs do not exceed 7.4A. Set low limit on 7600 to OFF.
White Rodgers	
11B06-1 11D18-1 11B18-101 11B30-104 11B02-1	1145-33 11B06-46 11B95-31 11B18-153 <b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC. 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF.
11D82-1 11D31-1 1131-102	1127-2 11A79-2 1127-9 <b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Not a suitable replacement if SPDT switch action is required; only break-on-rise available on 7600. 7600 outputs are not rated for 240 VAC. • 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF.
11B27-9	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> Requires the addition of a manual-reset high limit. • Make sure 7600 outputs do not exceed 7.4A @ 120 VAC. 7600 outputs are not rated for 240 VAC. 7600 will require an additional wire (L2) for operation. Short TW-TR terminals. C1, C2, ZC, and ZR are unused. • Set low limit on 7600 to OFF.
8J48A-209	<b>Replace with AquaSmart 7600A or 7600B (Based on System Voltage Requirements)</b> To use with a millivolt system an appropriate voltage relay with isolated gold plated contacts must be added to switch the millivolt circuit.

# Limited Warranty Information

The R. W. BECKETT CORPORATION ("Beckett") warrants to persons who purchase its "Products" from Beckett for resale, or for incorporation into a product for resale ("Customers"), that its equipment is free from defects in material and workmanship. To qualify for warranty benefits, products must be installed by a qualified service agency in full compliance with all codes and authorities having jurisdiction, and used within the tolerances of Beckett's defined product specifications.

To review the complete warranty policy and duration of coverage for a specific product, or obtain a written copy of warranty form 61545, please choose one of the following options:

1. Visit our website at: [www.beckettcorp.com/warranty](http://www.beckettcorp.com/warranty)
2. Email your request to: [rwb-customer-service@beckettcorp.com](mailto:rwb-customer-service@beckettcorp.com)
3. Write to: R. W. Beckett Corporation, P. O. Box 1289, Elyria, OH 44036

**NOTE: Beckett is not responsible for any labor cost for removal and replacement of equipment.**

THIS WARRANTY IS LIMITED TO THE PRECISE TERMS SET FORTH ABOVE, AND PROVIDES EXCLUSIVE REMEDIES EXPRESSLY IN LIEU OF ALL OTHER REMEDIES, AND IN PARTICULAR THERE SHALL BE EXCLUDED THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL BECKETT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE OF ANY NATURE. Beckett neither assumes, nor authorizes any person to assume for Beckett, any other liability or obligation in connection with the sale of this equipment. Beckett's liability and Customer's exclusive remedy is limited to the cost of the product.



**USA:** P.O. Box 1289 • Elyria, Ohio 44036

**Canada:** R.W. Beckett Canada, Ltd. • Unit #3, 430 Laird Road • Guelph, Ontario N1G 3X7  
**[www.beckettcorp.com](http://www.beckettcorp.com) \* 1-800-Oilburn (645-2876)**