TECHNICAL GUIDE

NEX-GEN 20

Table of Contents

Using This Manual

The NEX-GEN system monitors all aspects of its operation and will display information, events, faults and alarms on an EVENT screen. This allows the operator to determine system performance, monitor current and past conditions, and troubleshoot abnormal system operation. This manual was designed to troubleshoot the NEX-GEN system using the information displayed on the EVENT screen of the touch-screen. A list of EVENTS is accompanied by a description of the EVENT and a section on troubleshooting the EVENT.

READ AND FOLLOW ALL INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WHEN TROUBLESHOOTING AND REPAIRING THIS EQUIPMENT, KEEP SAFETY CONSIDERATIONS FOREMOST. USE PROPER TOOLS, PROTECTIVE CLOTHING, AND EYE PROTECTION WHEN WORKING ON OR INSTALLING THE EQUIPMENT. FOLLOW THE INSTRUCTIONS IN THIS MANUAL AND TAKE ANY ADDITIONAL SAFETY MEASURES APPROPRIATE. BE EXTREMELY CAREFUL IN THE PRESENCE OF HAZARDOUS SUBSTANCES AND LIVE ELECTRICAL CIRCUITS.
THE PERSONNEL RESPONSIBLE FOR TROUBLESHOOTING AND REPAIR OF THIS EQUIPMENT MUST BE FULLY FAMILIAR WITH THE CONTENTS OF THIS MANUAL.

WARNING

- **ONLY A CERTIFIED TECHNICIAN MAY INSTALL AND SERVICE THE CHLORKING® NEX-GEN SYSTEM.**
- **MODIFYING THE CHLORKING® NEX-GEN SYSTEM IN ANY WAY MAY CAUSE BODILY INJURY AND WILL VOID THE WARRANTY.**
- **ONLY REPLACE COMPONENTS WITH THOSE SPECIFIED BY THE MANUFACTURER.**
- **ALL BOXES ON THE CHLORKING® NEX-GEN SYSTEM CONTAIN HIGH VOLTAGE COMPONENTS.**

Note: This manual is subject to change at any time based on system improvements, design changes, authorized modifications or new information. Please consult ChlorKing for the latest revision.

Manufacturer:
ChlorKing Inc
6767 Peachtree Industrial Blvd.
Norcross, GA 30092
1-800-536-8180

EVENT TROUBLESHOOTING

EVENTS displayed in **BLACK** are current EVENTS that need to be addressed or cleared.

EVENTS displayed in GREEN are cleared. GREEN events are visible only as a record of what has happened in the past.

## CURRENT ADJUSTMENT IS REQUIRED

This event must be cleared by adjusting the current level the first time the system is operated. This event is cleared at the factory and will not normally be encountered in the field. In the event a replacement touch screen or software update has been done, this event may need to be cleared. Call ChlorKing at 800-536-8180 for the Current Adjustment Procedure.

pH CALIBRATED

This event is cleared at the factory prior to delivery of equipment and not normally required in the field. In the event that a replacement pH probe has been installed, pH calibration may be required. Call ChlorKing at 800-536-8180 for pH Calibration Procedure.

SWITCH OFF IN NEX-GEN

This EVENT will automatically clear when the NEX-GEN is turned on. To turn the NEX-GEN on, press and hold the on/off switch until the ON indicator is displayed.
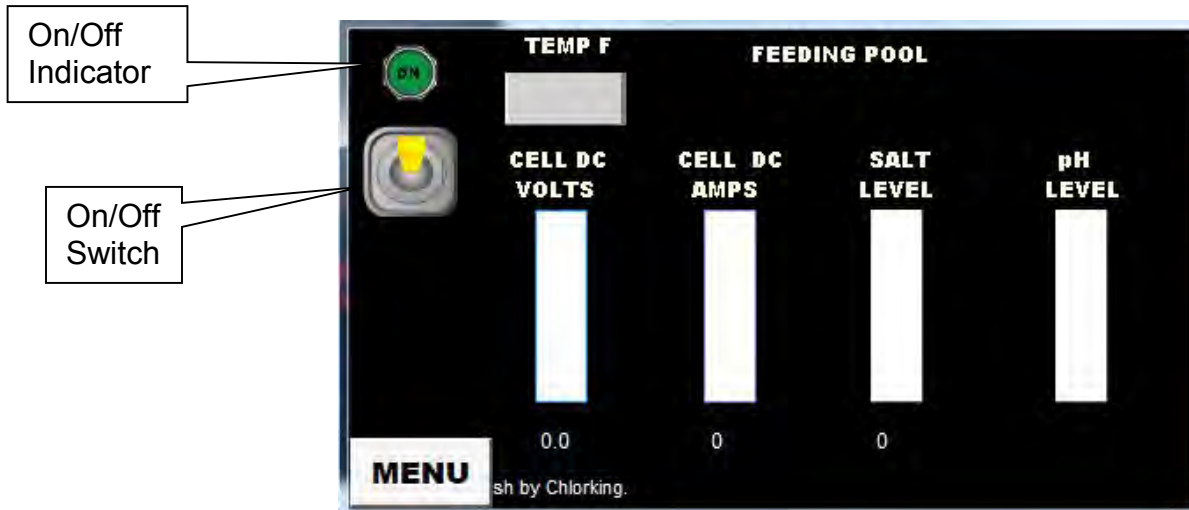
CLEAN MODE

This event will be displayed any time a user has selected CLEAN CELLS from the service menu. Once the cell cleaning process has been completed, CLEAN MODE will automatically clear. In the event of a fault during cell cleaning, cell cleaning can be finished manually (call ChlorKing at 800-536-8180 for instructions on operating clean mode from the test screen) or CLEAN MODE can be manually cleared (for instructions on clearing a CLEAN MODE event, call ChlorKing at 800-536-8180).

HEATSINK OVERTEMP ATTEMPTING TO COOL HEAT SINK

This event is displayed any time the water cooled heat-sink found inside of the control cabinet has exceeded 170° F. If this event is displayed the heat-sink is currently above 170° F and chlorine production will stop until the heat-sink temperature has fallen below the 170° set-point. When the heat-sink cools to less than 170° F system operation will automatically resume and this event will clear.

LOW WATER LEVEL ATTEMPTING TO FILL TANK

This event is displayed if the water level in the production tank falls below the salt sensor for more than 30 seconds. If the water level recovers to a level above the salt sensor within 1 hour, the system will resume normal operation.

LOW pH ATTEMPTING TO CORRECT pH

This event is displayed if pH drops below 6.0. The system will flush the production tank with pool water for up to 1 hour in an attempt to bring pH above 6.0. Once pH is above 6.0 the system operation will resume.

WAITING FOR ORP 1 SIGNAL

This EVENT will automatically clear when the NEX-GEN has received a signal from an external source asking for chorine to be fed to a body of water. If the EVENT does not clear, the pool 1 icon is not active and the NEX-GEN system does not start to produce chorine when an external source is active, perform the following steps.

1. Check that 120 VAC is available at the blue power cord on the NEX-GEN control box.
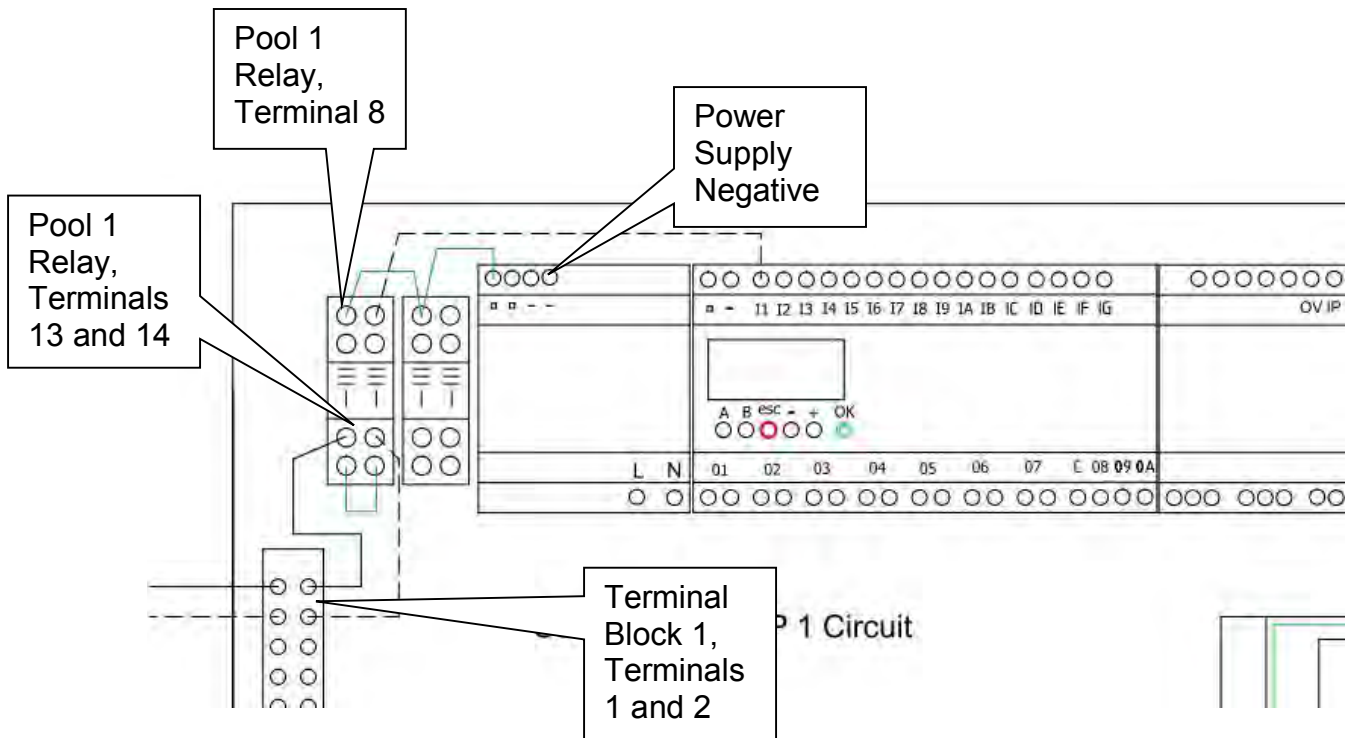
    If 120 VAC is available, go to the next step.

    If 120 VAC is not available, check the external source for faults.

2. With a volt meter set the AC volt scale, check for 120 VAC across terminal block 1, terminals 1 and 2.

   If 120 VAC is measured, go to the next step.

   If 120 VAC is not measured, repair or replace the blue cord.

Pool 1 Relay, Terminal 8

Power Supply Negative

Pool 1 Relay, Terminals 13 and 14

Terminal Block 1, Terminals 1 and 2

3. Check for 120 VAC across pool 1 relay terminals 13 and 14.

   If 120 VAC is measured, go to the next step.

   If 120 VAC is not measured, repair or replace the wires from terminal block 1, terminals 1 and 2 to pool 1 relay terminals 13 and 14.

4. With a volt meter set on the DC scale, check for 24 VDC from power supply negative to the blue wire on pool 1 relay, terminal 8.
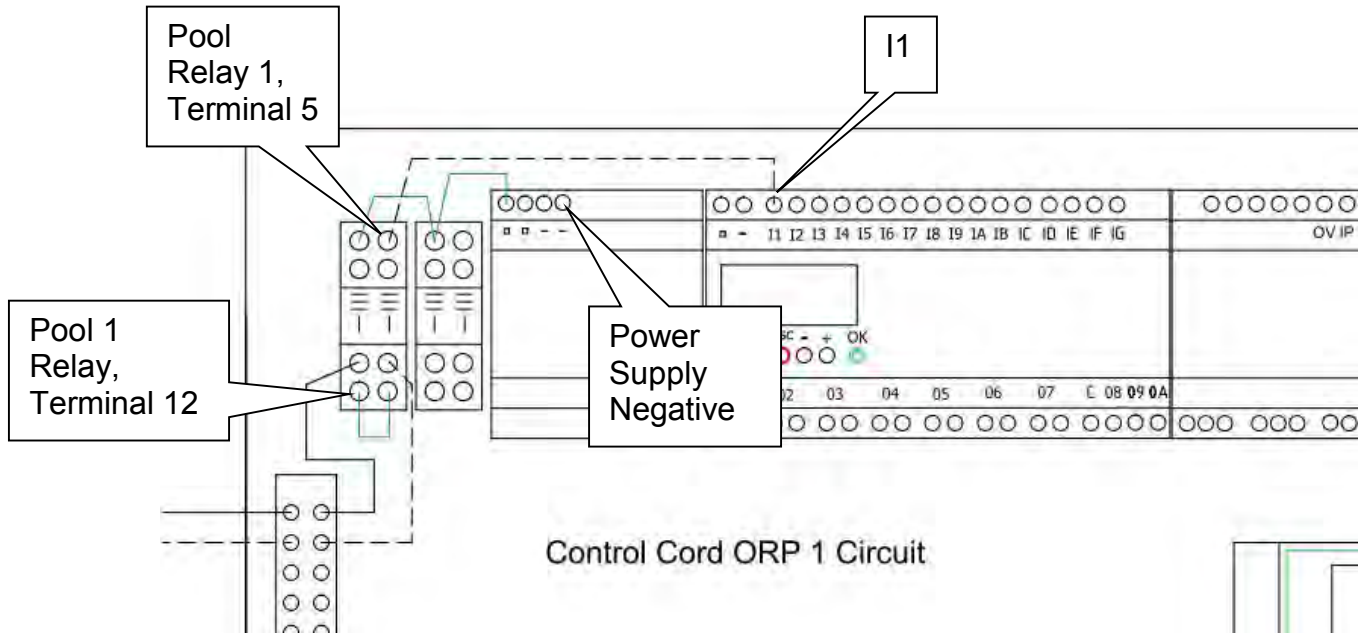
   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured repair or replace the blue wires from the power supply positive connection to pool relay 1, terminal 8.

5. With a volt meter set on the DC scale, check for 24 VDC from power supply negative to the blue wire on pool 1 relay, terminal 12.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured replace pool 1 relay.

6. Check for 24 VDC from power supply negative to the blue wire on pool 1 relay, terminal 9.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured repair or replace the blue wire from pool relay 1, terminal 9 to pool relay 1, terminal 12.

7. Check for 24 VDC from power supply negative to the white wire on pool 1 relay, terminal 5.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured replace pool relay 1.

8. Check for 24 VDC from power supply negative to the white wire I1.

   If 24 VDC is measured, replace the micro controller.

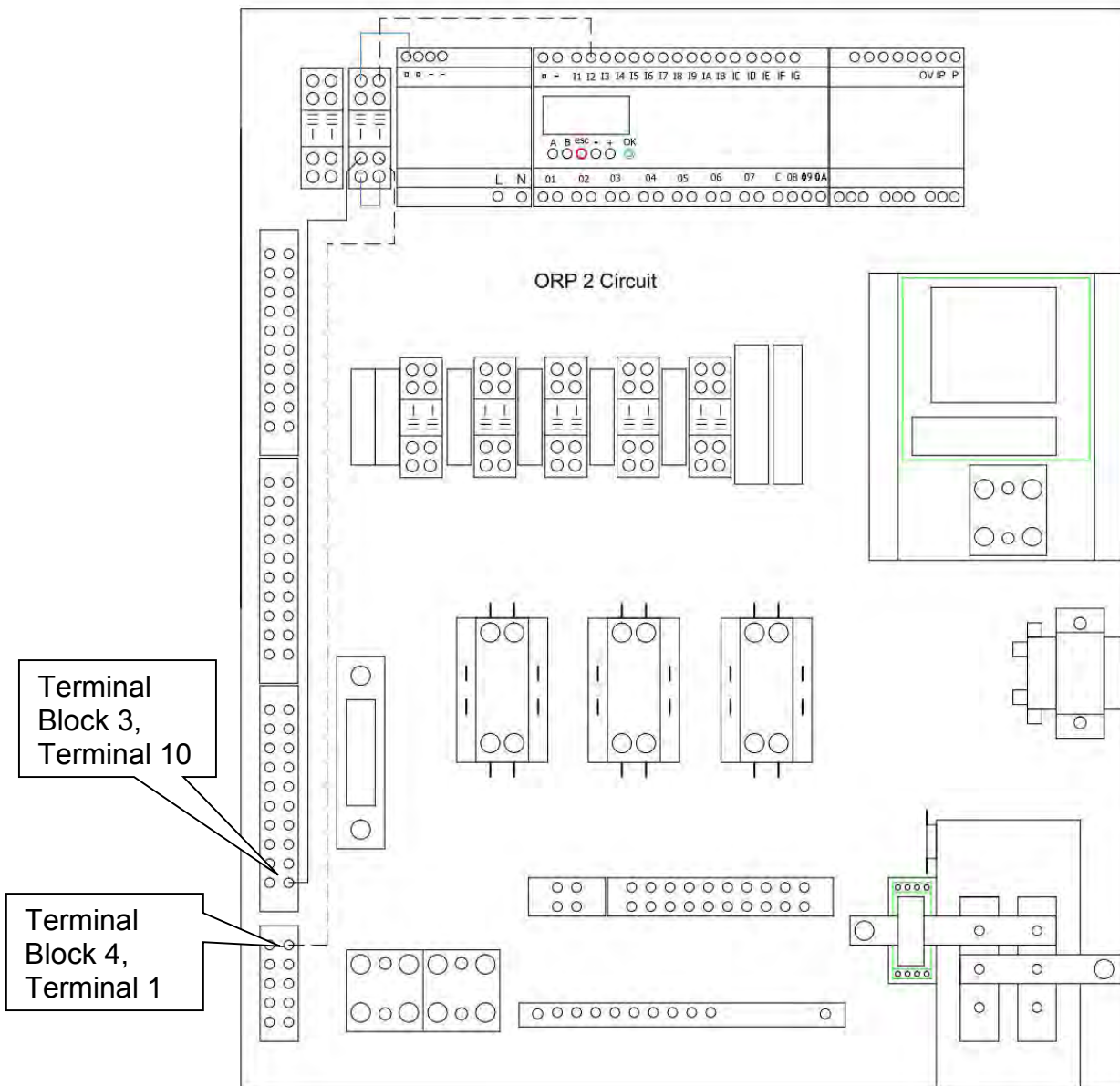   If 24 VDC is not measured repair or replace the wire from pool relay 1, terminal 5 to I1.

WAITING FOR ORP 2 SIGNAL

If the NEX-GEN is equipped to feed multiple bodies of water, this EVENT will clear when the NEX-GEN has received a signal from an additional external source asking for an additional body of water to be fed chlorine. If the EVENT does not clear, the pool 2 icon is not active and the NEX-GEN system does not start to produce chorine when an external source is active, perform the following steps.

1. Check for 120 VAC across terminal block 3, terminal 10 and terminal block 4, terminal 1.

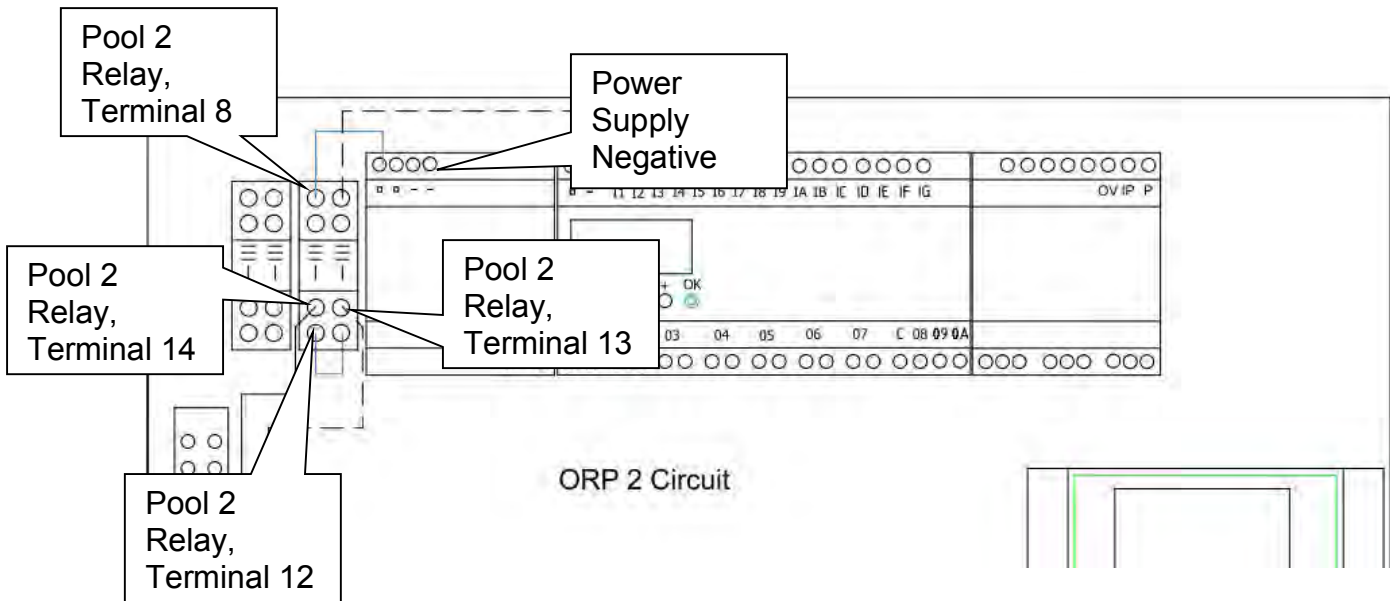   If 120 VAC is measured, go to the next step.

   If 120 VAC is not measured, troubleshoot the external source that supplies the 120 VAC.

2. Check for 120 VAC across pool 2 relay, terminal 13 and terminal 14.

   If 120 VAC is measured, go to the next step.

   If 120 VAC is not measured, repair or replace the wires from terminal block 3, terminal 10 and terminal block 4, terminal 1 to pool 2 relay terminals 13 and 14.

Pool 2 Relay, Terminal 8

Power Supply Negative

Pool 2 Relay, Terminal 14

Pool 2 Relay, Terminal 13

Pool 2 Relay, Terminal 12

ORP 2 Circuit

3. Check for 24 VDC from power supply negative to pool 2 relay, terminal 8.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, repair or replace the wire from power supply positive to pool 2 relay, terminal 8.

4. Check for 24 VDC from power supply negative to pool 2 relay, terminal 12.
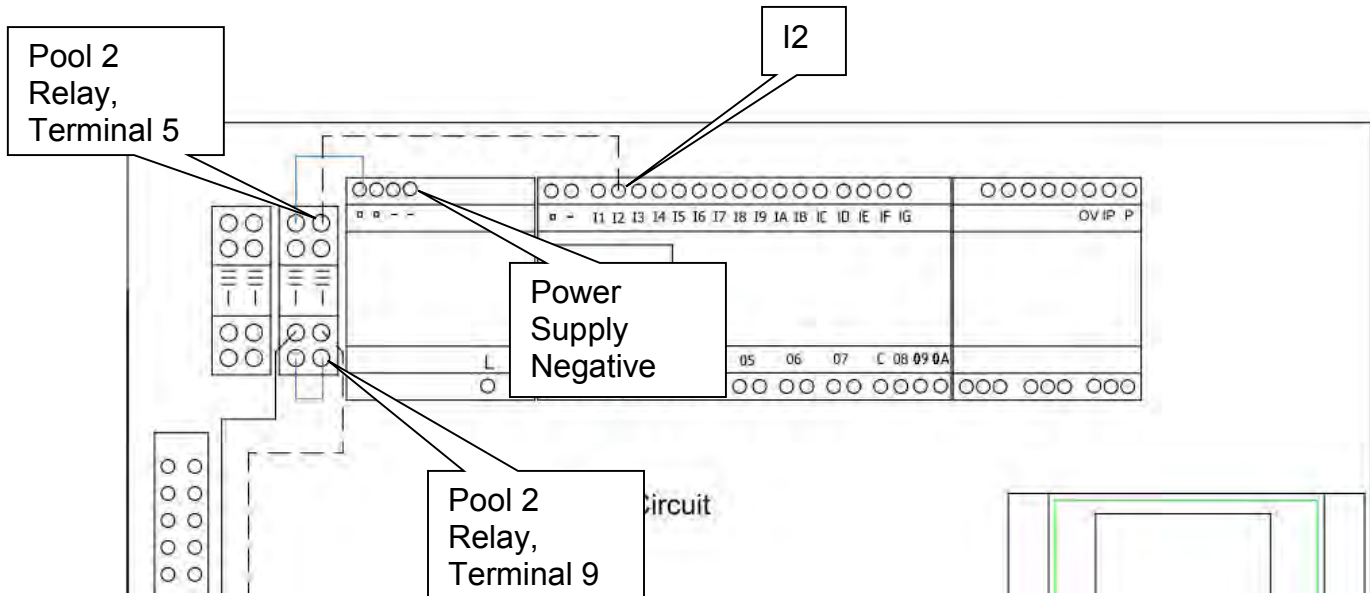
   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, replace pool 2 relay.

5. Check for 24 VDC from power supply negative to pool 2 relay, terminal 9.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, repair or replace the wire from pool 2 relay, terminal 12 to 9.

6. Check for 24 VDC from power supply negative to pool 2 relay, terminal 5.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, replace pool 2 relay.

7. Check for 24 VDC from power supply negative to microcontroller terminal I2.

   If 24 VDC is measured, replace the micro controller.

   If 24 VDC is not measured repair or replace the wire from pool 2 relay, terminal 5 to I2.

FAILURE BOOSTER PUMP SWITCH

This EVENT is displayed if the booster pump is off and the booster pump flow switch indicates the booster pump is on. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Ensure that there is no flow across the venturi with the booster pump off.

    If no flow is present, go to the next step.

    If flow is present, correct the installation. See page 11 of the Installation Manual for plumbing guidelines.

2. Look through the clear T and check that the flow switch blade is not up against the reed switch.

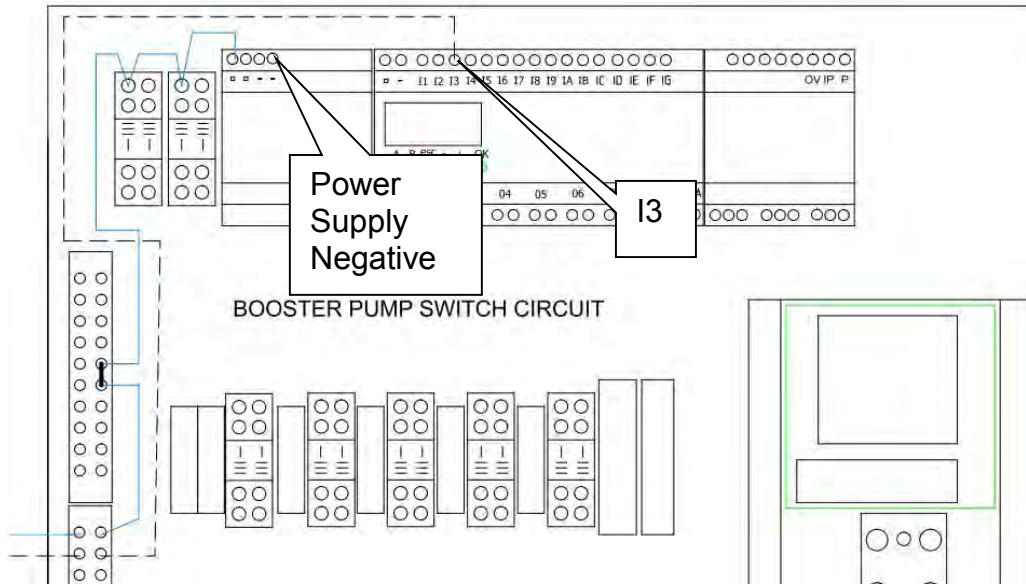   If the blade is not against the reed switch, go to the next step.

    If the blade is against the reed switch, replace the flow switch.

Clear T

Blade

Reed Switch
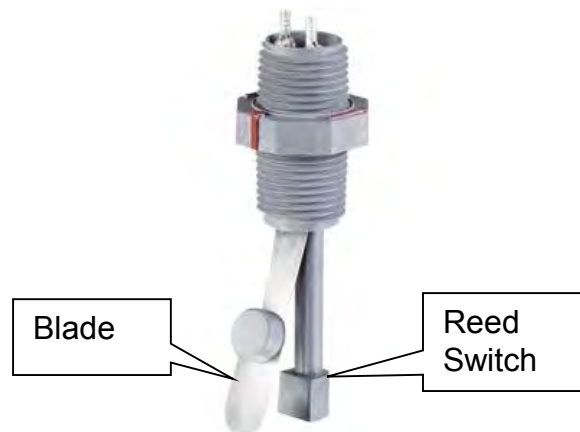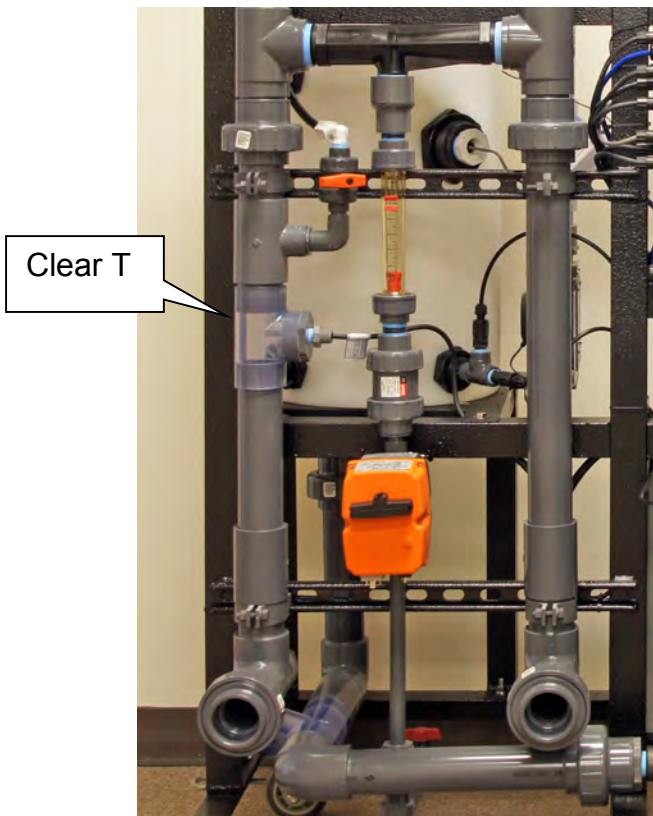
3. Check for 24 VDC across power supply negative and the microcontroller I3.

   If 24 VDC is measured, replace the flow switch.

   If 24 VDC is not measured, replace the microcontroller.


BOOSTER PUMP SWITCH CIRCUIT

BOOSTER PUMP FLOW FAILURE

This EVENT is displayed if the booster pump is on and the booster pump flow switch is off. When this occurs, the system will shut down and will require the event to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST to pull up the test screen. Select and press the BOOSTER PUMP button.

   If the booster pump starts, go to **Troubleshoot Booster Pump Flow Failure – Booster Pump is Running**.

   If the booster pump does not start, go to **Troubleshoot Booster Pump Flow Failure – Booster Pump is Not Running**
   .
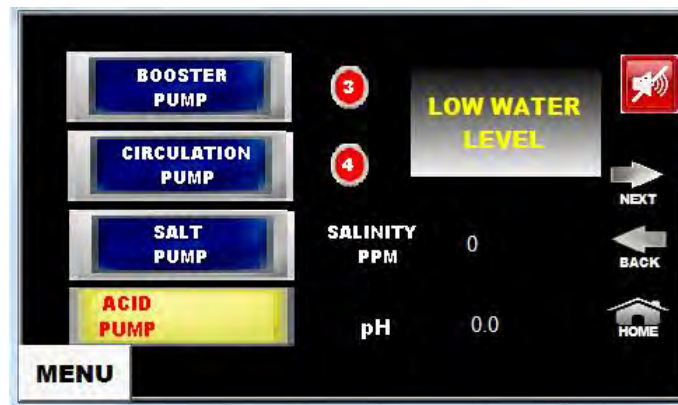
Troubleshoot Booster Pump Flow Failure – Booster Pump is Running

1. Ensure that there is adequate water available to the booster pump and no restrictions back to the return line.
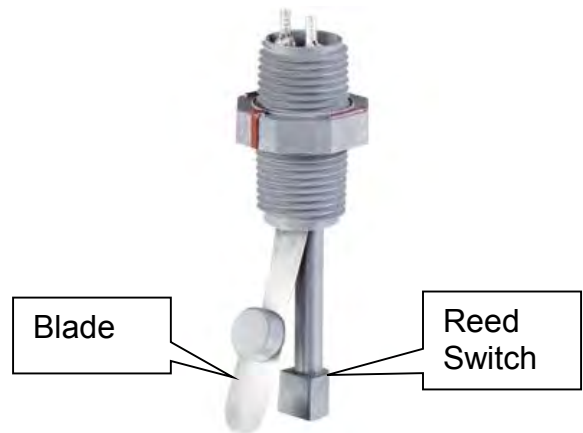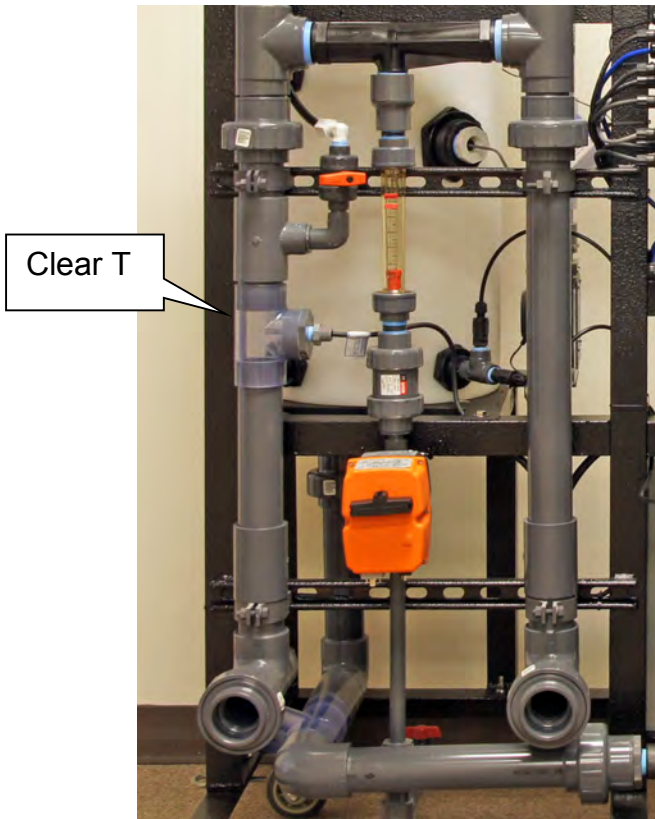
   If there are no restrictions, go to the next step.

   If restrictions are present correct them.

2. Look through the clear T and check that the flow switch blade is pressed up against the reed switch.

   If the blade is pressed against the reed switch, go to the next step.

   If the blade is not pressed up against the reed switch, replace the booster pump.

Clear T

Blade

Reed Switch

3. Check for 24 VDC across power supply negative and the blue wire at terminal block 2, terminal 1.

    If 24 VDC is measured, go to the next step.

    If 24 VDC is not measured, repair or replace the blue wire between power supply positive and terminal block 2, terminal 1.

4. Check for 24 VDC across power supply negative and the white wire at terminal block 2, terminal 2.
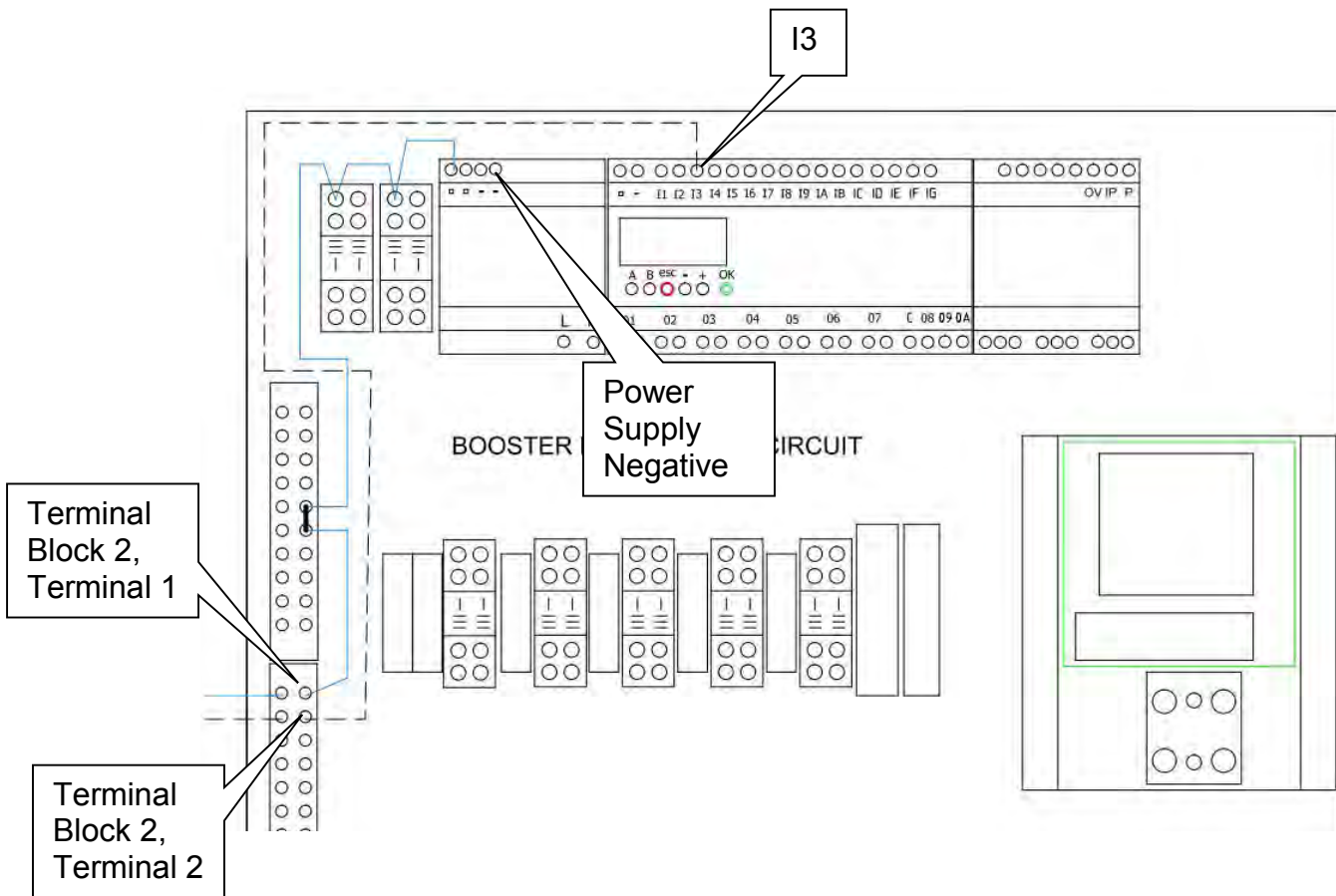
    If 24 VDC is measured, go to the next step.

    If 24 VDC is not measured, replace the flow switch.

5. Check for 24 VDC across power supply negative and the white wire at microcontroller I3.

    If 24 VDC is measured, replace the microcontroller.

    If 24 VDC is not measured, repair or replace the white wire from terminal block 2, terminal 2 to microcontroller I3.

Troubleshoot Booster Pump Flow Failure – Booster Pump is Not Running

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST to pull up the test screen. Select and press the BOOSTER PUMP button. The booster pump output will be energized for 40 minutes in order to troubleshoot the circuit.

2. Check the state of the booster pump circuit breaker.

   If the breaker is not tripped, go to the next step.

   If the breaker is tripped, reset the circuit breaker.

3. Check for 208/240 VAC across the power supply L connection and the booster pump contactor coil red wire.
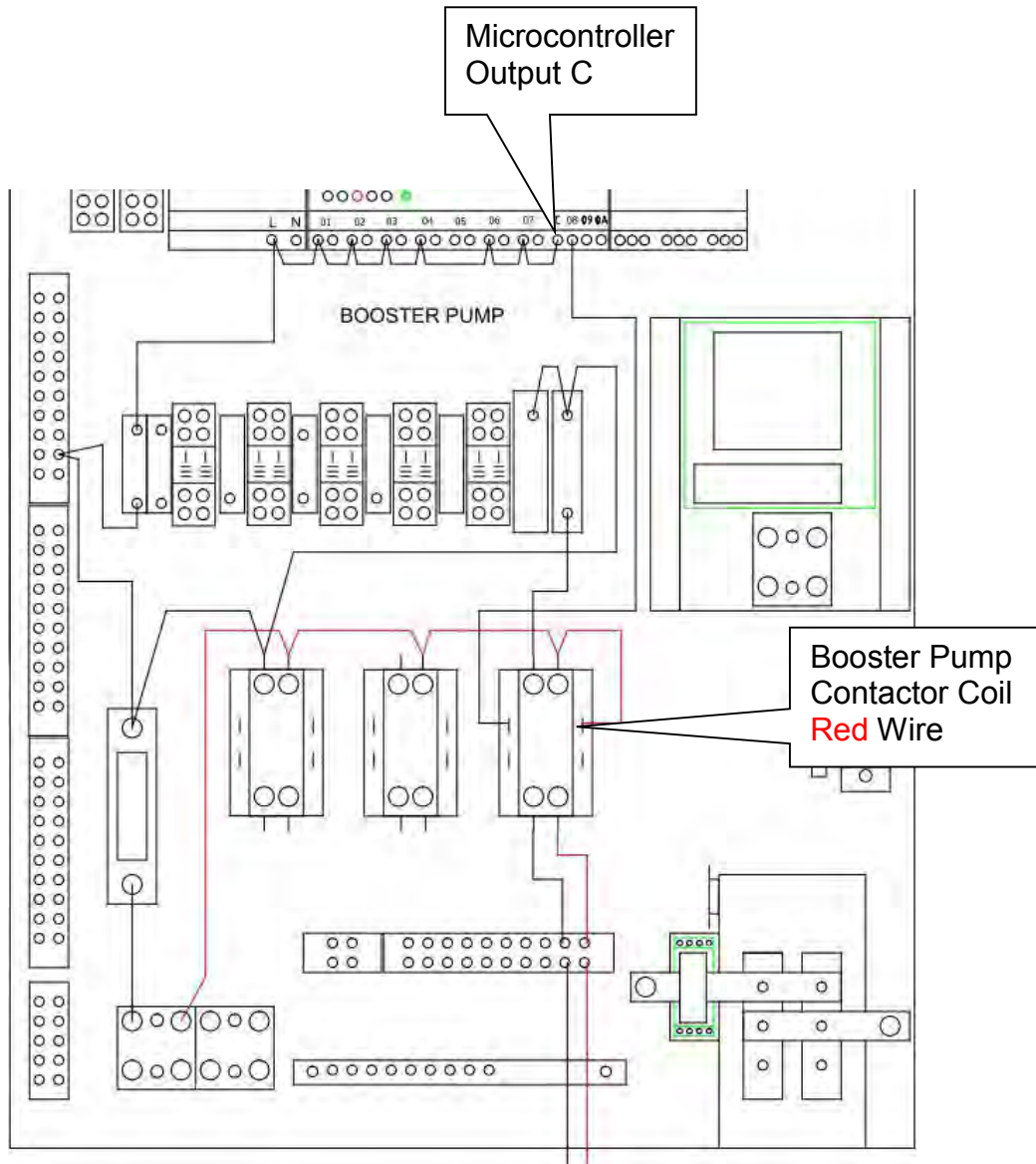
   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the red wire from the incoming terminal block to the booster pump contactor coil.

Power Supply L Connection

BOOSTER PUMP

Booster Pump Circuit Breaker

Booster Pump Contactor Coil Red Wire

Incoming Terminal Block Red Wire
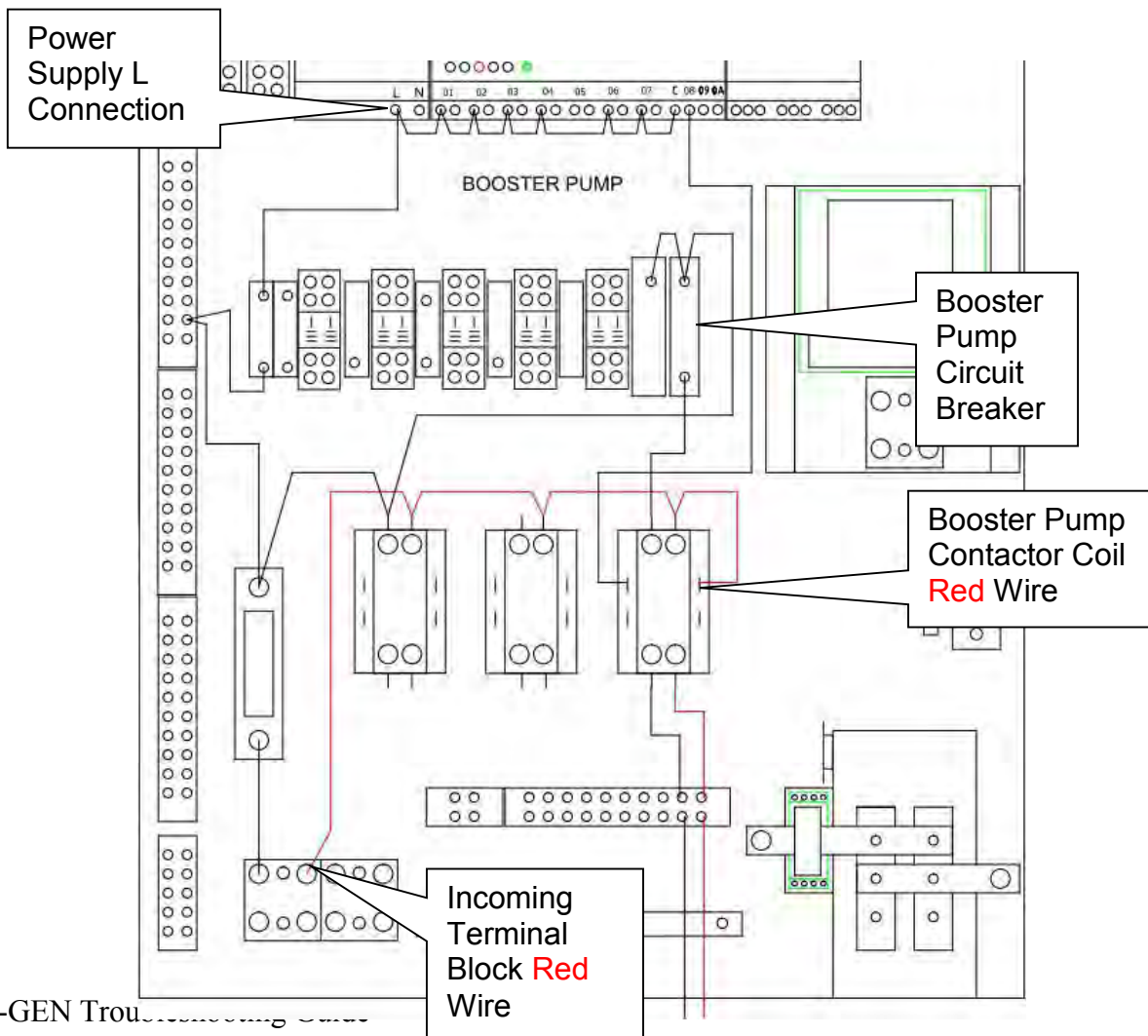
4. Check for 208/240 VAC across the microcontroller output C and the booster pump contactor coil red wire.

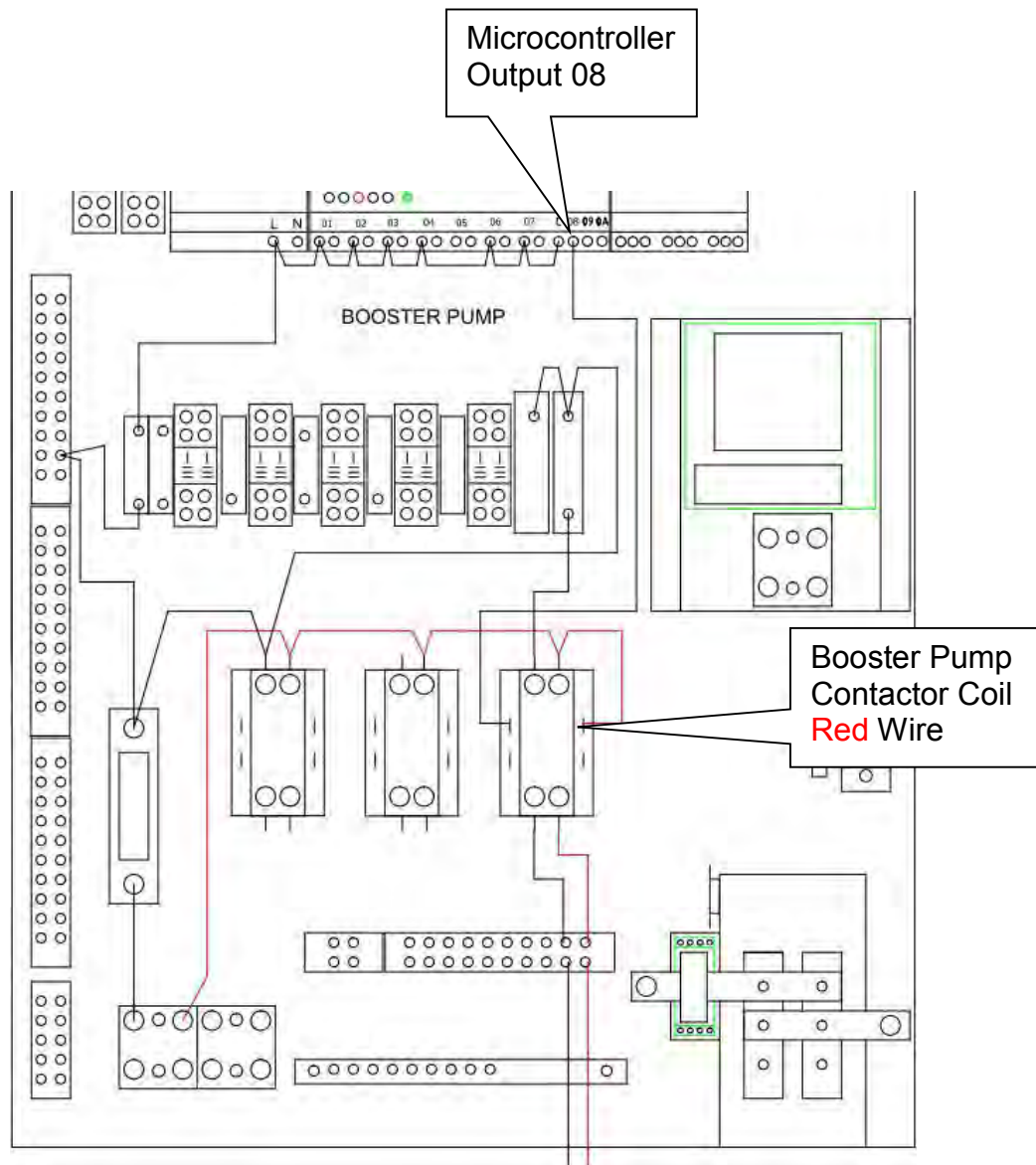   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the black jumper wires from power supply L and microcontroller output C connections.

5. Check for 208/240 VAC across the microcontroller output 8 (08) and the booster pump contactor coil red wire. Be sure the booster pump is still energized from step 1.

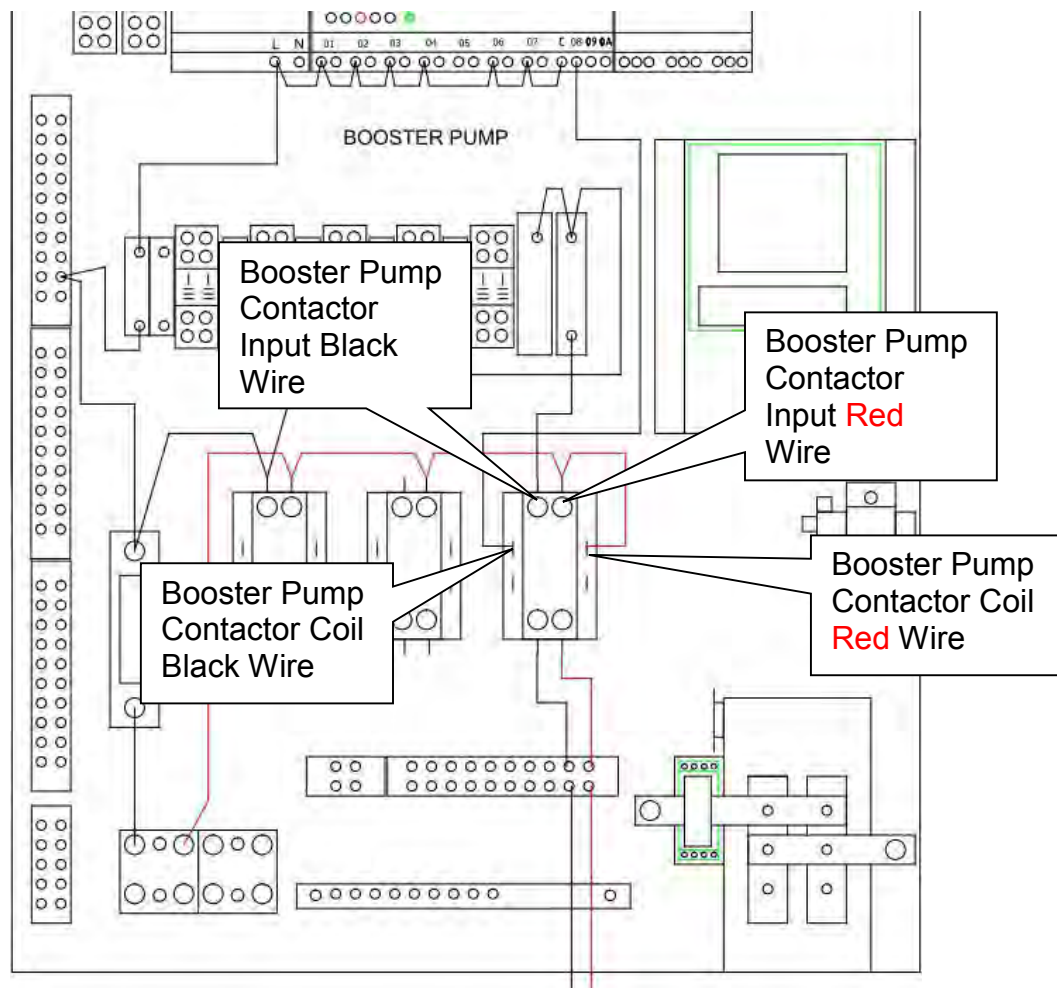   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, replace the microcontroller.

Microcontroller Output 08

BOOSTER PUMP

Booster Pump Contactor Coil Red Wire

6. Check for 208/240 VAC across the booster pump contactor coil black wire and the booster pump contactor coil red wire. Be sure the booster pump is still energized from step 1.

   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the wire from the microcontroller output 8 (08) and the booster pump contactor coil black wire.

7. Check for 208/240 VAC across the booster pump contactor input black wire and the booster pump contactor input red wire. Be sure the booster pump is still energized from step 1.
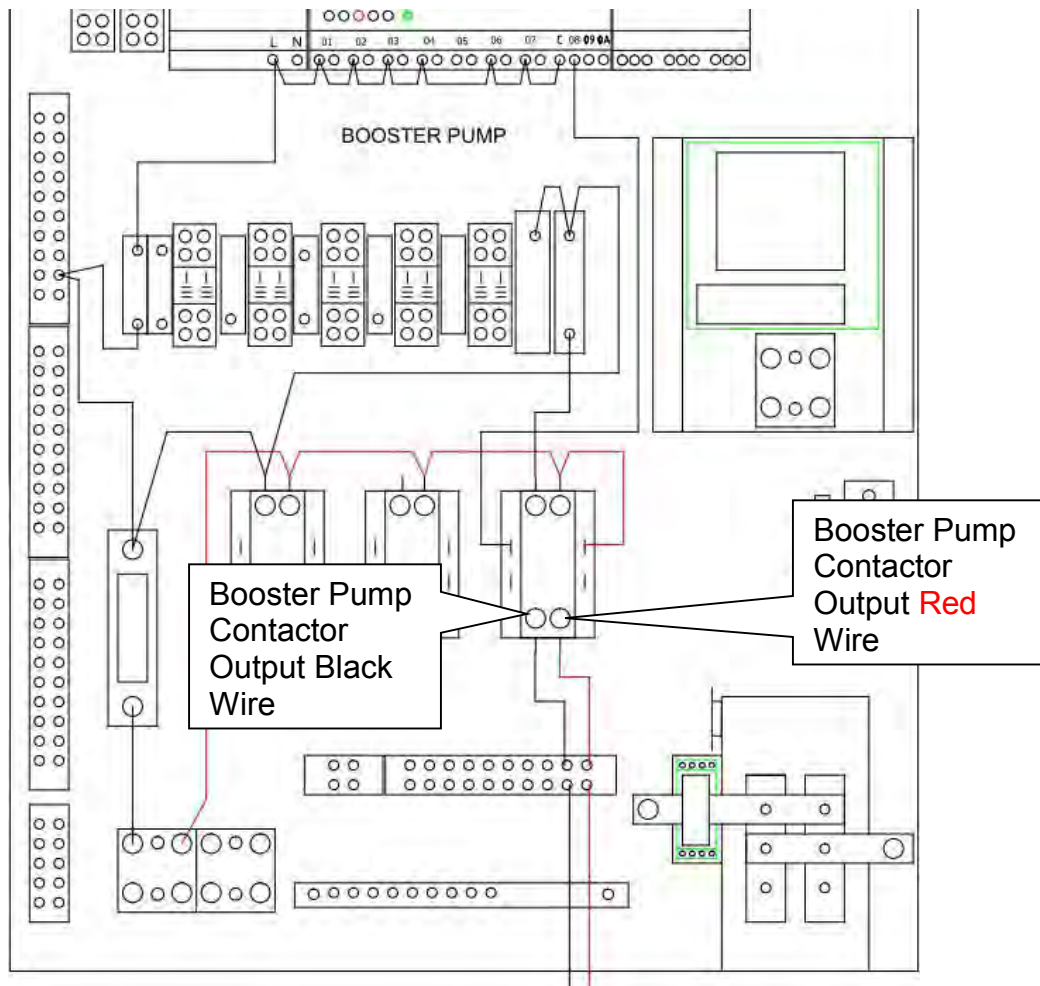
   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, replace the circuit breaker.

8. Check for 208/240 VAC across the booster pump contactor output black wire and the booster pump contactor output red wire. Be sure the booster pump is still energized from step 1.

   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, replace the contactor.

9. Check for 208/240 VAC across terminal block 6, terminals 9 and 10. Be sure the booster pump is still energized from step 1.

If 208/240 VAC is present, repair or replace the booster pump.

If 208/240 VAC is not present, repair or replace the wiring between the contactor and terminal block 6, terminals 9 and 10.

BOOSTER PUMP

Terminal Block 6, Terminal 9
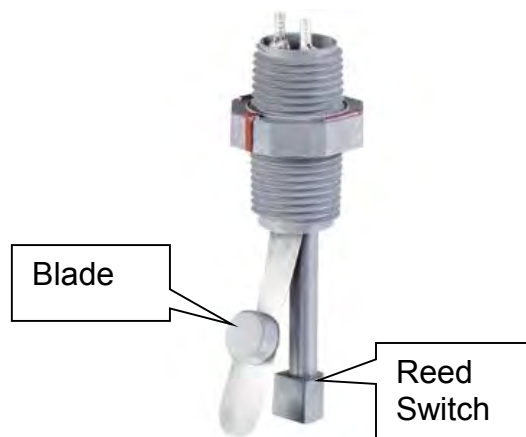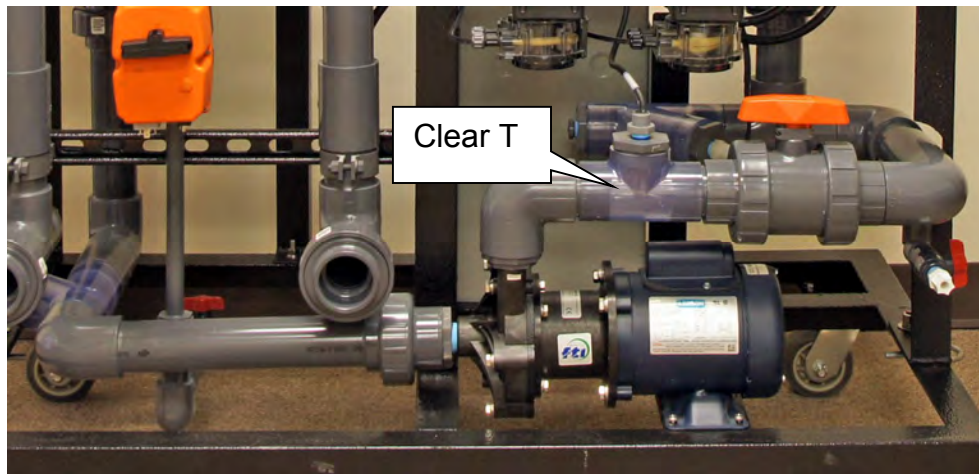
Terminal Block 6, Terminal 10
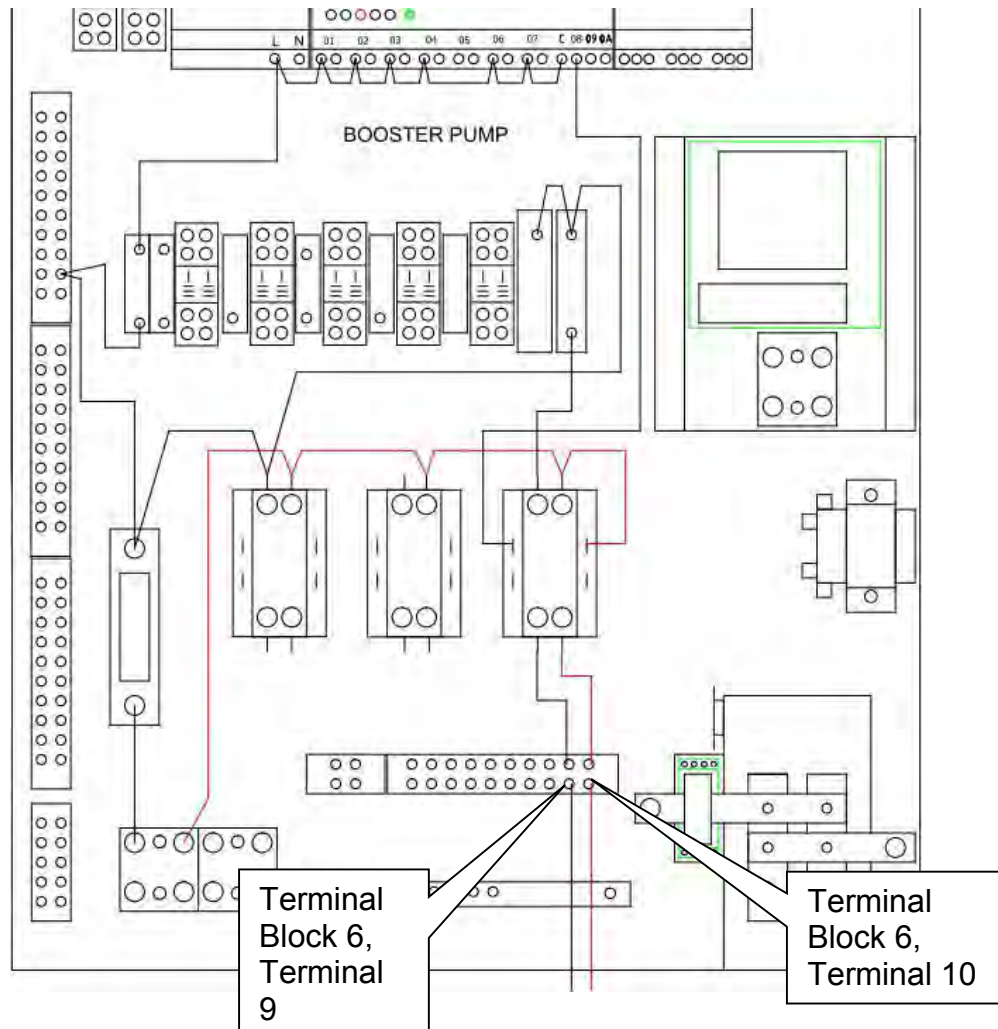
CIRCULATION FLOW SWITCH FAILURE

This EVENT is displayed if the circulation pump is off and the circulation pump flow switch indicates the circulation pump is on. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Look through the clear T and check that the flow switch blade is not up against the reed switch.

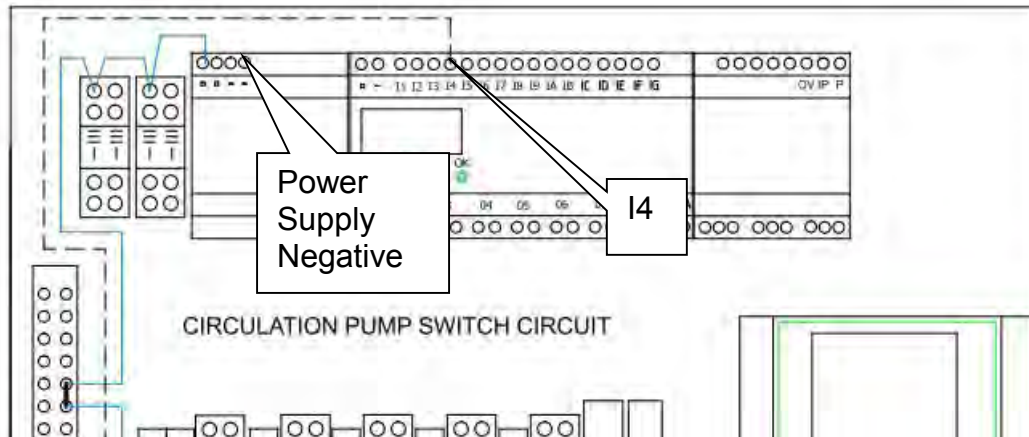   If the blade is not against the reed switch, go to the next step.

   If the blade is against the reed switch, replace the flow switch.

Clear T

Blade

Reed Switch

2. Check for 24 VDC across power supply negative and the microcontroller I4.

   If 24 VDC is measured, replace the flow switch.

   If 24 VDC is not measured, replace the microcontroller.


CIRCULATION PUMP SWITCH CIRCUIT

CIRCULATION PUMP NO/LOW FLOW

This event is displayed if the circulation pump is on and the circulation pump flow switch is off. When this occurs, the system will shut down and will require the event to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST to pull up the test screen. Select and press the CIRCULATION PUMP button.

   If the circulation pump starts, go to **Troubleshoot Circulation Pump Flow Failure – Circulation Pump is Running**.

   If the circulation pump does not start, go to **Troubleshoot Circulation Pump Flow Failure – Circulation Pump is Not Running**

   .
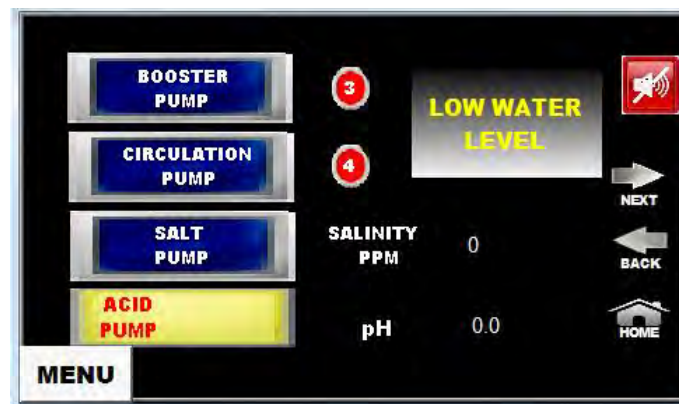
Troubleshoot Circulation Pump Flow Failure – Circulation Pump is Running

1. Ensure that there is adequate water in the production tank and that water is available to the circulation pump and no restrictions from valve 7 and 8 are present.

   If there are no restrictions and the production tank is full of water, go to the next step.

   If restrictions are present or no water is present, correct these conditions.

2. Look through the clear T and check that the flow switch blade is pressed up against the reed switch.

   If the blade is pressed against the reed switch, go to the next step.

   If the blade is not pressed up against the reed switch, replace the circulation pump.
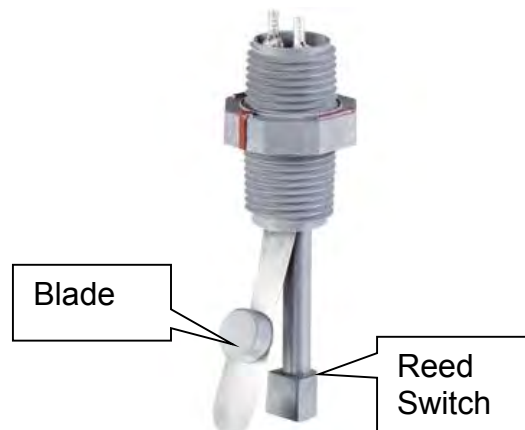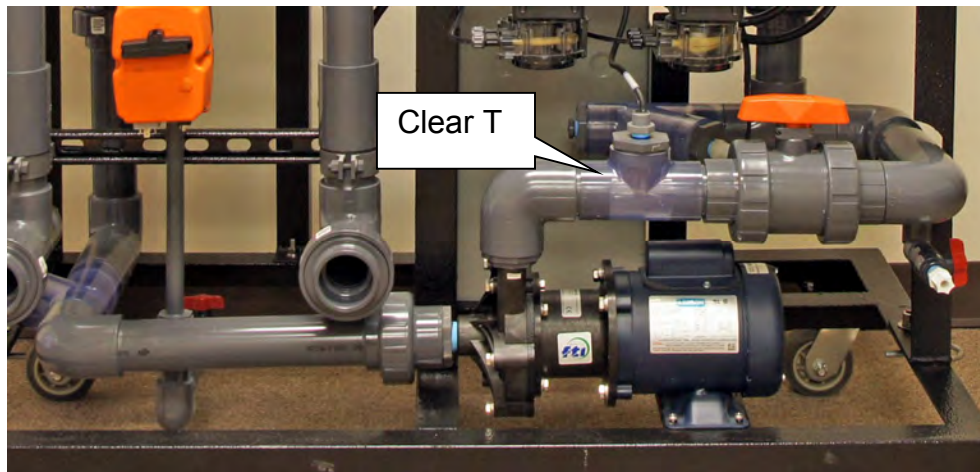
3. Check for 24 VDC across power supply negative and the blue wire at terminal block 2, terminal 3.

   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, repair or replace the blue wire between power supply positive and terminal block 2, terminal 3.

4. Check for 24 VDC across power supply negative and the white wire at terminal block 2, terminal 4.
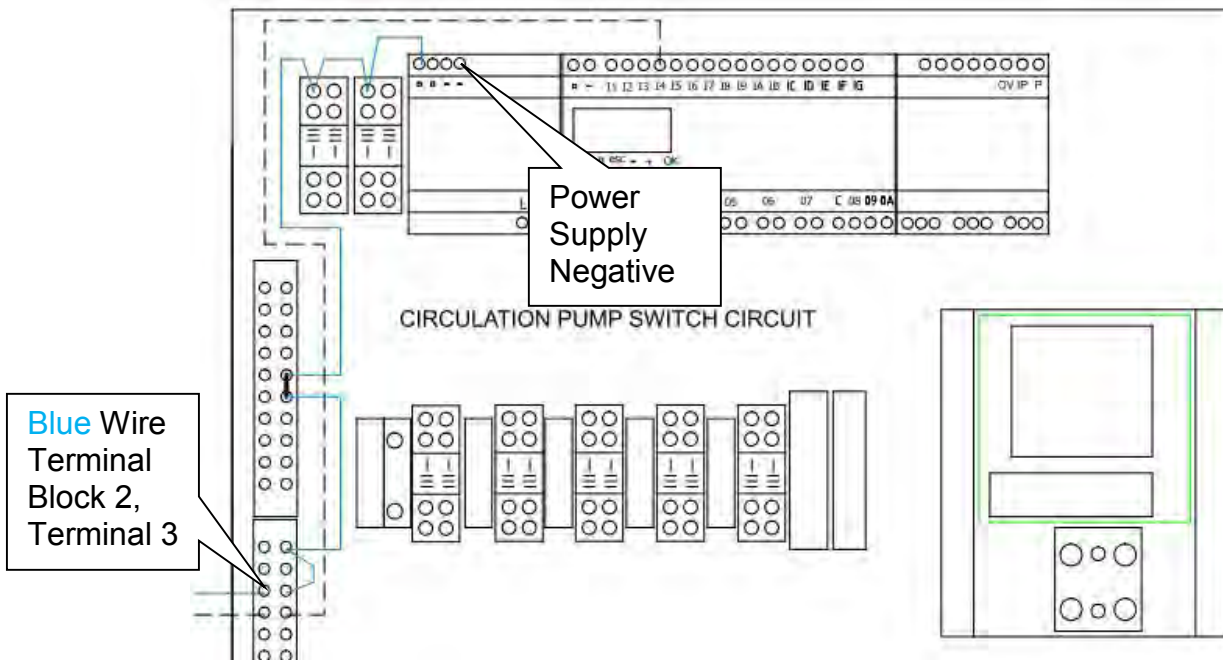
   If 24 VDC is measured, go to the next step.

   If 24 VDC is not measured, replace the flow switch.

5. Check for 24 VDC across power supply negative and the white wire at microcontroller I4.

   If 24 VDC is measured, replace the microcontroller.

   If 24 VDC is not measured, repair or replace the white wire from terminal block 2, terminal 4 to microcontroller I4.

CIRCULATION PUMP SWITCH CIRCUIT

Power Supply Negative

Blue Wire Terminal Block 2, Terminal 3

Troubleshoot Circulation Pump Flow Failure – Circulation Pump is Not Running

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST to pull up the test screen. Select and press the CIRCULATION PUMP button. The circulation pump output will be energized for 1 minute in order to troubleshoot the circuit. Restart the circulation pump for each test if necessary.

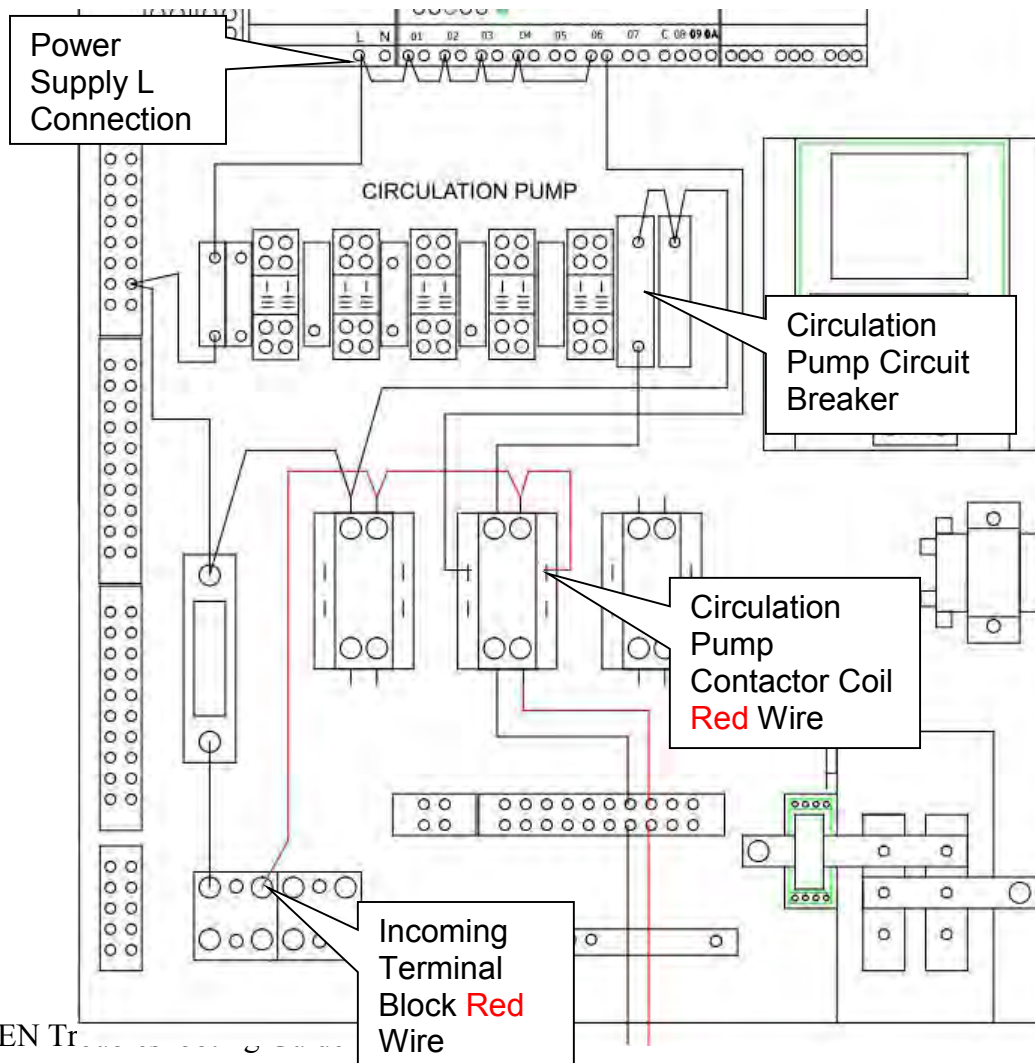2. Check the state of the circulation pump circuit breaker.

   If the breaker is not tripped, go to the next step.

   If the breaker is tripped, reset the circuit breaker.

3. Check for 208/240 VAC across the power supply L connection and the circulation pump contactor coil red wire.

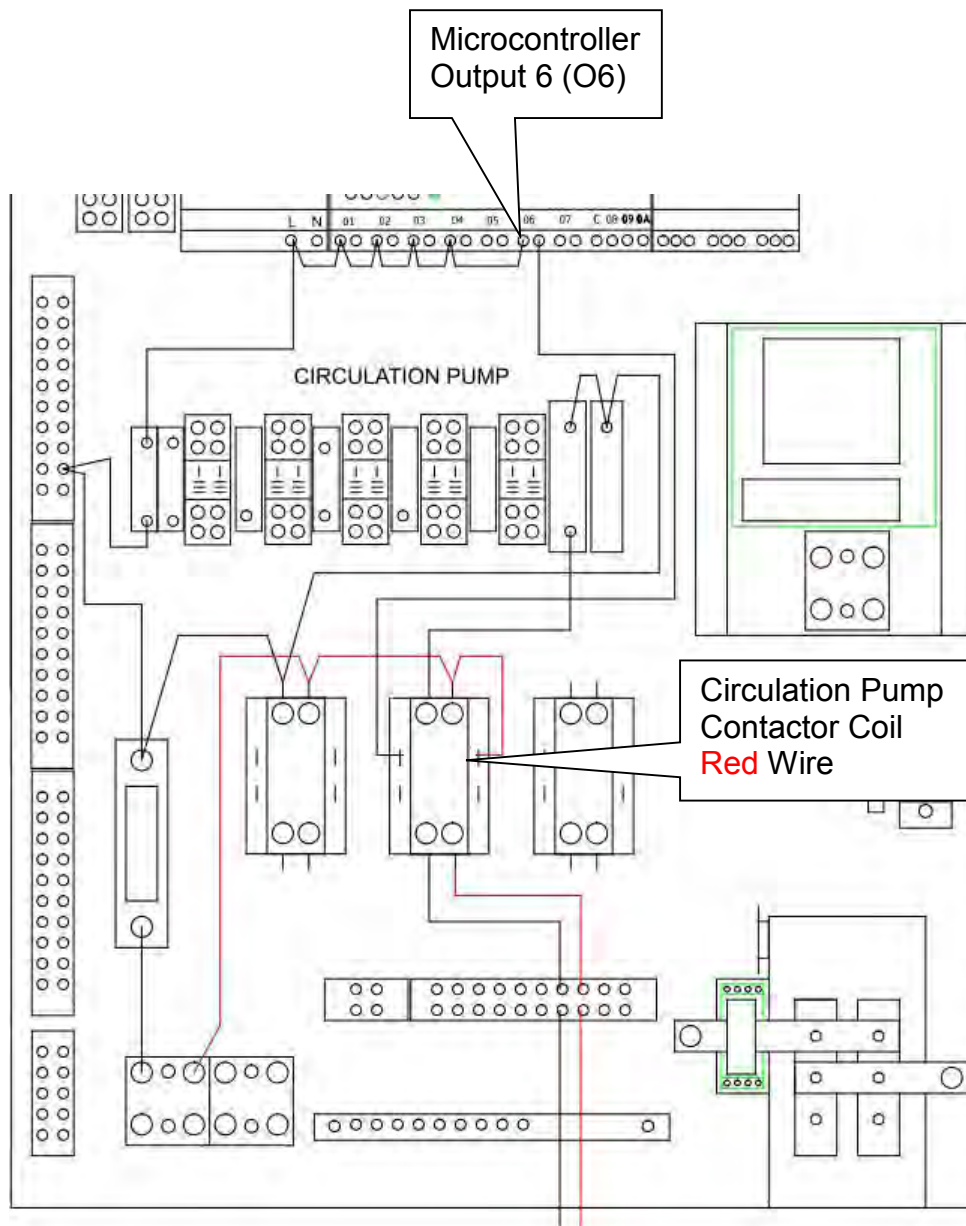   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the red wire from the incoming terminal block to the circulation pump contactor coil.

4. Check for 208/240 VAC across the microcontroller output 6 (06) and the circulation pump contactor coil red wire.
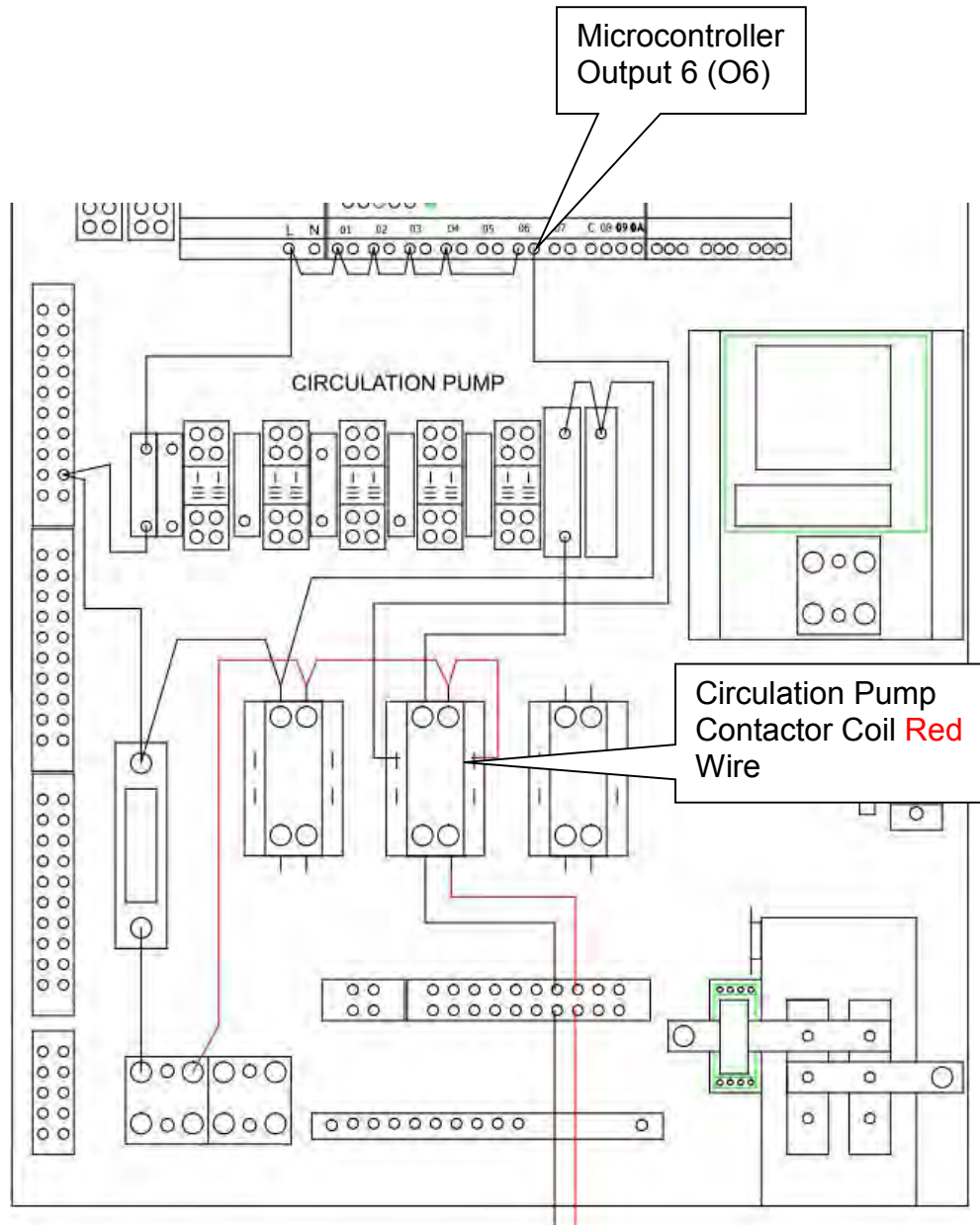
   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the black jumper wires from power supply L and microcontroller output 6 (O6) connections.

Microcontroller Output 6 (O6)

CIRCULATION PUMP

Circulation Pump Contactor Coil Red Wire

5. Check for 208/240 VAC across the microcontroller output (O6) and the circulation pump contactor coil red wire. Be sure the circulation pump is still energized from step 1.
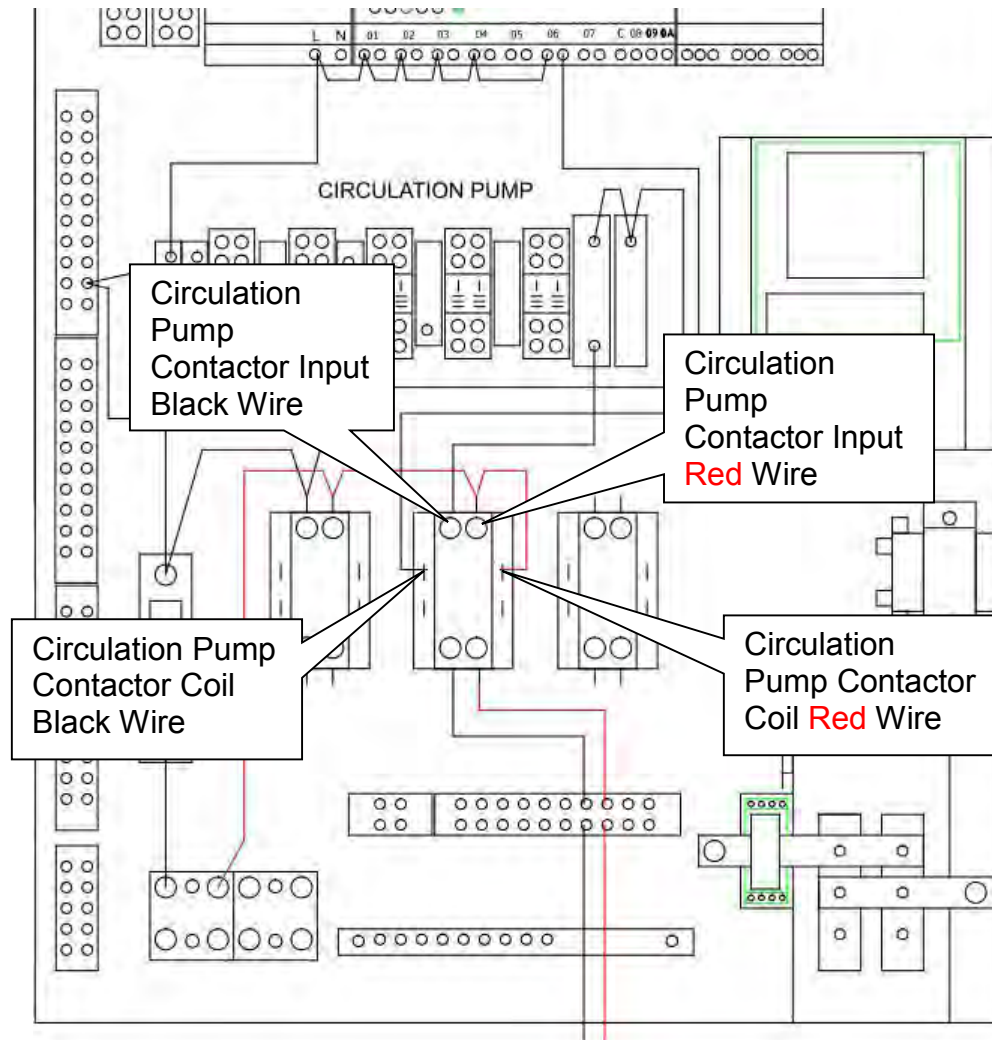
If 208/240 VAC is present, go to the next step.

If 208/240 VAC is not present, replace the microcontroller.

Microcontroller
Output 6 (O6)

CIRCULATION PUMP

Circulation Pump
Contactor Coil Red
Wire

6. Check for 208/240 VAC across the circulation pump contactor coil black wire and the circulation pump contactor coil red wire. Be sure the circulation pump is still energized from step 1.

If 208/240 VAC is present, go to the next step.

If 208/240 VAC is not present, repair or replace the wire from the microcontroller output 6 (O6) and the circulation pump contactor coil black wire.

7. Check for 208/240 VAC across the circulation pump contactor input black wire and the circulation pump contactor input red wire. Be sure the circulation pump is still energized from step 1.

If 208/240 VAC is present, go to the next step.

If 208/240 VAC is not present, replace the circuit breaker.

8. Check for 208/240 VAC across the circulation pump contactor output black wire and the circulation pump contactor output red wire. Be sure the circulation pump is still energized from step 1.

If 208/240 VAC is present, go to the next step.

If 208/240 VAC is not present, replace the contactor.

CIRCULATION PUMP

Circulation Pump Contactor Output Red Wire

Circulation Pump Contactor Output Black Wire
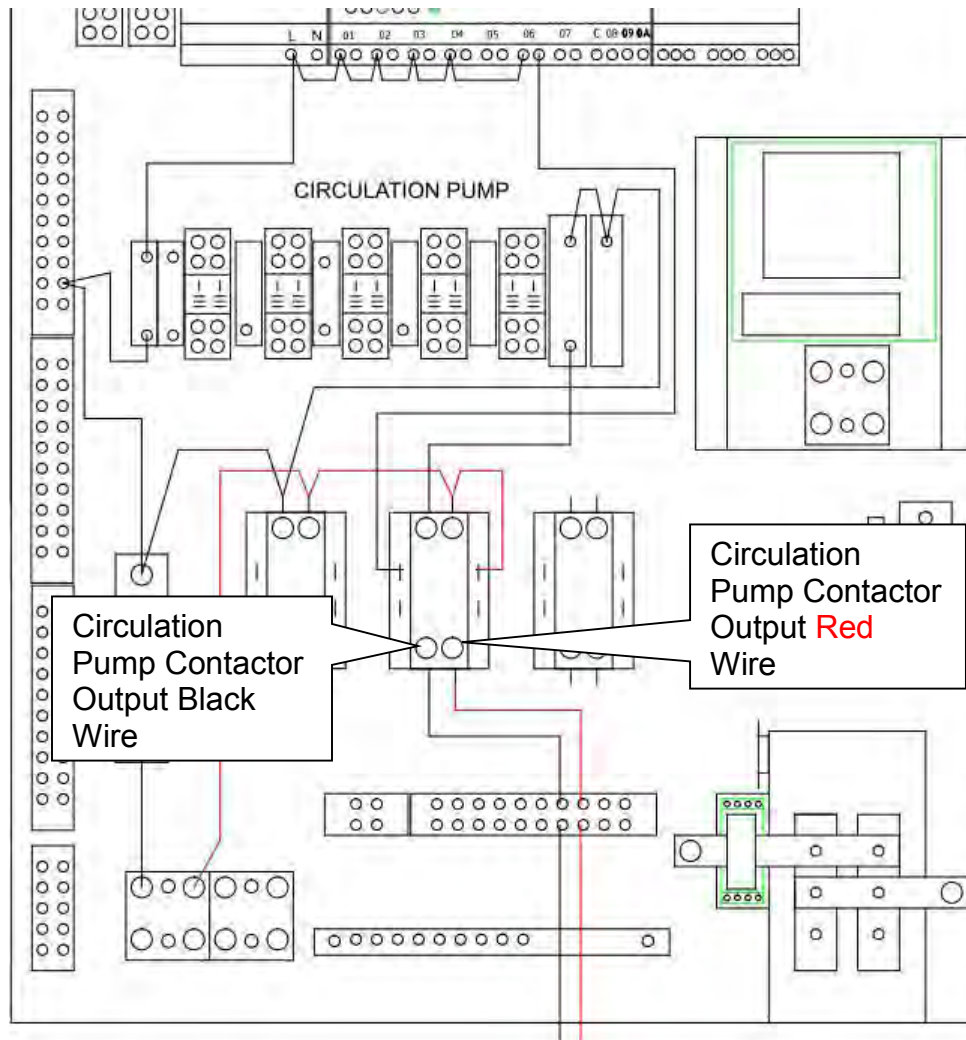
9. Check for 208/240 VAC across terminal block 6, terminals 7 and 8. Be sure the circulation pump is still energized from step 1.

    If 208/240 VAC is present, repair or replace the circulation pump.

    If 208/240 VAC is not present, repair or replace the wiring between the contactor and terminal block 6, terminals 7 and 8.
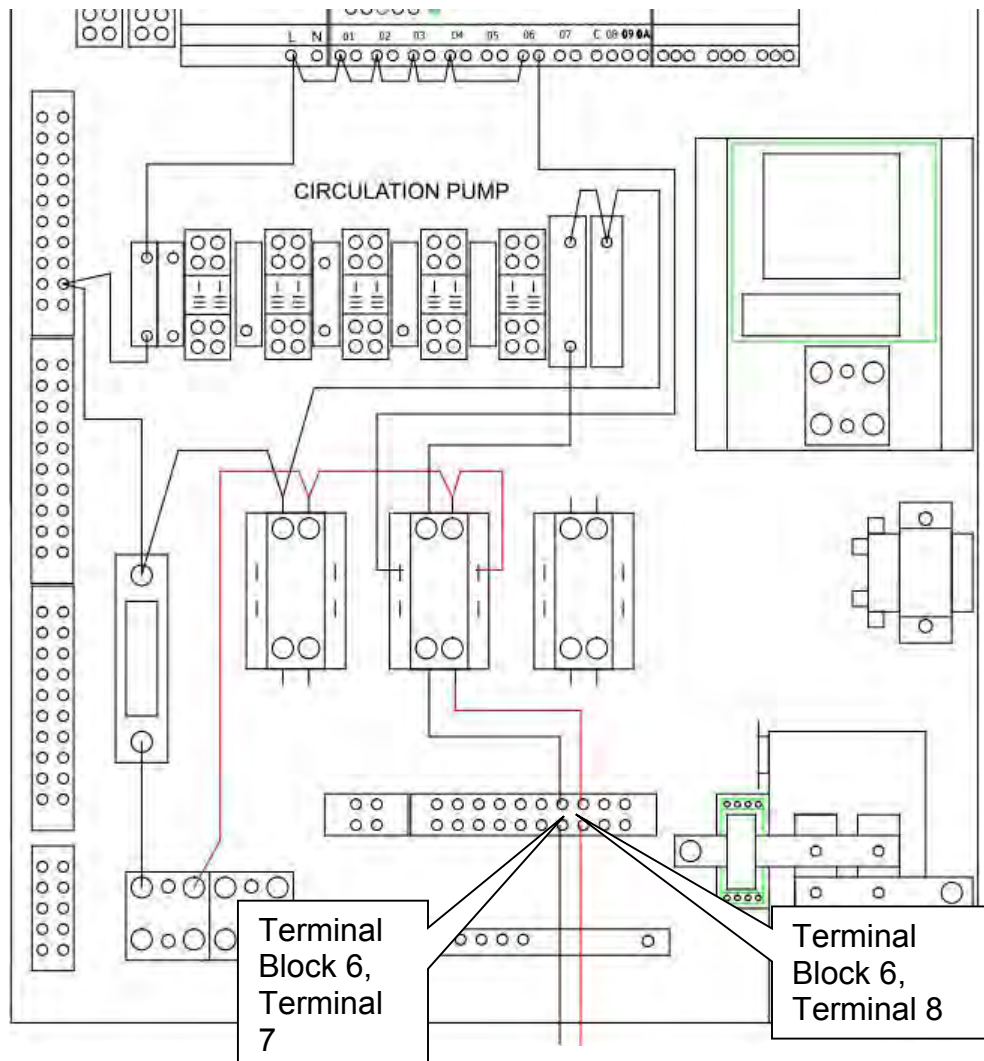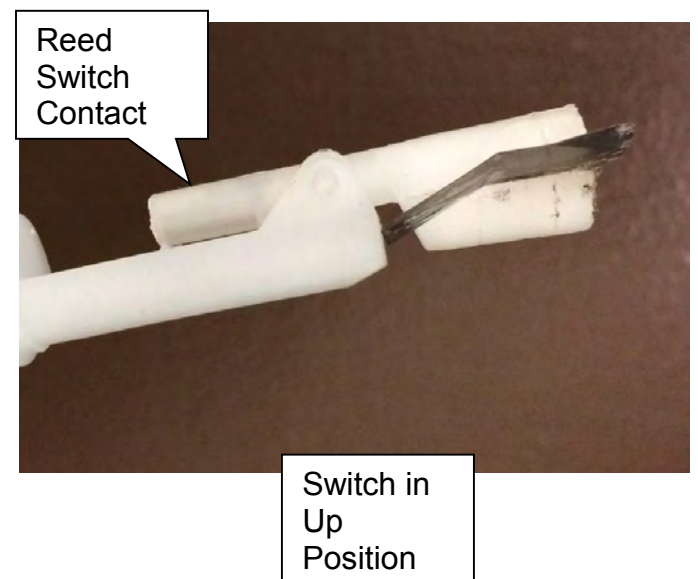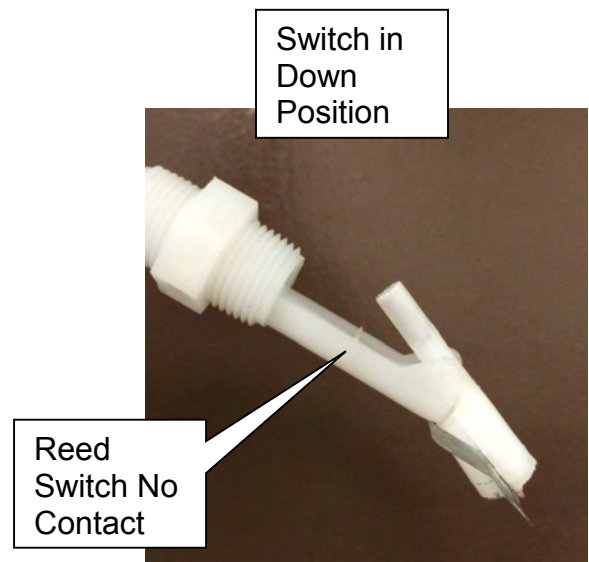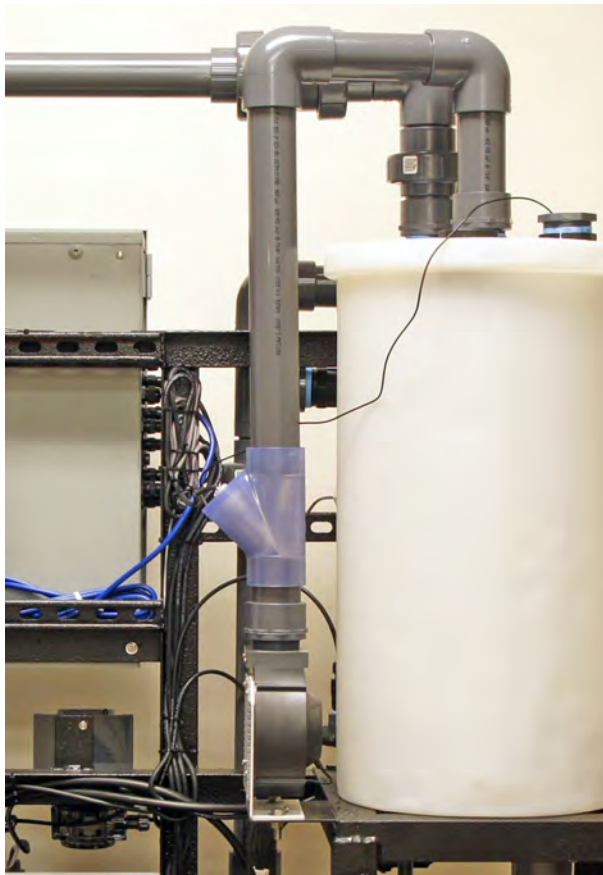
FAN SWITCH FAILURE

This EVENT is displayed if the fan flow switch is indicating a fan that is on when the fan is off. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Look through the clear Y and check that the fan flow switch blade is in the down position and that the reed switch is not making contact.

   If the blade is in the down position with no reed switch contact, go to the next step.
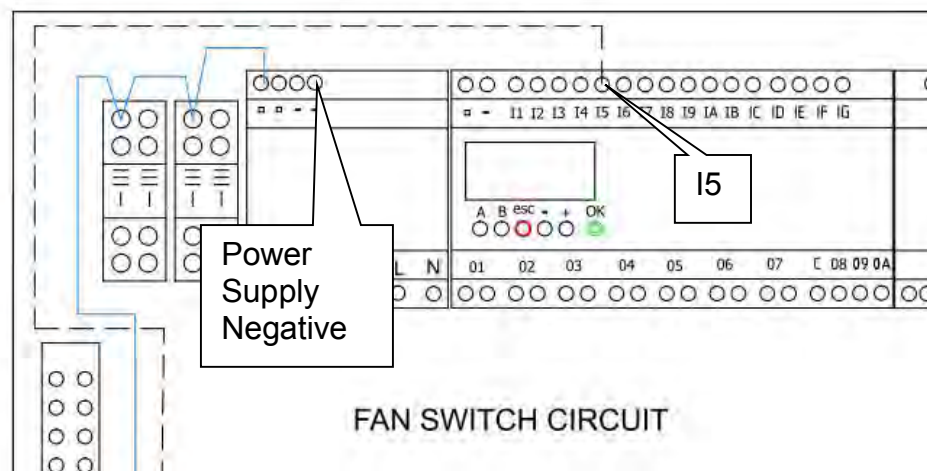
   If the blade is in the up position with reed switch contact, replace the fan flow switch.

2. Check for 24 VDC from the power supply negative connection to the I5 connection on the microcontroller.

   If 24 VDC is measured, replace the fan flow switch.

   If 24 VDC is not measured, replace the microcontroller.

FAN SWITCH CIRCUIT

FAN FLOW FAILURE

This EVENT is displayed if the fan should be on and fan flow switch is off. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST then NEXT to pull up the test screen for the fan motor. Select and press the FAN MOTOR button.

   If the fan motor starts, go to **Troubleshoot Fan Flow Failure – Fan is Running**.

   If the fan does not start, go to **Troubleshoot Fan Flow Failure – Fan is Not Running**

   .

Troubleshoot Fan Flow Failure – Fan is Running

1. Look through the clear Y and check that the fan flow switch blade is in the up position and that the reed switch is making contact.

   If the blade is in the up position with the reed switch making contact, go to the next step.

   If the blade is in the down position with no reed switch contact, replace the fan flow switch.

Switch in Down Position

Reed Switch No Contact

Reed Switch Contact

Switch in Up Position
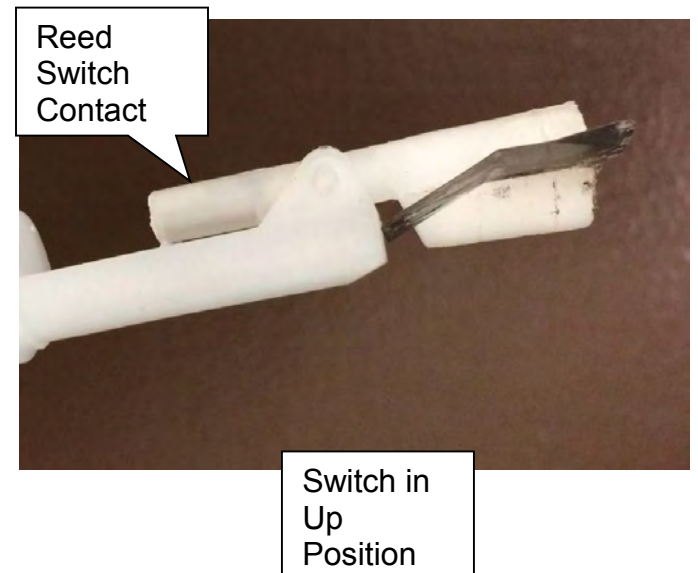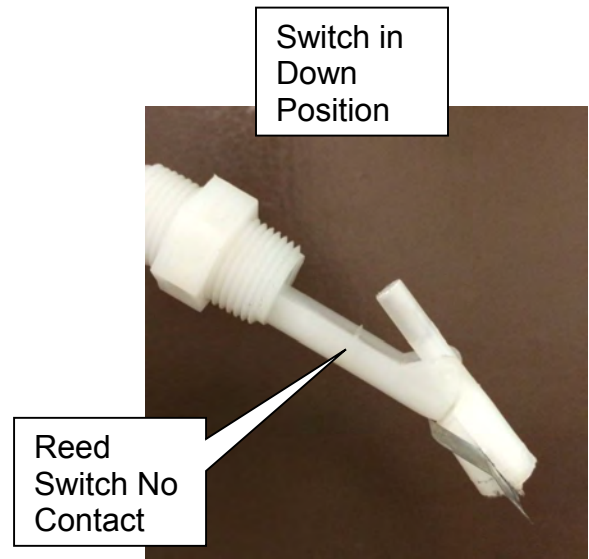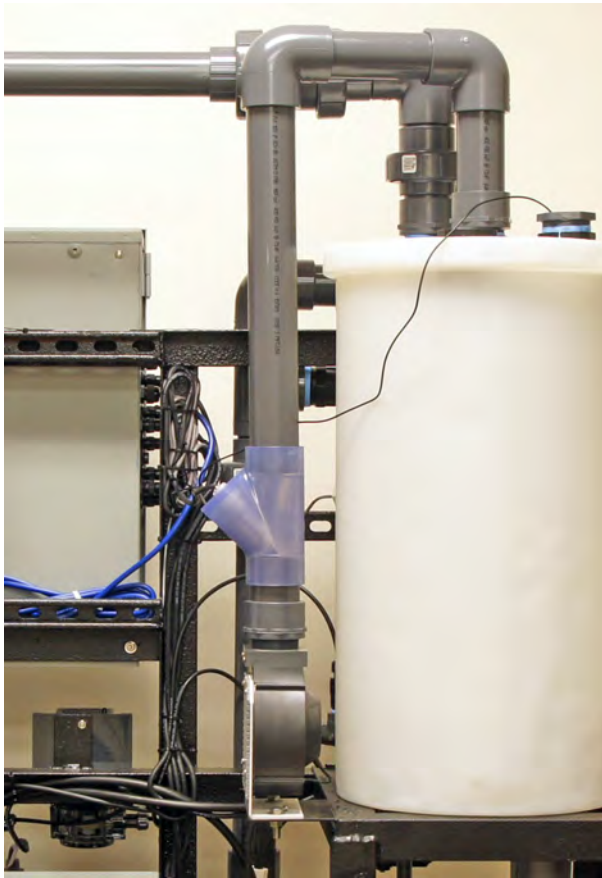
2. Check for 24 VDC from the power supply negative connection to the blue wire on terminal block 2, terminal 5.
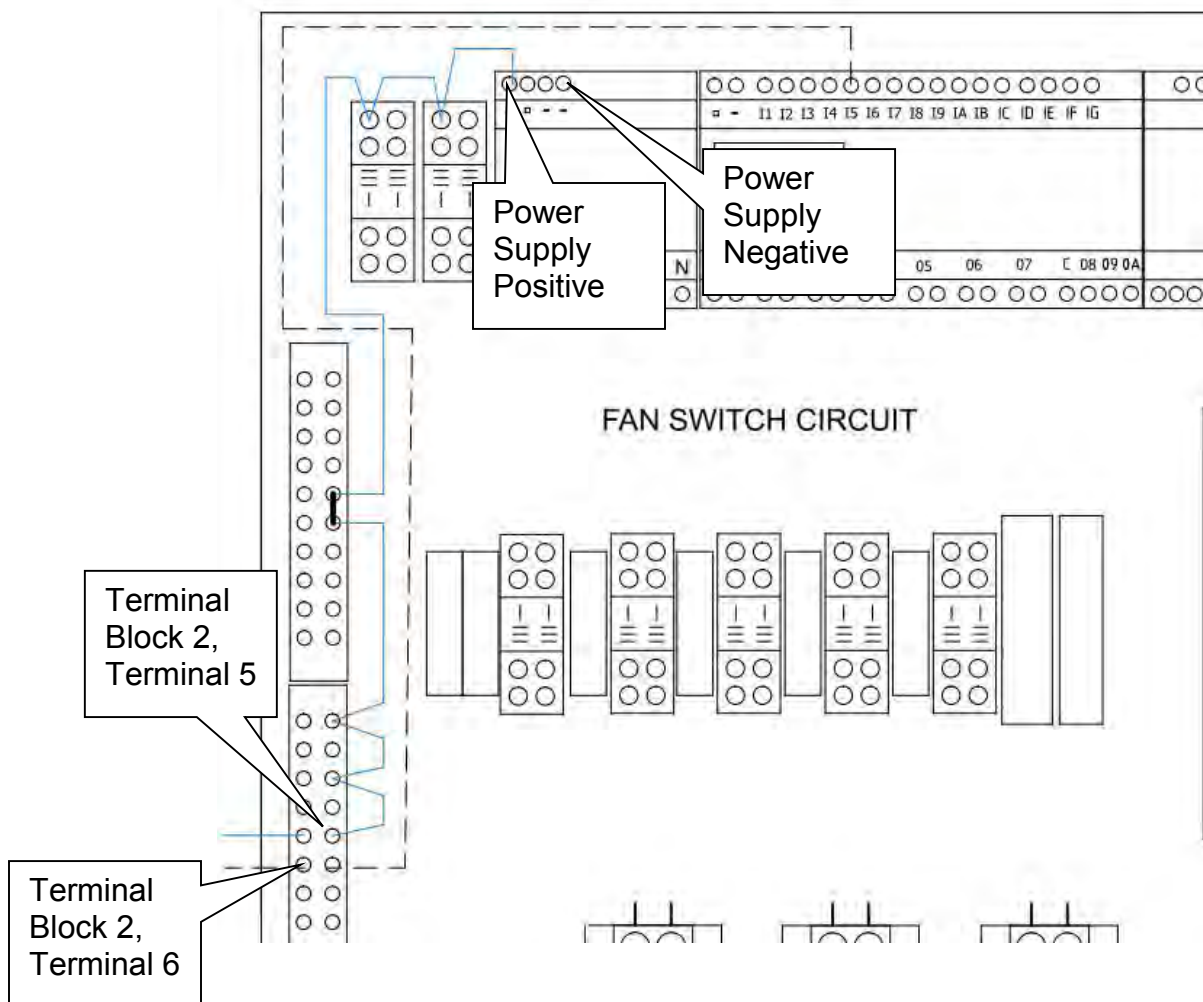
    If 24 VDC is measured, go to the next step.

    If 24 VDC is not measured, repair or replace the blue wire from power supply positive to terminal block 2, terminal 5.

3. Check for 24 VDC from the power supply negative connection to the white wire on terminal block 2, terminal 6.

   If 24 VDC is measured, go to the next step.

    If 24 VDC is not measured, replace the fan flow switch.

Power Supply Positive

Power Supply Negative

FAN SWITCH CIRCUIT

Terminal Block 2, Terminal 5

Terminal Block 2, Terminal 6

4. Check for 24 VDC from the power supply negative connection to the I5 connection on the microcontroller.

   If 24 VDC is measured, replace the microcontroller.

   If 24 VDC is not measured, replace the white wire from terminal block 2, terminal 6 to microcontroller I5.

FAN SWITCH CIRCUIT
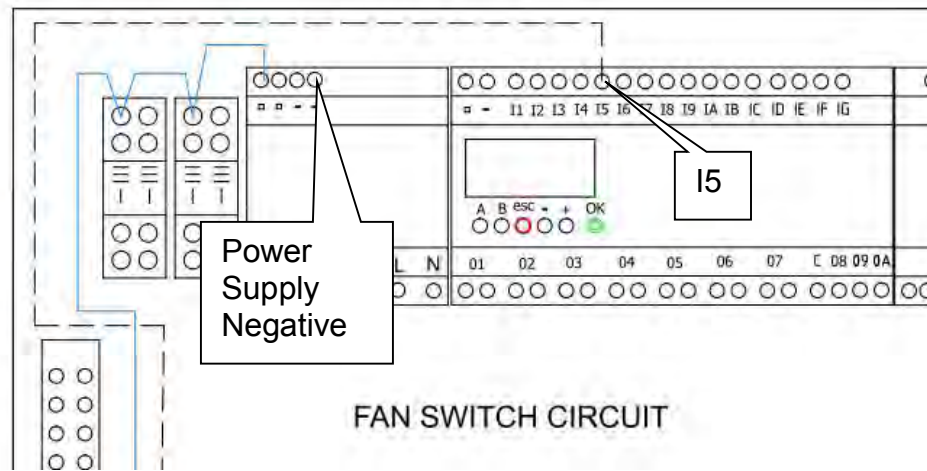
Troubleshoot Fan Flow Failure – Fan is Not Running

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST then NEXT to pull up the test screen. Select and press the FAN MOTOR button. The fan motor output will be energized for 1 minute in order to troubleshoot the circuit. Restart the fan motor for each test if necessary.

2. Check for 208/240 VAC across the power supply L connection and the red wire on fan relay terminal 14.

   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the red wire from the incoming terminal block to the fan relay terminal 14.

3. Check for 208/240 VAC across the microcontroller connection O1 input and the red wire on fan relay terminal 14.

   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the black wire from the power supply L connection to the microcontroller O1 connection.

4. Check for 208/240 VAC across the microcontroller connection O1 output and the red wire on fan relay terminal 14. Be sure to repeat step 1 if it has been more than 1 minute since the fan was last started.
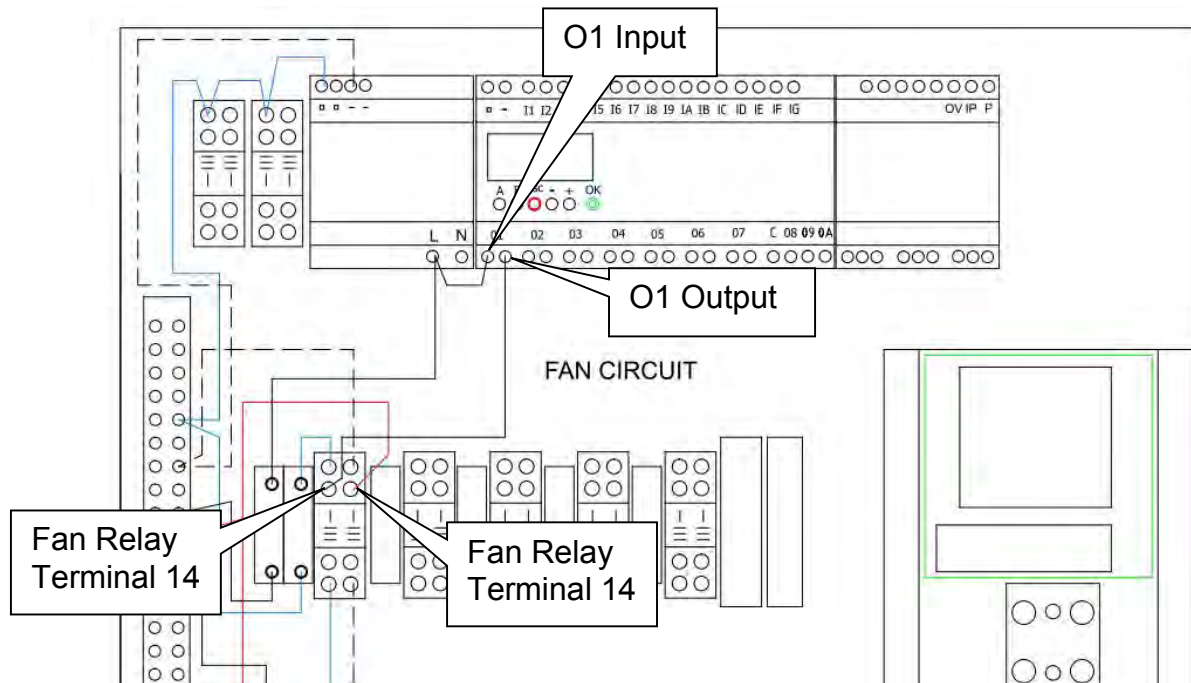
   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, replace the microcontroller.

5. Check for 208/240 VAC across the fan relay terminal 13 and the red wire on fan relay terminal 14. Be sure to repeat step 1 if it has been more than 1 minute since the fan was last started.

   If 208/240 VAC is present, go to the next step.

   If 208/240 VAC is not present, repair or replace the black wire from the microcontroller O1 output to the fan relay terminal 13.

6. Check for 24 VDC across the power supply negative connection and the blue wire on bottom of the fan fuse.

   If 24 VDC is present, go to the next step.

   If 24 VDC is not present, repair or replace the blue wire from the power supply positive to the bottom of the fan fuse.

7. Check for 24 VDC across the fan relay terminal 12 and the blue wire on the bottom of the fan fuse.
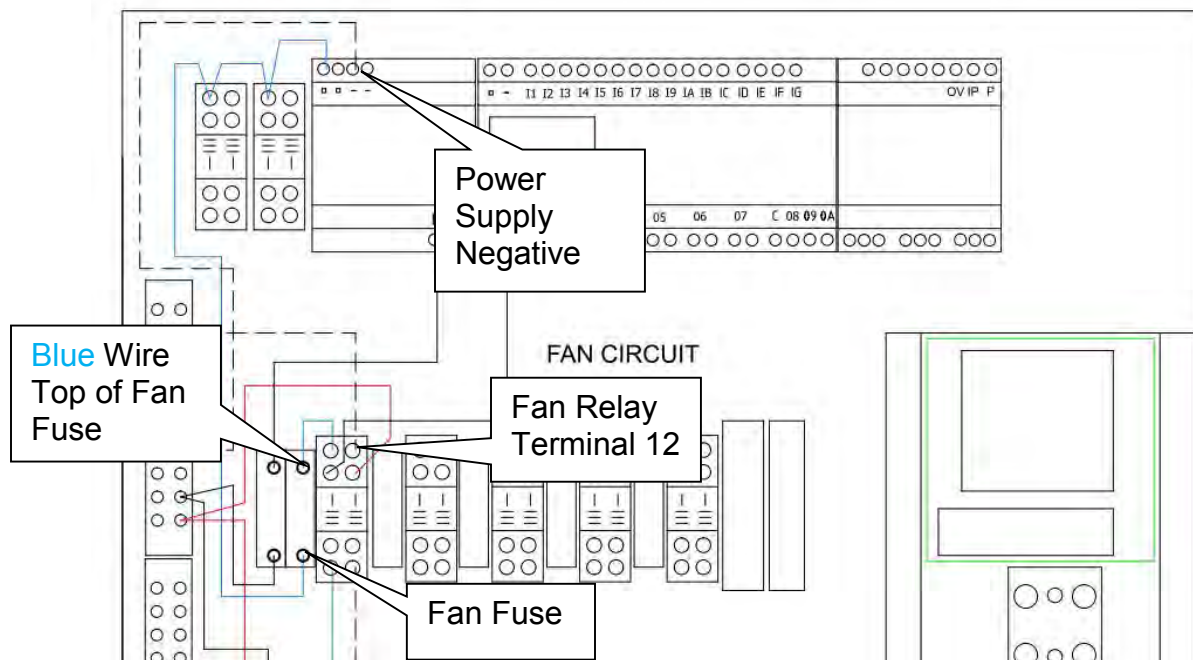
   If 24 VDC is present, go to the next step.

   If 24 VDC is not present, repair or replace the white wire from the power supply negative connection to the fan relay terminal 12.

8. Check for 24 VDC across the fan relay terminal 12 and the blue wire at the top of the fan fuse.

   If 24 VDC is present, go to the next step.

   If 24 VDC is not present, replace the fan fuse.

Power Supply Negative

FAN CIRCUIT

Blue Wire Top of Fan Fuse

Fan Relay Terminal 12

Fan Fuse

9. Check for 24 VDC across the fan relay terminal 12 and the blue wire at the fan relay terminal 9.
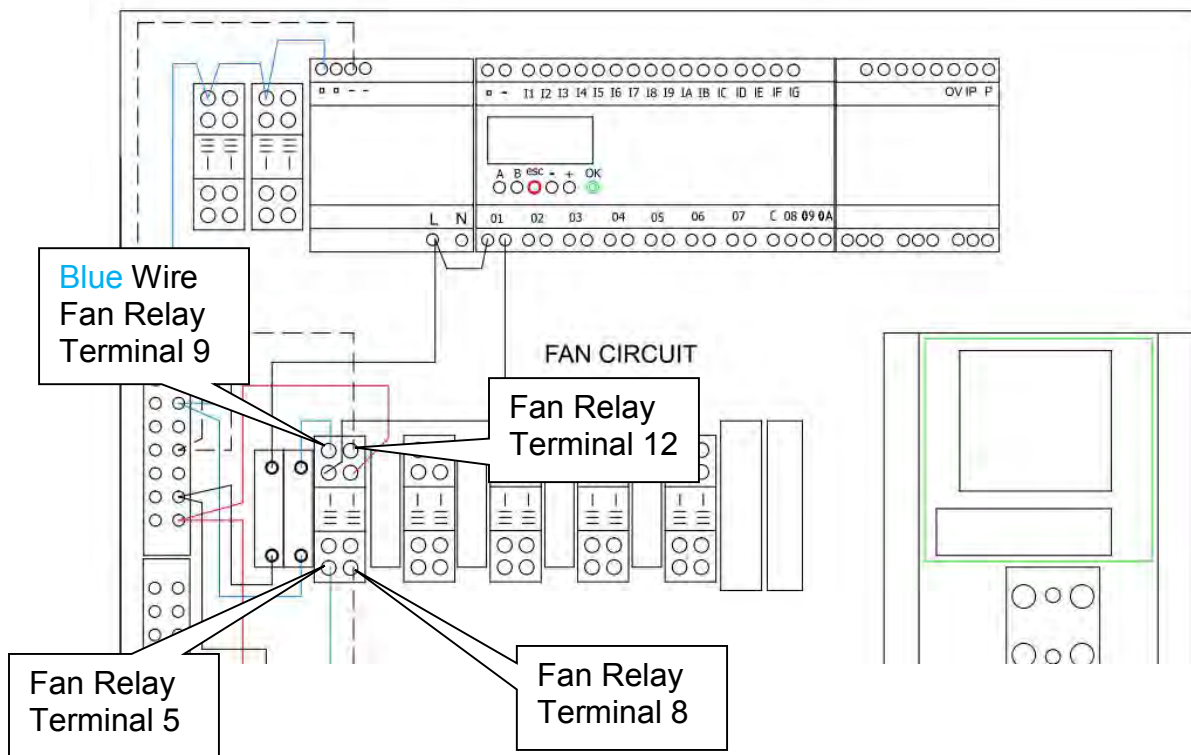
    If 24 VDC is present, go to the next step.

    If 24 VDC is not present, repair or replace the wire between the fan fuse and the fan relay terminal 9.

10. Check for 24 VDC across the fan relay terminal 5 and 8. Be sure to repeat step 1 if it has been more than 1 minute since the fan was last started.

    If 24 VDC is present, replace the fan.

    If 24 VDC is not present, replace the fan relay.

WAITING FOR POOL PUMP

This EVENT is displayed if the pool circulation system is not circulating water. Once the pool circulation system is restarted the system will resume normal operation and the EVENT will clear. If the EVENT will not clear troubleshoot as follows.

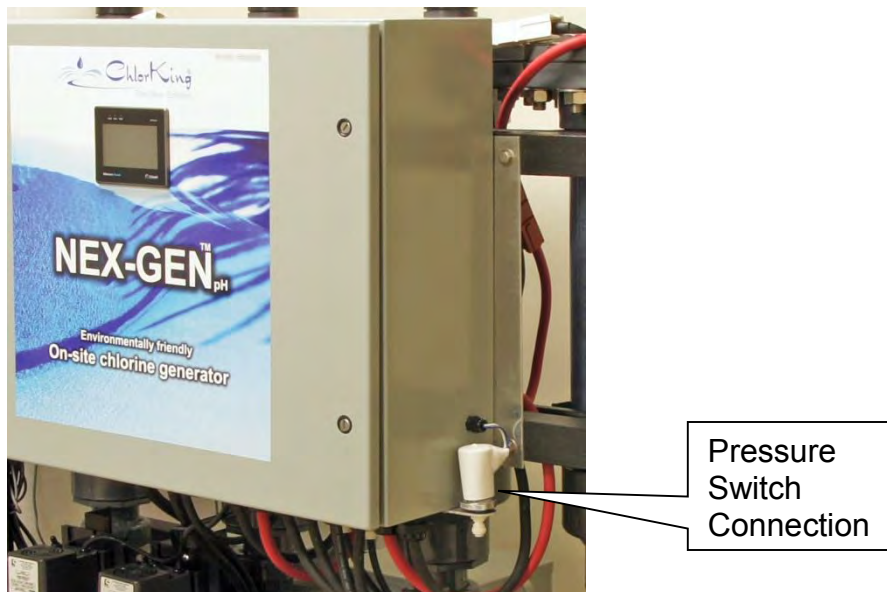1. Check that the pool circulation system is operating.

    If the pool circulation system is operating go to the next step.

    If the pool circulation system is not operating, correct that condition.

2. Check that the pressure switch is connected to the pool circulation system and any isolation valves used during installation are open. Check that water pressure is available at the Pressure Switch Connection.

    If water pressure is available, go to the next step.

    If water pressure is not available, correct that condition.

Pressure Switch Connection

3. Turn the power to the system off. Pull the safety boot back from the pressure switch. Check for continuity across the 2 electrical connections on the pressure switch with the pool circulation system operating. Continuity should be present.
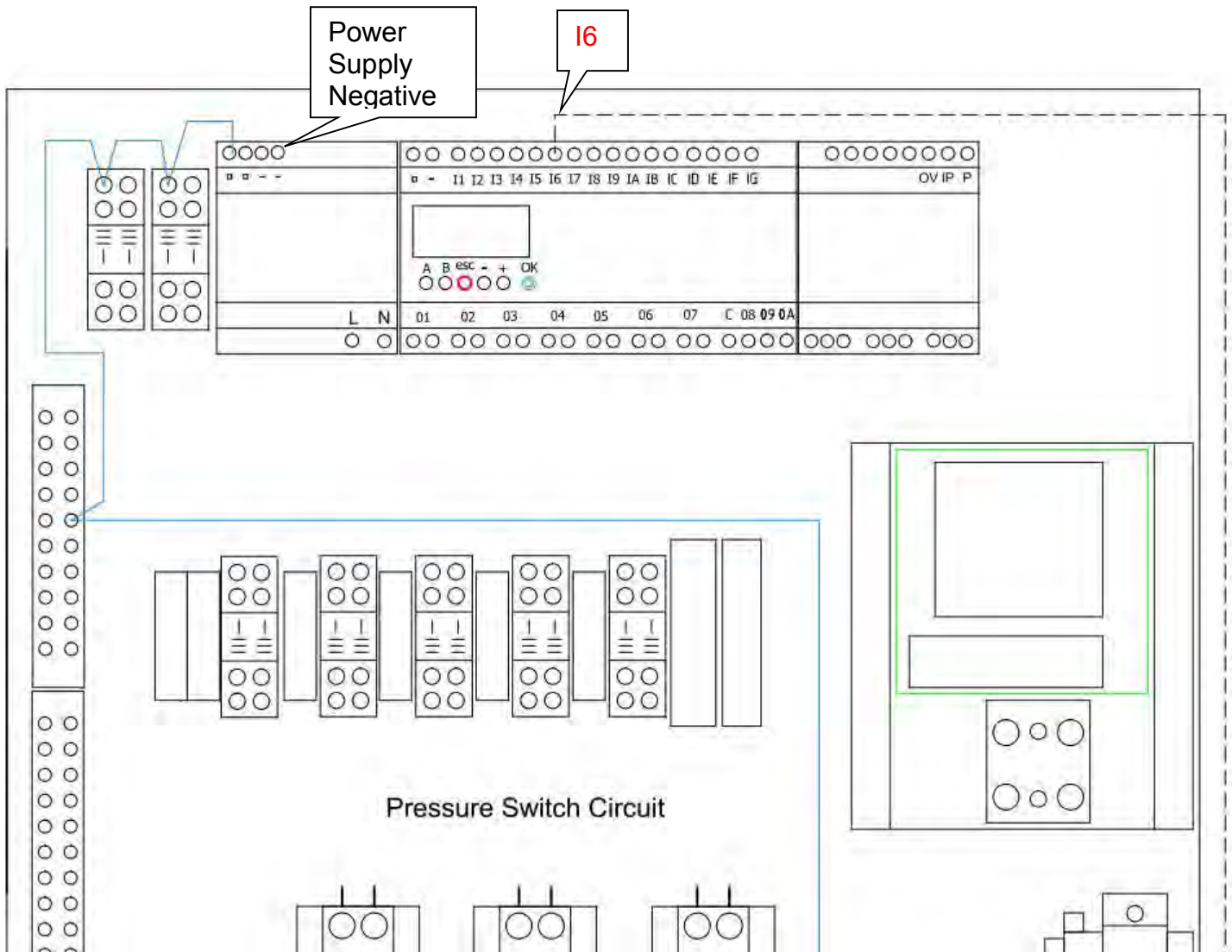
    If continuity is present, go to the next step.

    If continuity is not present, replace the pressure switch.

4. Connect a voltmeter set on a DC scale capable of reading 24 VDC to the power supply negative terminal and I6.

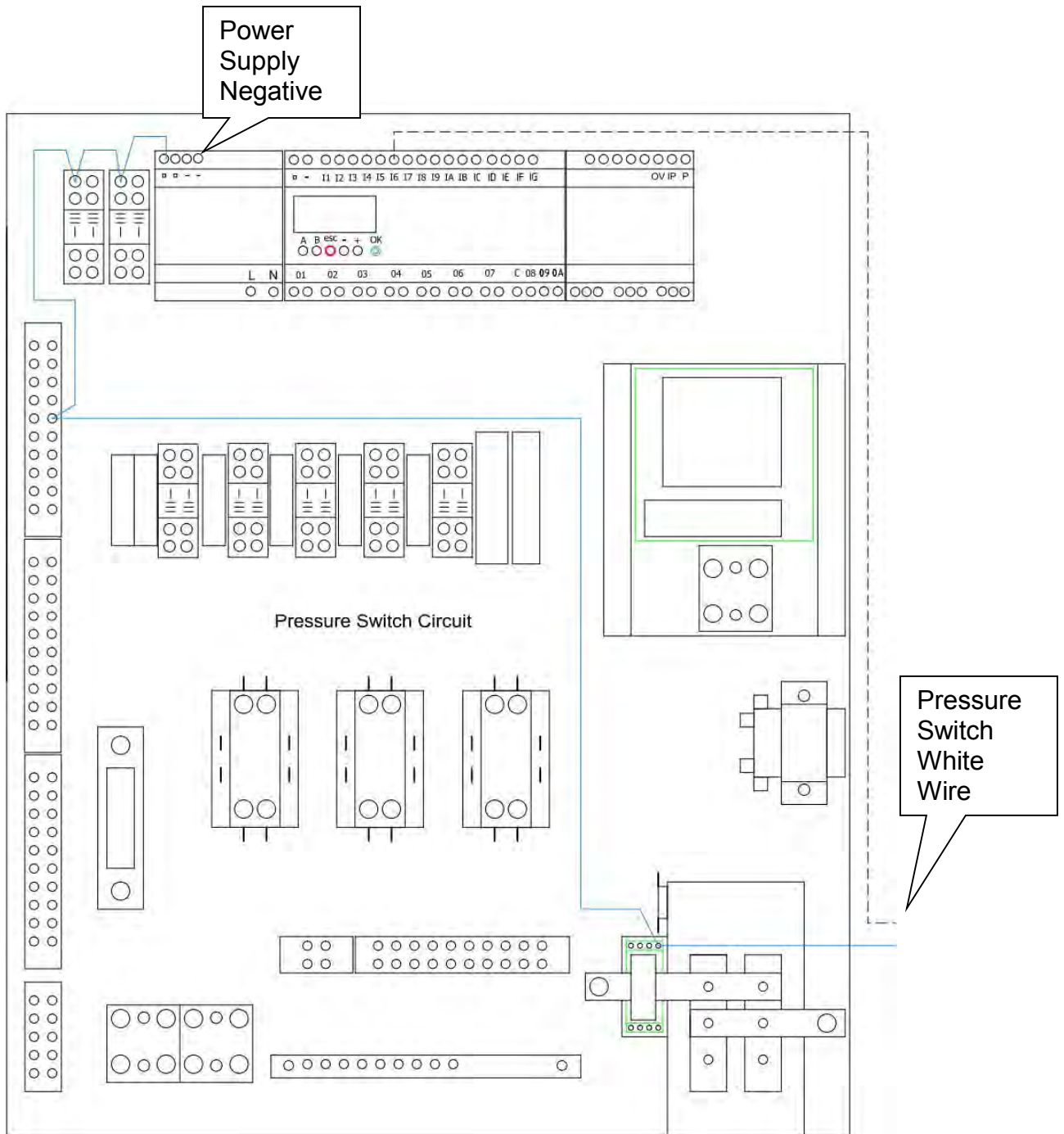   If 24 VDC is available replace the micro controller.

    If 24 VDC is not available go to the next step.

Pressure Switch Circuit

5. Connect the voltmeter to the power supply negative terminal and the white wire on the pressure switch.

   If 24 VDC is available, repair or replace the white wire from the pressure switch to the micro controller I6.
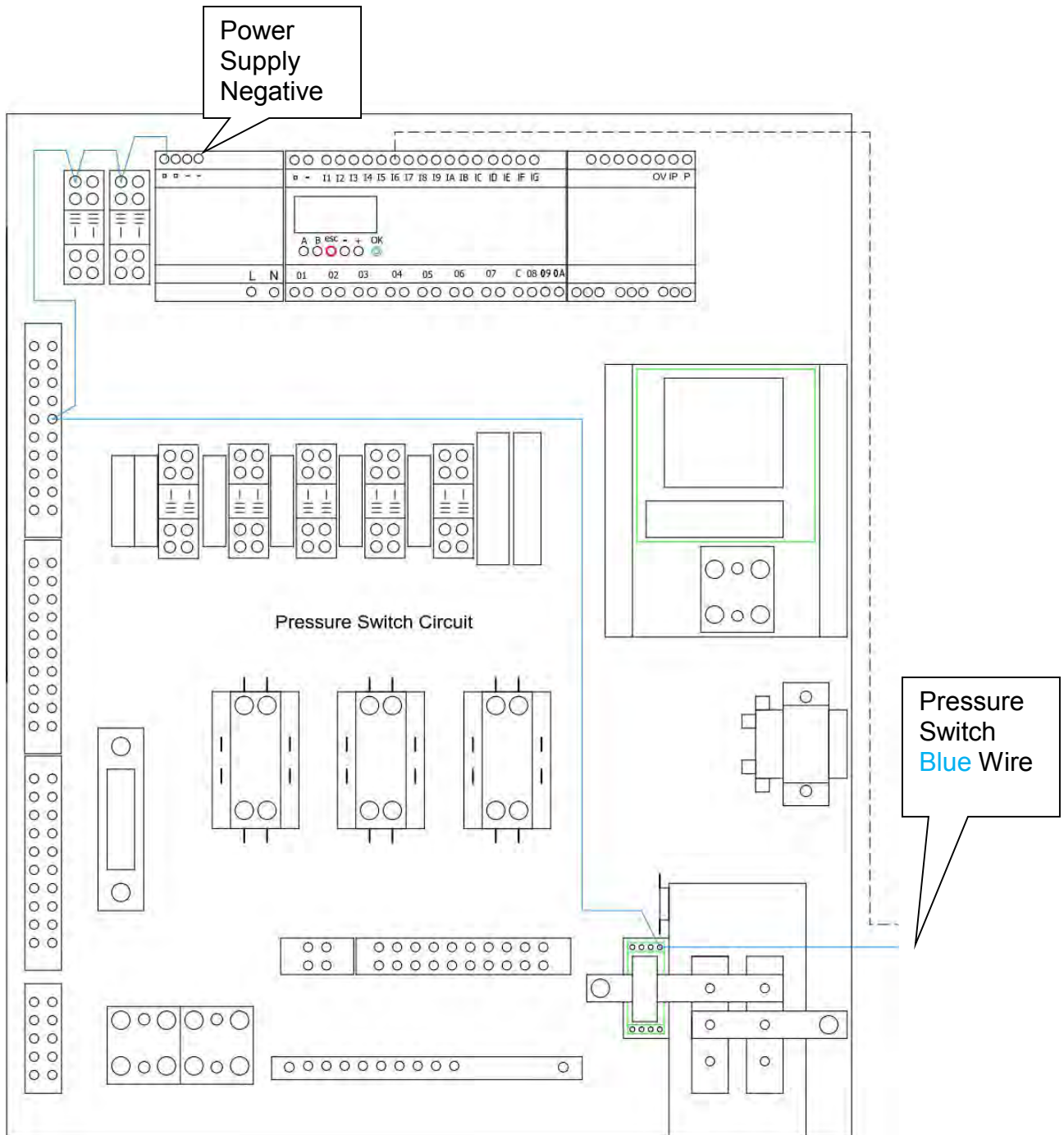
   If 24 VDC is not available, go to the next step.

Power Supply Negative

Pressure Switch Circuit

Pressure Switch White Wire

6. Connect the voltmeter to the power supply negative terminal and the blue wire on the pressure switch.

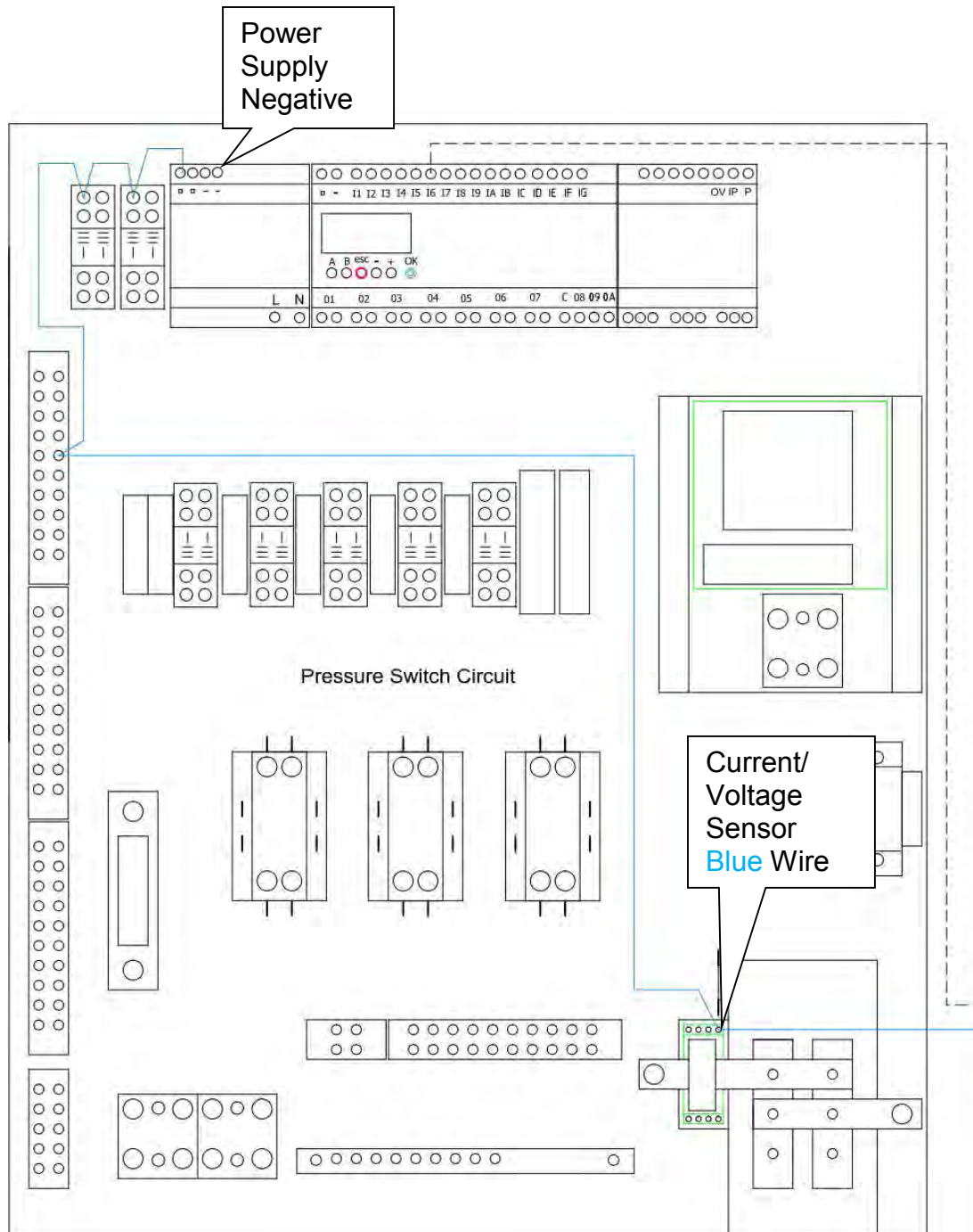   If 24 VDC is available, replace the pressure switch.

   If 24 VDC is not available, go to the next step.

7. Connect the voltmeter to the power supply negative terminal and the blue wire on the current/voltage sensor.

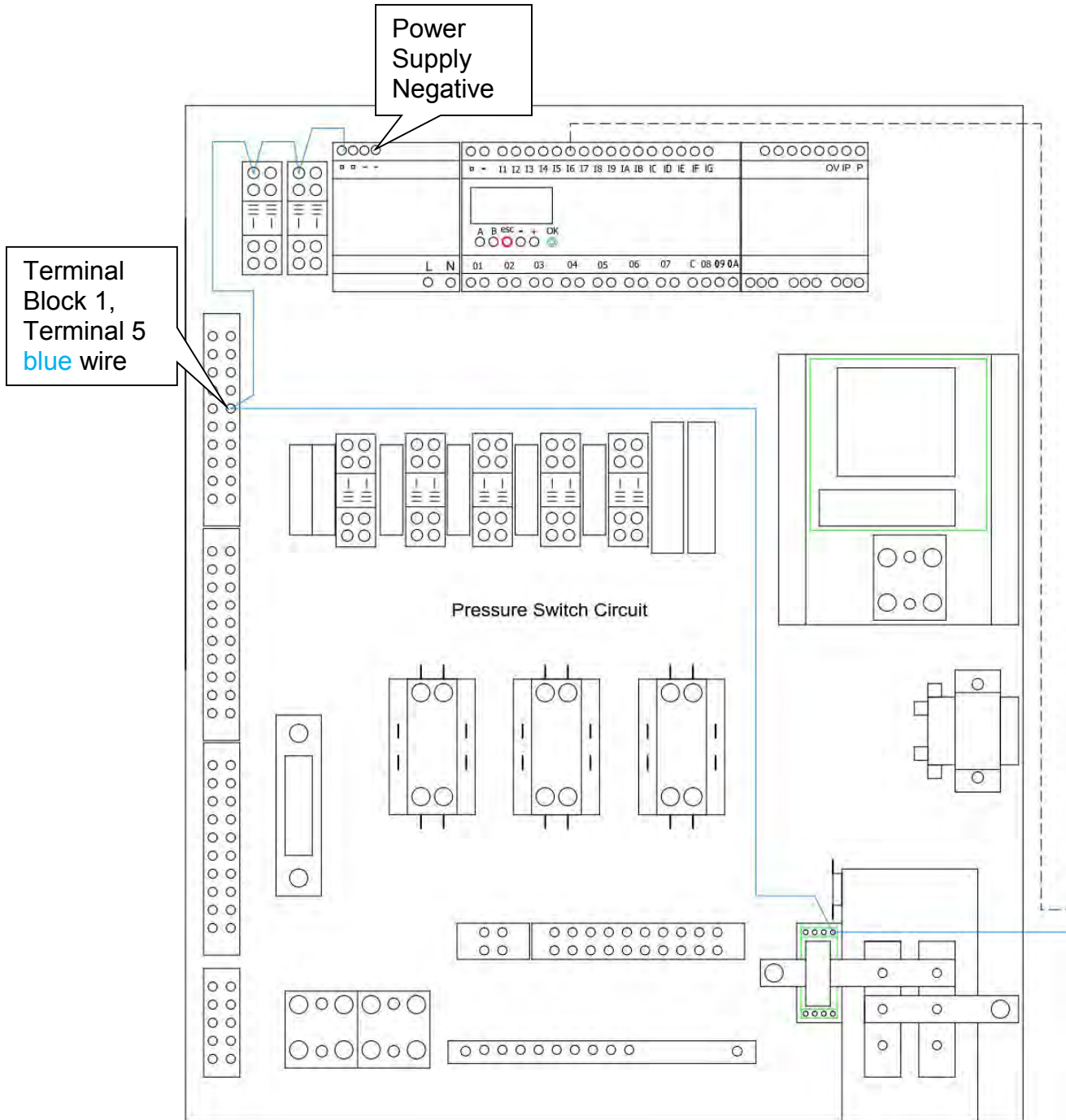   If 24 VDC is available, repair or replace the blue wire from the current/voltage sensor to the pressure switch.

    If 24 VDC is not available, go to the next step.

Power Supply Negative

Pressure Switch Circuit

Current/ Voltage Sensor Blue Wire

8. Connect the voltmeter to the power supply negative terminal and the blue wire on terminal block 1, screw 5.

    If 24 VDC is available repair or replace the blue wire from the current voltage sensor to terminal block 1, terminal 5.
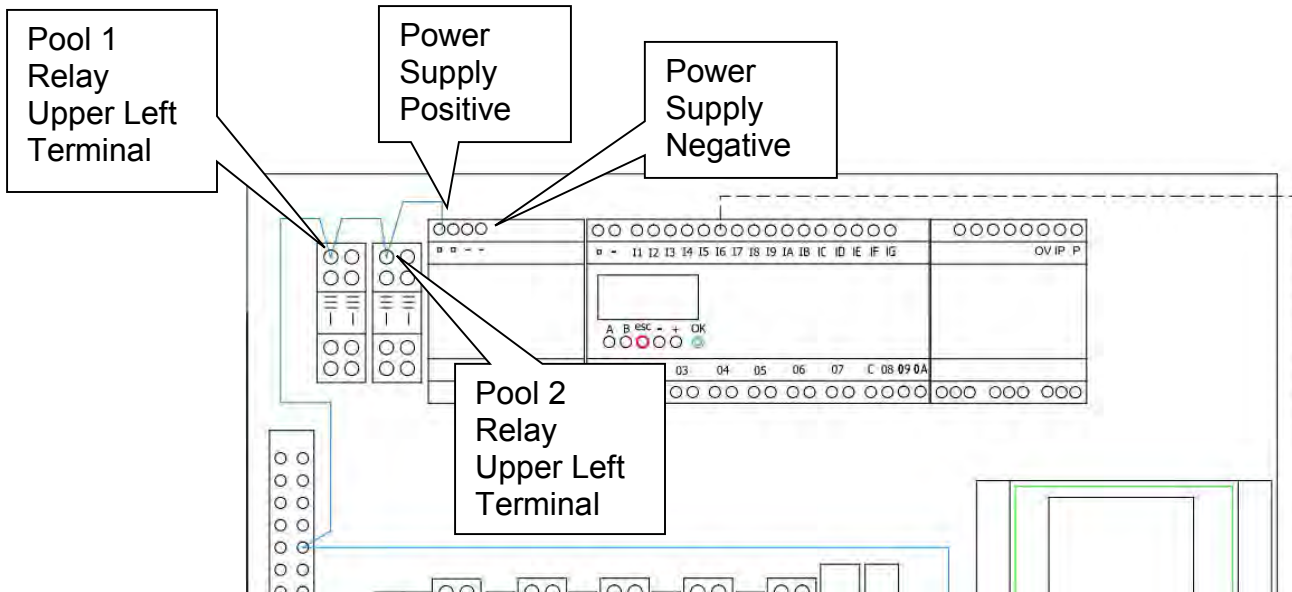
    If 24 VDC is not available go to the next step.

Power Supply Negative

Terminal Block 1, Terminal 5 blue wire

Pressure Switch Circuit

9. Connect the voltmeter to the power supply negative terminal and the blue wire on pool 1 relay upper left screw.

   If 24 VDC is available, repair or replace the blue wire from terminal block 1, terminal 5 to pool 1 relay upper left screw.

   If 24 VDC is not available go to the next step.

10. Connect the voltmeter to the power supply negative terminal and the blue wire on pool 2 relay upper left screw.

    If 24 VDC is available, repair or replace the blue wire from pool 1relay to pool 2 relay.

    If 24 VDC is not available go to the next step.

11. Connect the voltmeter to the power supply negative terminal and the blue wire on power supply positive terminal.

    If 24 VDC is available, repair or replace the blue wire from pool 2 relay to the power supply.

    If 24 VDC is not available replace the power supply.

    If the problem is not resolved, call ChlorKing at 800-536-8180 for assistance.

VALVE 1 DID NOT RESPOND

This EVENT is displayed if VALVE 1 does not respond to an open or close command but VALVE 2 has responded to its command. When this occurs the system will shut down unless VALVE 2 has responded to an open command and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST then NEXT to pull up the test screen for valve 1. This will turn the NEX-GEN off and valve 1 should close and display a green dot next to the word CLOSED on the display.

   If valve 1 closed and a green dot appeared next to the word CLOSED on the screen, go to the next step.

   If valve 1 closed but a green dot did not appear next to the word CLOSED on the screen, go to **Troubleshoot Valve 1 Did Not Respond – Feedback Circuit Close.**

   If valve 1 does not close, go to **Troubleshoot Valve 1 Did Not Respond - Close.**
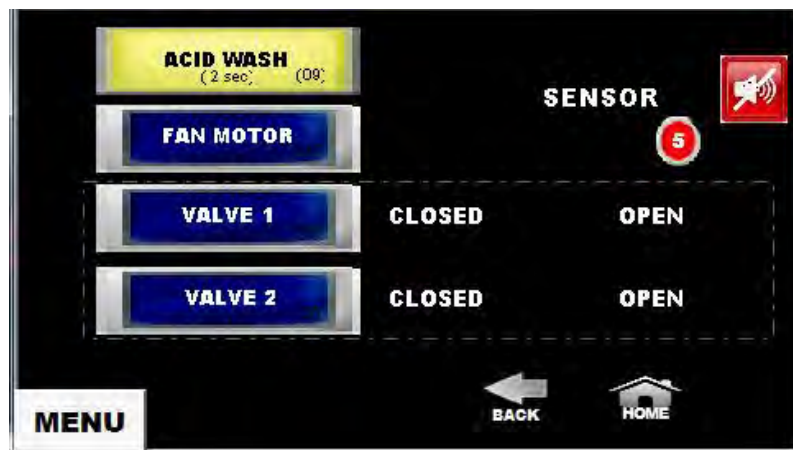
2. From the Touch Screen on the NEX-GEN, press VALVE 1. Valve 1 should open and
    a green dot should appear next to the word OPEN on the screen.

    If valve 1 opened and a green dot appeared next to the word OPEN on the screen,
    valve 1 is working as designed.

    If valve 1 opened but a green dot did not appear next to the word OPEN on the
    screen, go to **Troubleshoot Valve 1 Did Not Respond – Feedback Circuit Open.**

    If valve 1 does not open, go to **Troubleshoot Valve 1 Did Not Respond - Open.**
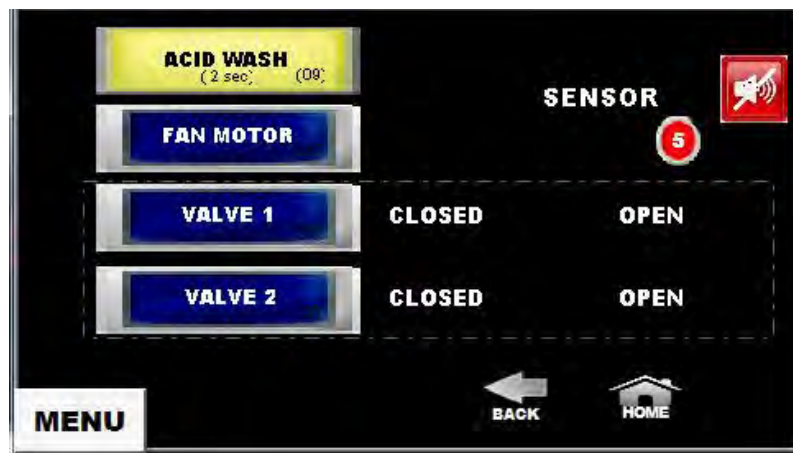
Troubleshoot Valve 1 Did Not Respond – Feedback Circuit – Open

1. With valve 1 in the open position check for 24 VDC from the power supply negative terminal to the blue wire on terminal block 2, terminal 9.
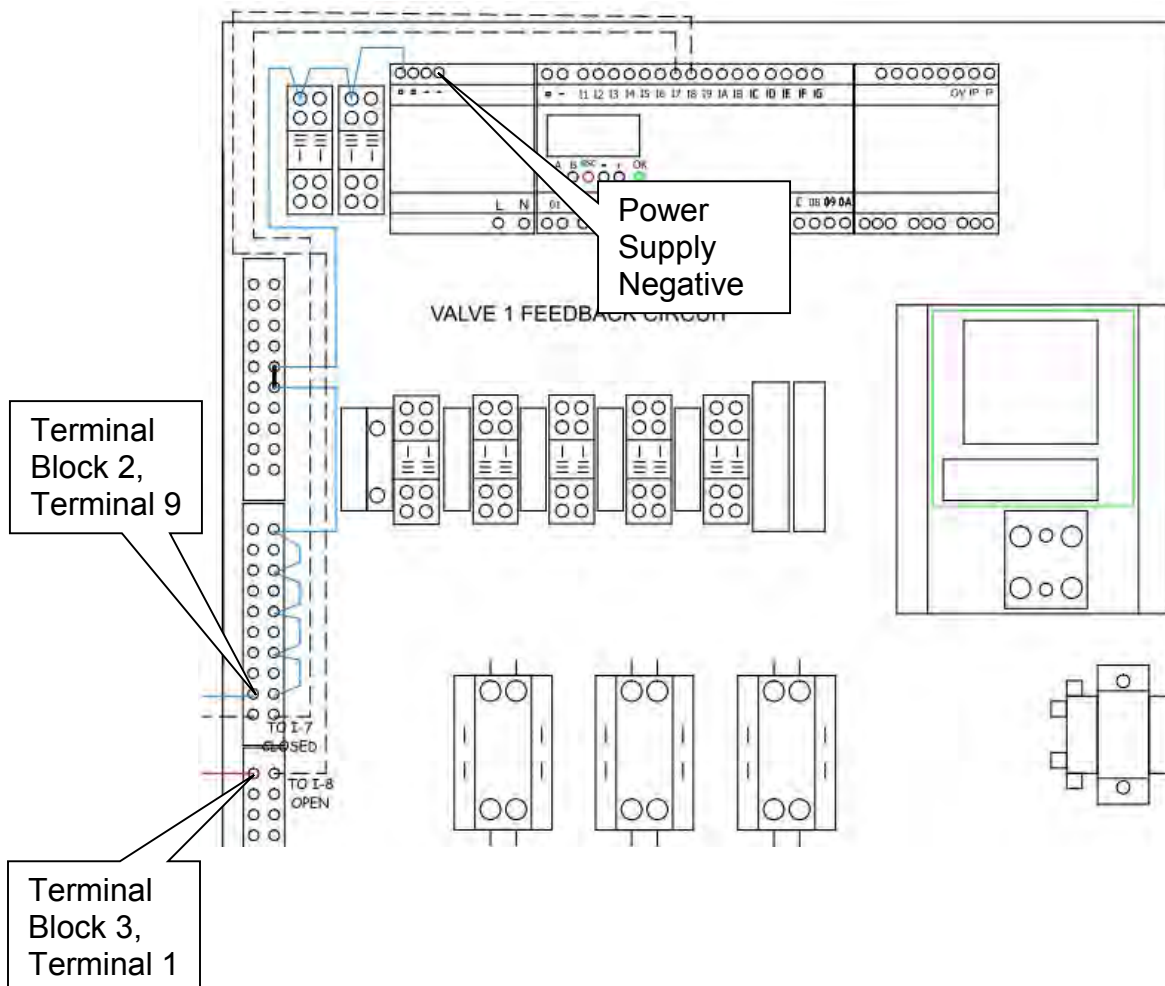
   If 24 VDC is available, go to the next step.

   If 24 VDC is not available repair or replace the blue wire from power supply positive to terminal block 2, terminal 9.

2. With valve 1 in the open position check for 24 VDC from the power supply negative terminal to terminal block 3, terminal 1.

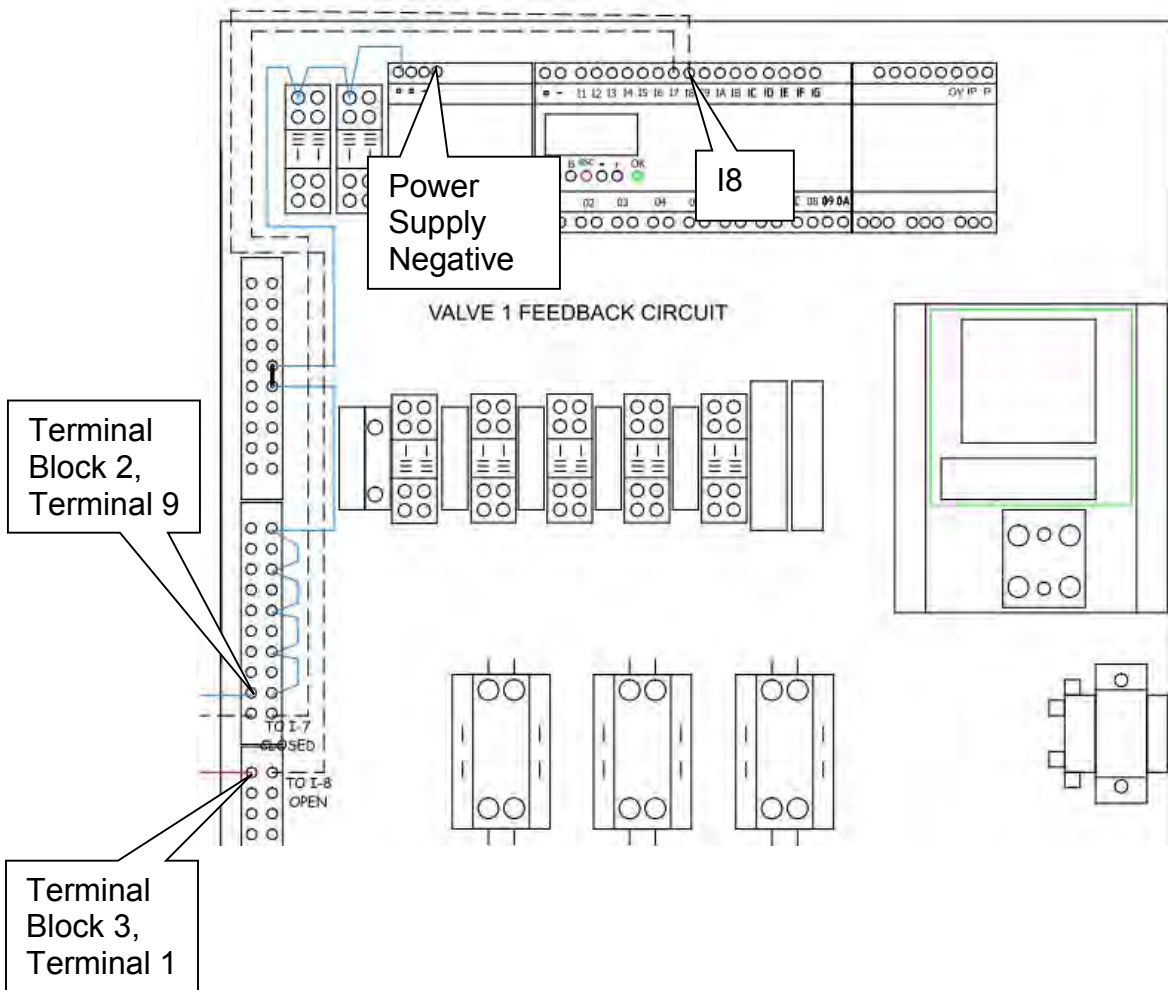   If 24 VDC is available, go to the next step.

   If 24 VDC is not available replace valve 1.

3. With valve 1 in the open position check for 24 VDC from the power supply negative terminal to microcontroller terminal I8.

   If 24 VDC is available, replace the microcontroller.

   If 24 VDC is not available repair or replace the white wire from terminal block 3, terminal 1 to microcontroller terminal I8.

Power Supply Negative

I8

VALVE 1 FEEDBACK CIRCUIT

Terminal Block 2, Terminal 9

Terminal Block 3, Terminal 1

Troubleshoot Valve 1 Did Not Respond – Feedback Circuit – Close

1. With valve 1 in the closed position check for 24 VDC from the power supply negative terminal to the blue wire on terminal block 2, terminal 9.
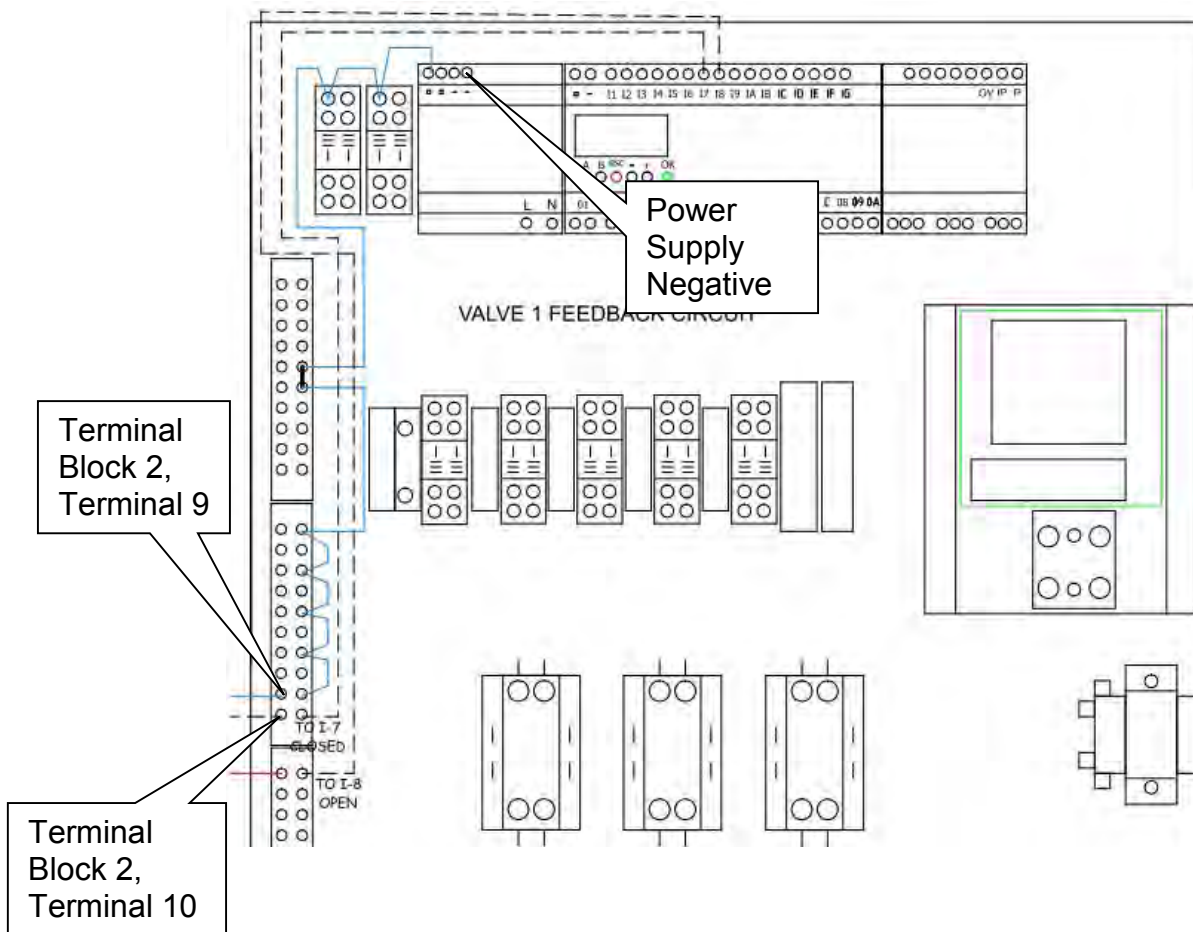
   If 24 VDC is available, go to the next step.

   If 24 VDC is not available repair or replace the blue wire from power supply positive to terminal block 2, terminal 9.

2. With valve 1 in the closed position check for 24 VDC from the power supply negative terminal to terminal block 2, terminal 10.

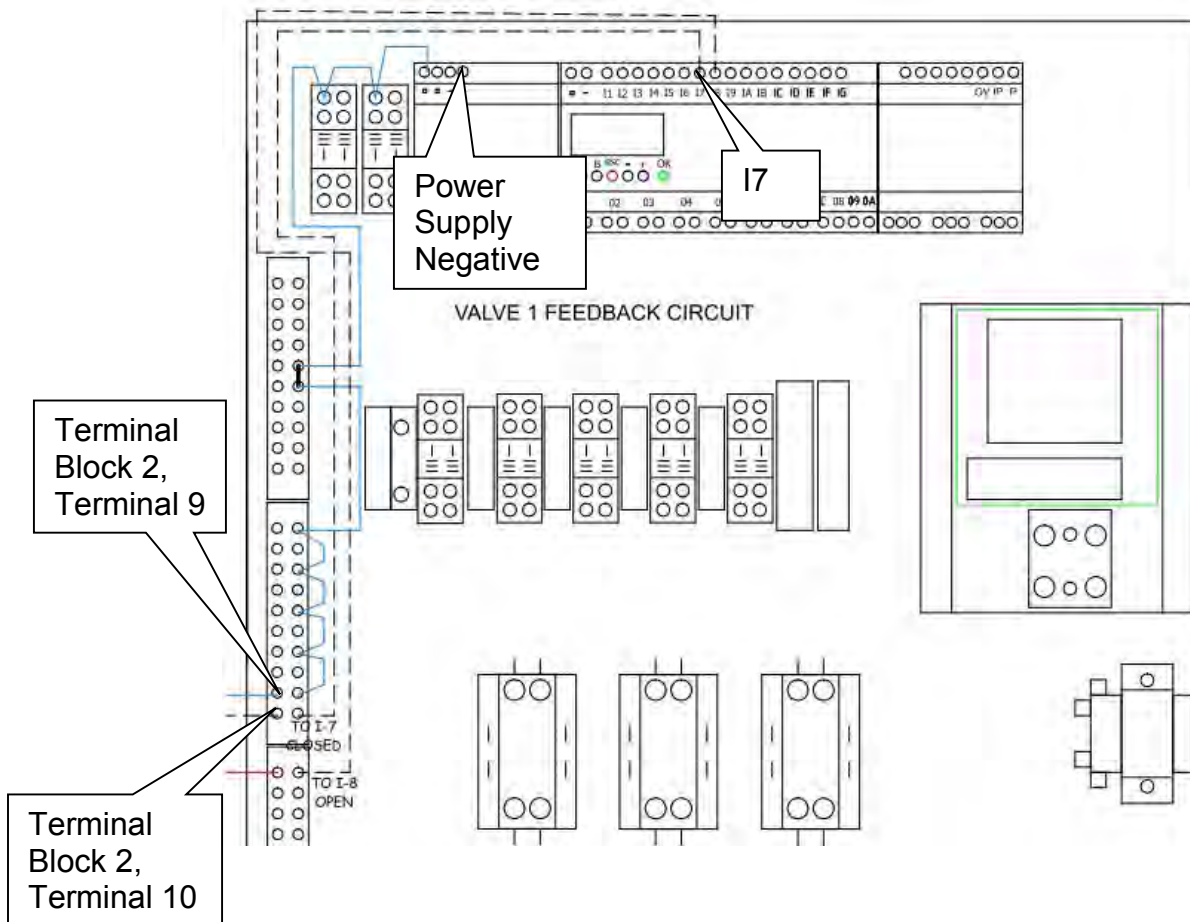   If 24 VDC is available, go to the next step.

   If 24 VDC is not available replace valve 1.

3. With valve 1 in the closed position check for 24 VDC from the power supply negative terminal to microcontroller terminal I7.

   If 24 VDC is available, replace the microcontroller.

   If 24 VDC is not available repair or replace the white wire from terminal block 2, terminal 10 to microcontroller terminal I8.


Power Supply Negative

I7

VALVE 1 FEEDBACK CIRCUIT

Terminal Block 2, Terminal 9

Terminal Block 2, Terminal 10

TO I-7 CLOSED

TO I-8 OPEN

Troubleshoot Valve 1 Did Not Respond – Closed

1. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire on the incoming terminal block.
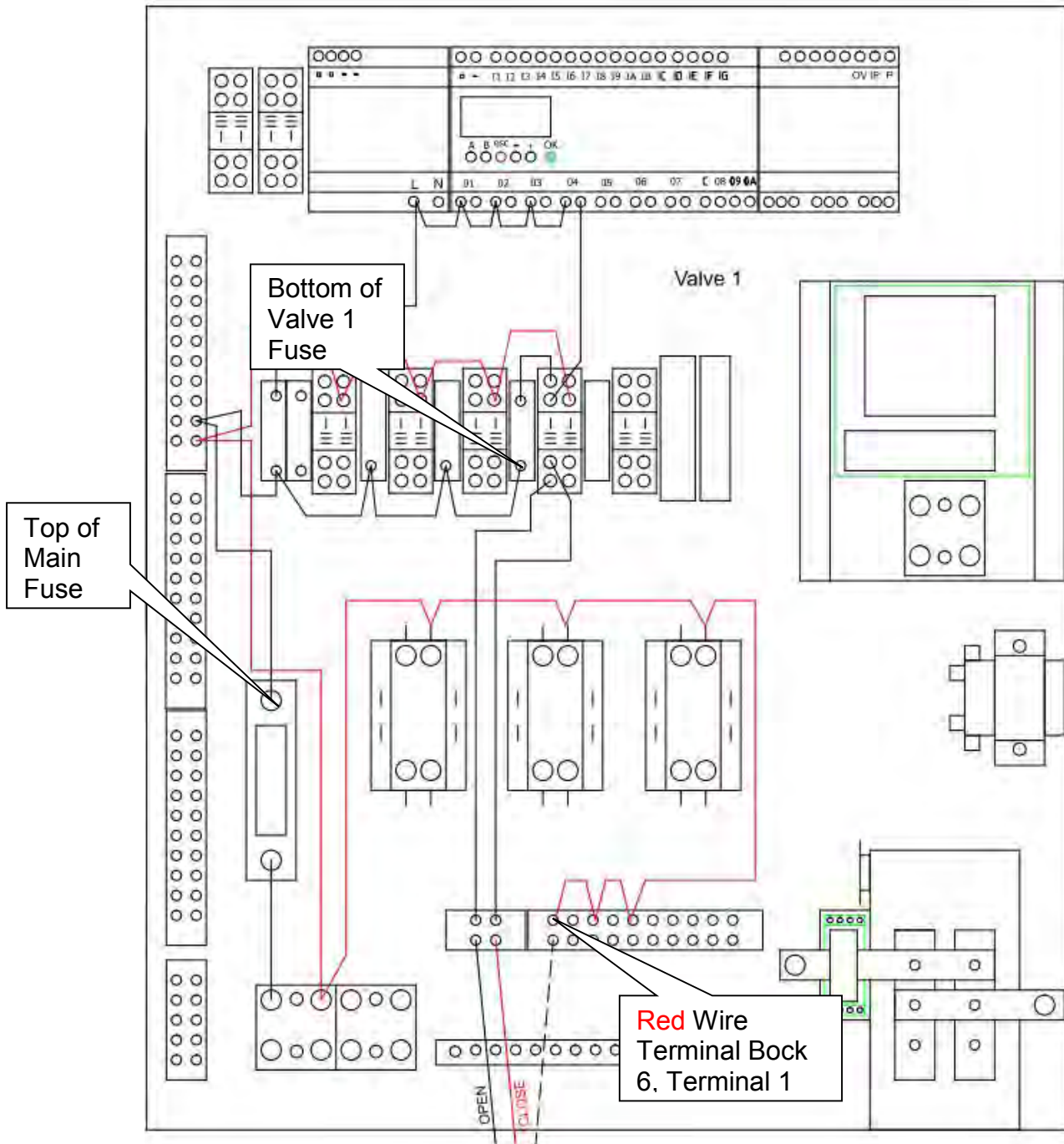
   If 240 VAC is available, go to the next step.

   If 240 VAC is not available repair or replace the red wire from terminal block 6, terminal 1 to the incoming terminal block.

Valve 1

Black Wire Incoming Terminal Block

Red Wire Terminal Bock 6, Terminal 1

OPEN   CLOSE
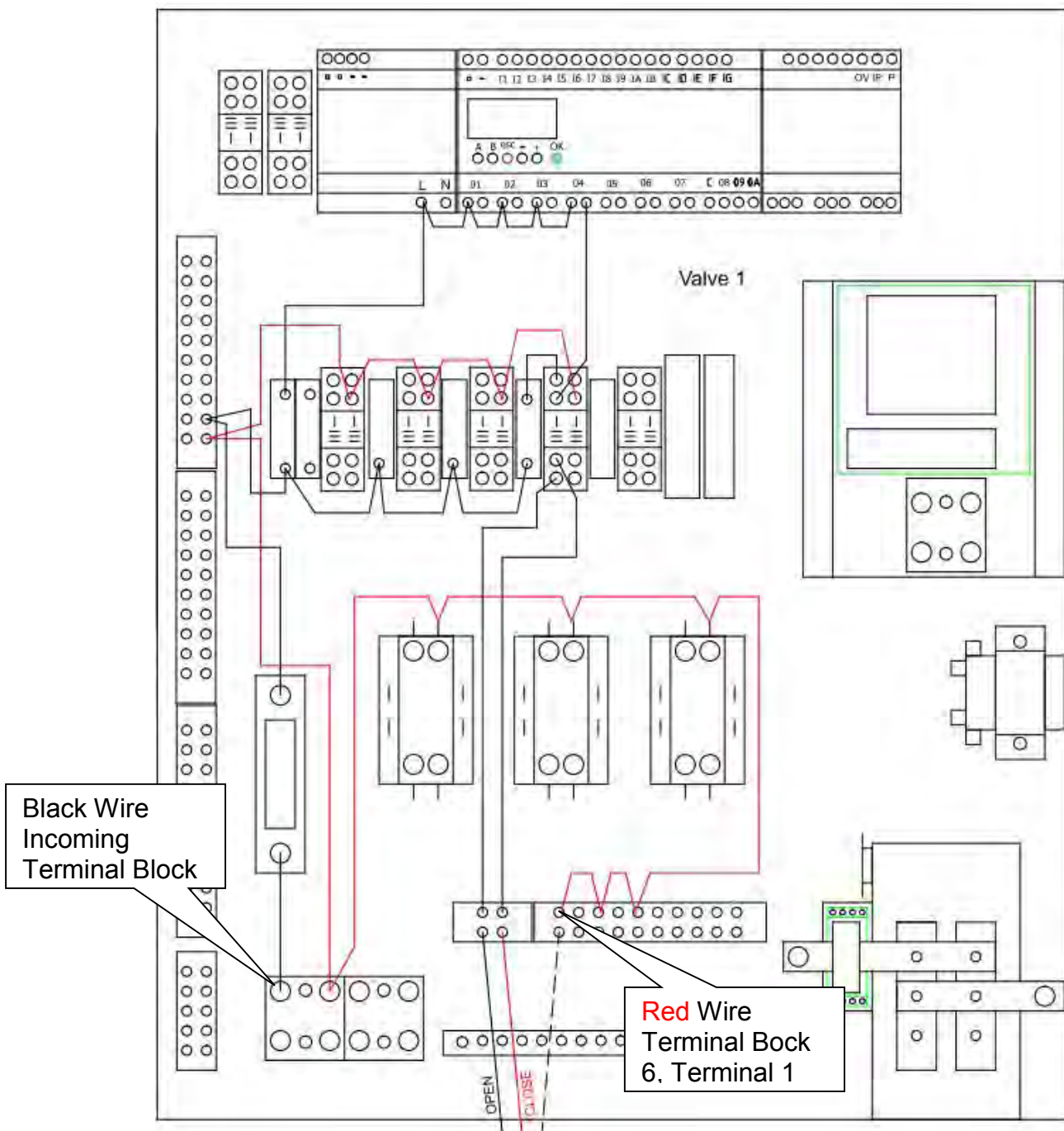
2. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at the bottom of the valve 1 fuse.

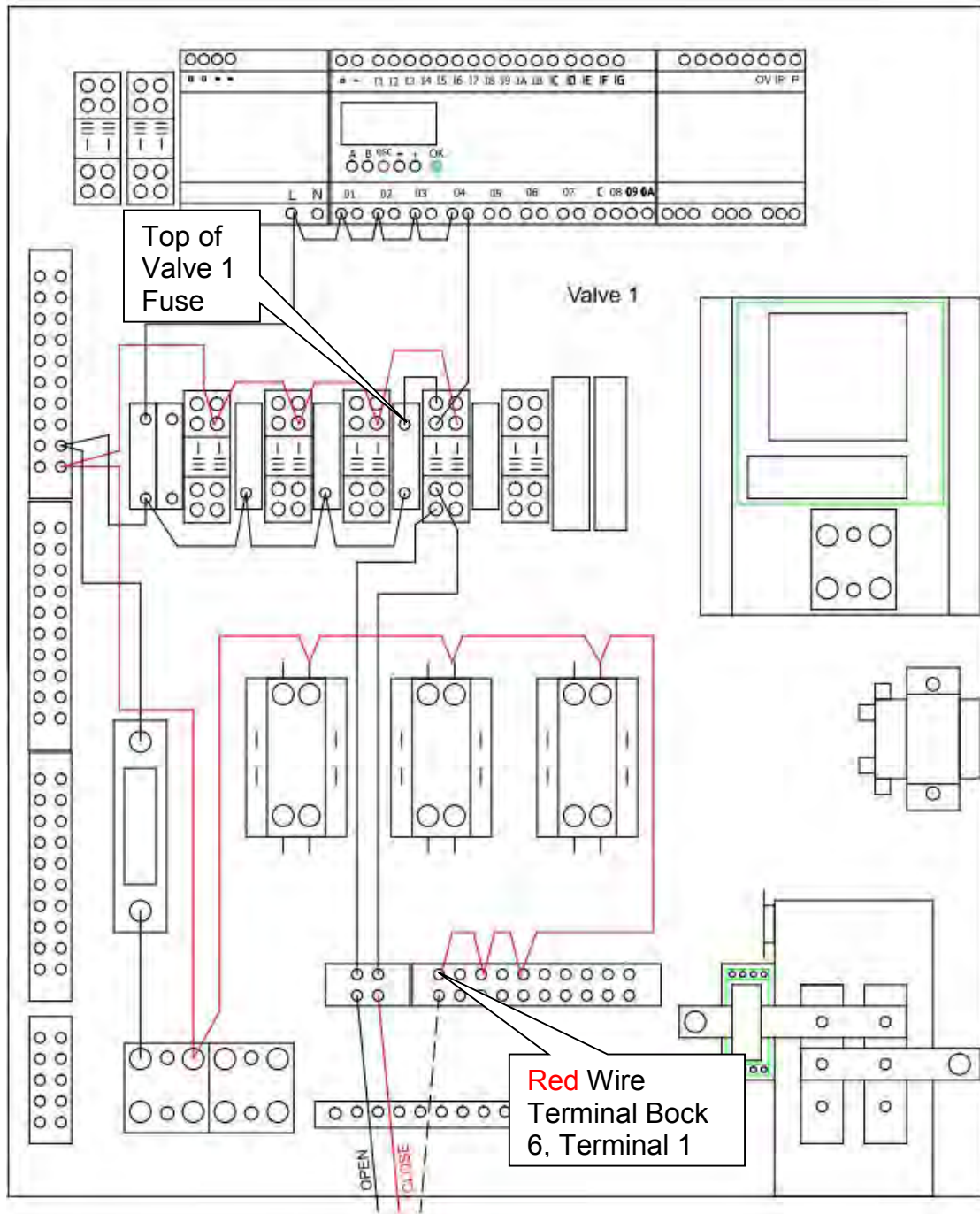   If 240 VAC is available, go to the next step.

    If 240 VAC is not available repair or replace the black wire from the top of the main fuse to the bottom of the valve 1 fuse.

3. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at the top of the valve 1 fuse.
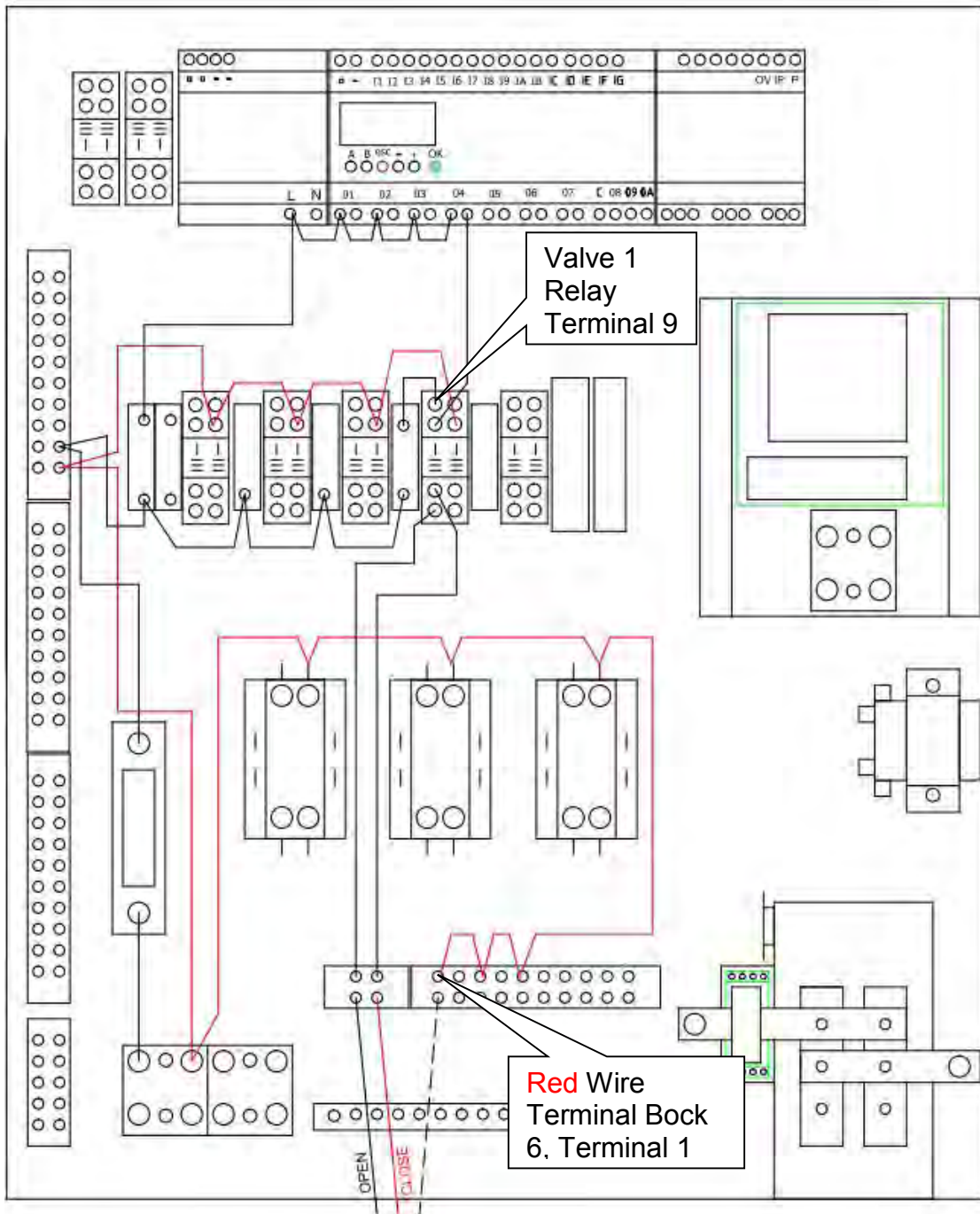
   If 240 VAC is available, go to the next step.

   If 240 VAC is not available replace valve 1 fuse.

4. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at valve 1 relay, terminal 9.

    If 240 VAC is available, go to the next step.
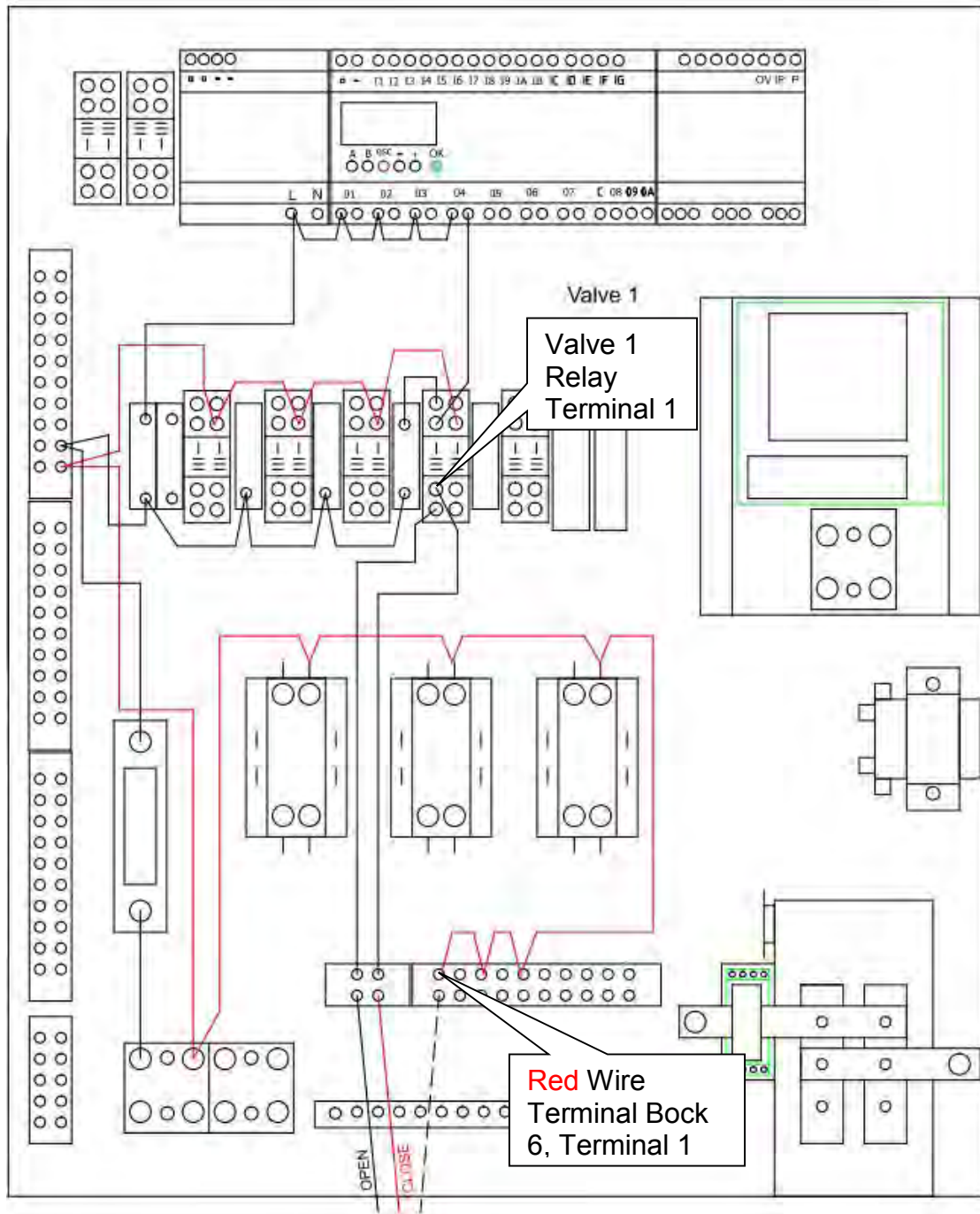
    If 240 VAC is not available repair or replace the wire from the top of valve 1 fuse to valve 1 relay, terminal 9.

Valve 1
Relay
Terminal 9

Red Wire
Terminal Bock
6, Terminal 1

5. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at valve 1 relay, terminal 1.

   If 240 VAC is available, go to the next step.
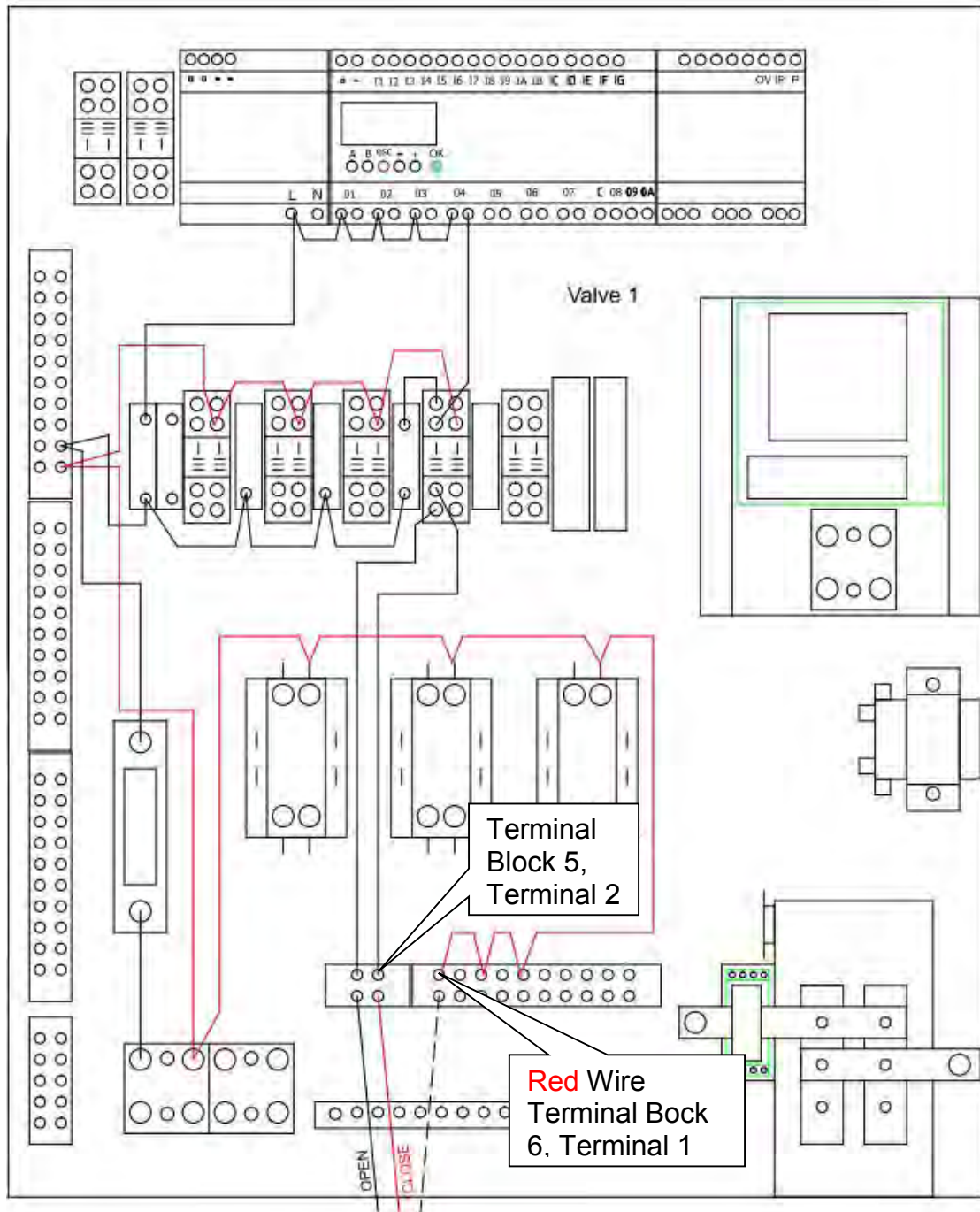
   If 240 VAC is not available replace valve 1 relay.

6. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire on terminal block 5, terminal 2.

    If 240 VAC is available, replace valve 1.

    If 240 VAC is not available repair or replace the wire from valve 1 relay terminal 1 to terminal block 5, terminal 2.
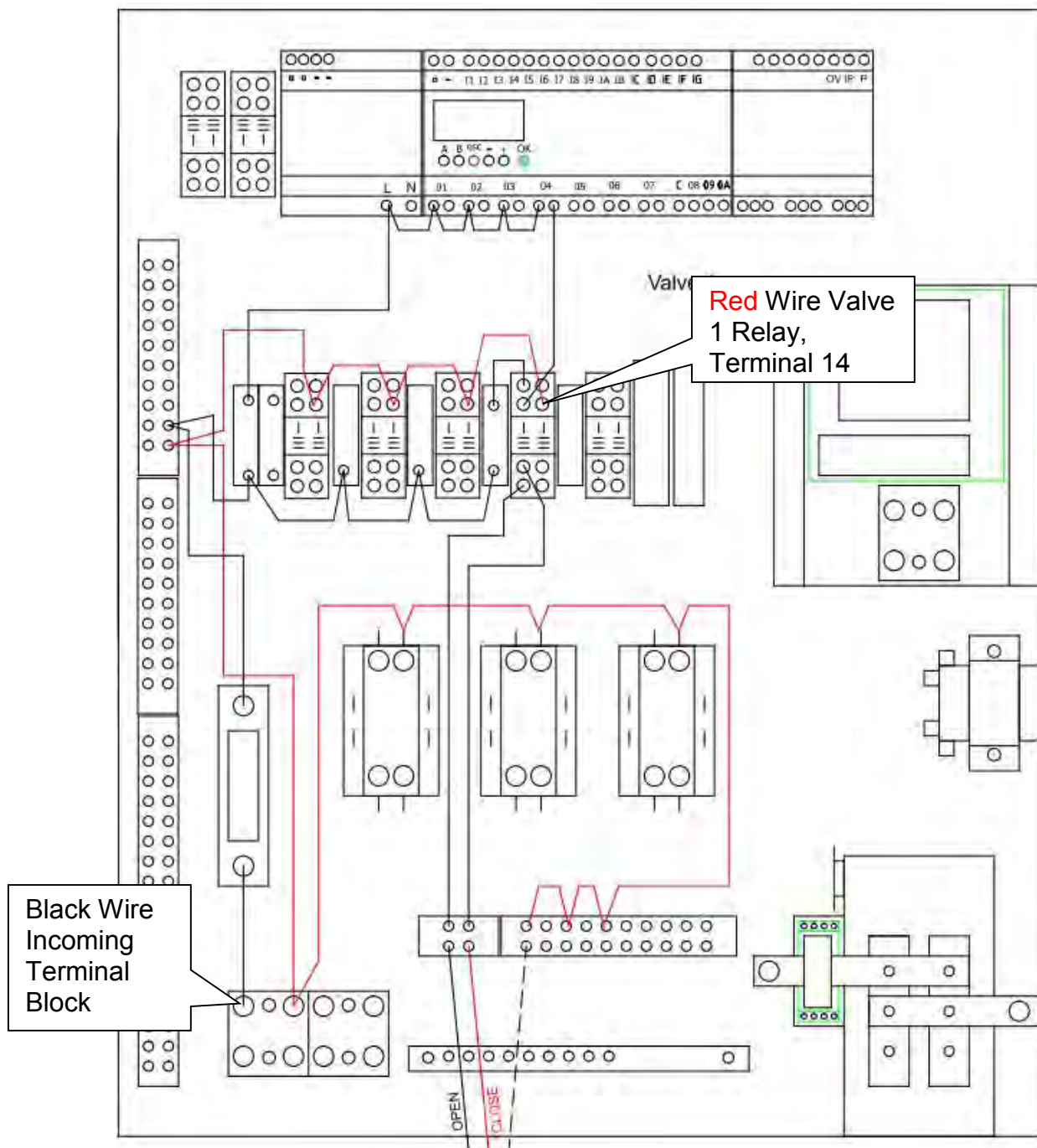

Valve 1

Terminal Block 5, Terminal 2

Red Wire Terminal Bock 6, Terminal 1

Troubleshoot Valve 1 Did Not Respond - Open

1. Check for 240 VAC across the red wire on valve 1 relay, terminal 14 and the black wire on the incoming terminal block.
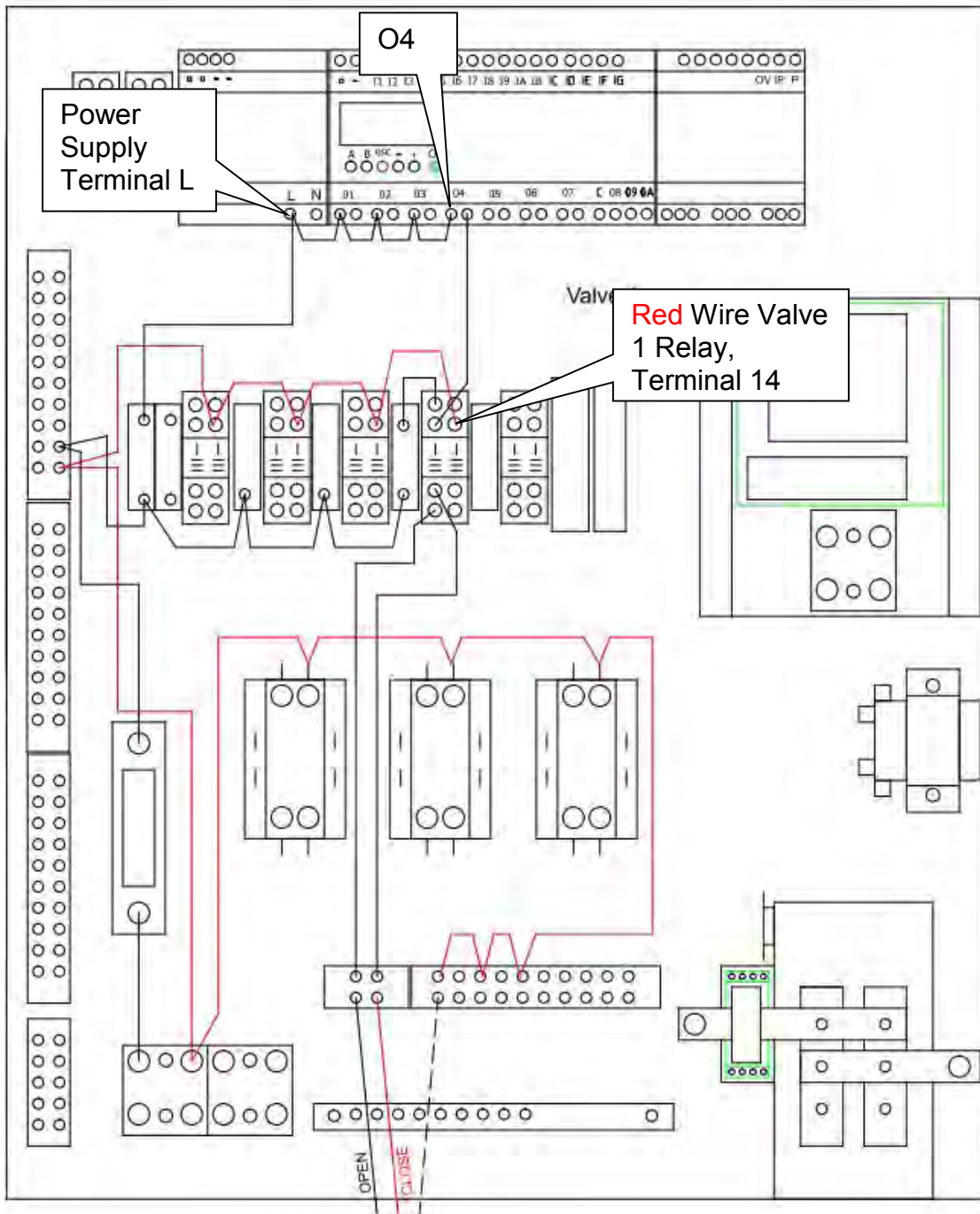
    If 240 VAC is available, go to the next step.

    If 240 VAC is not available repair or replace the red wire from valve 1 relay terminal 14 to the incoming terminal block.

Red Wire Valve 1 Relay, Terminal 14

Black Wire Incoming Terminal Block

2. Check for 240 VAC across the red wire on valve 1 relay, terminal 14 and the black wire at microcontroller output 4 (O4) left side.

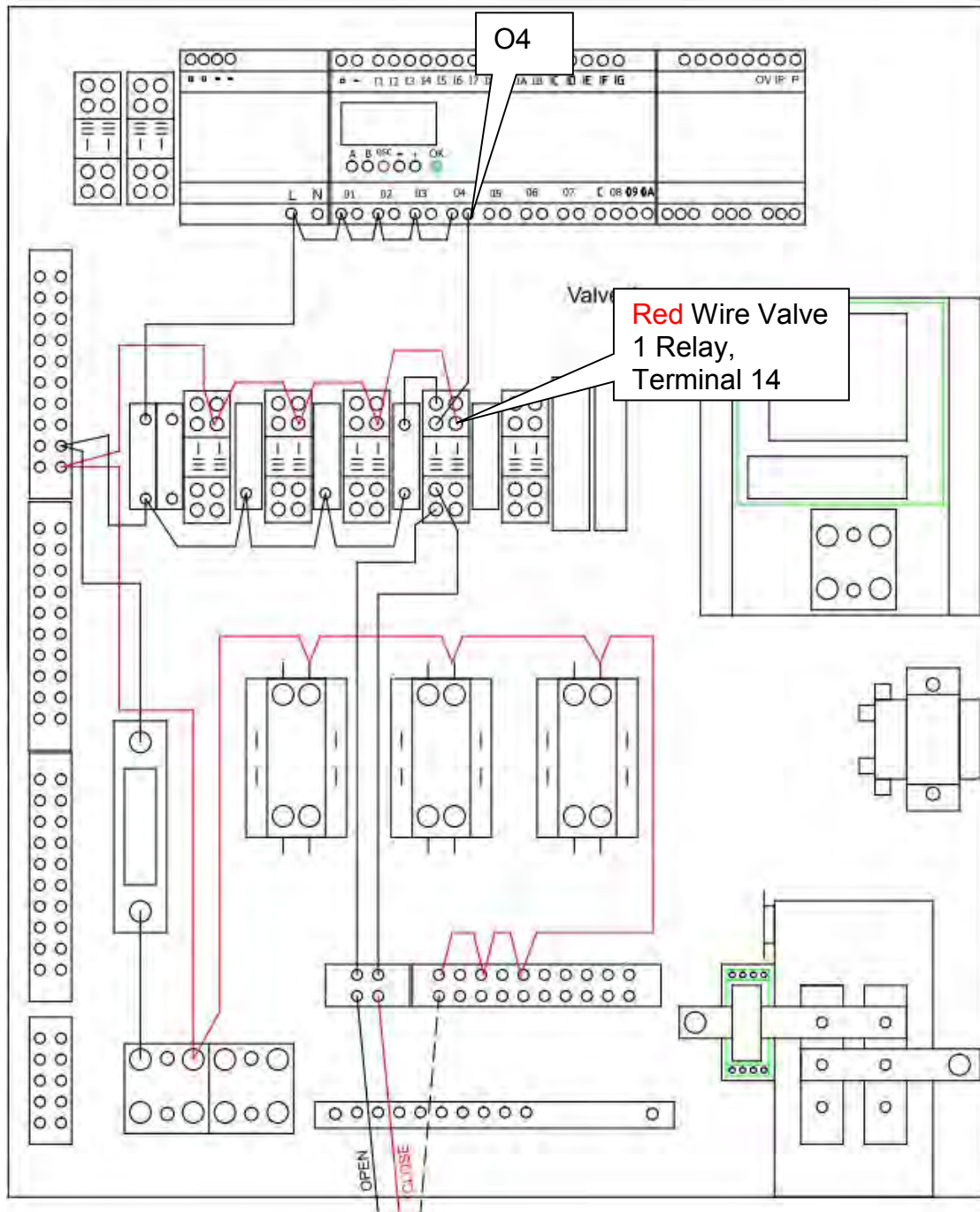   If 240 VAC is available, go to the next step.

   If 240 VAC is not available repair or replace the wire from power supply terminal L to microcontroller terminal O4.

3. From the touch screen on the NEX-GEN press VALVE 1. Valve 1 will stay energized in the open position for 1 minute. Check for 240 VAC across the red wire on valve 1 relay, terminal 14 and the black wire at microcontroller output 4 (O4) right side.

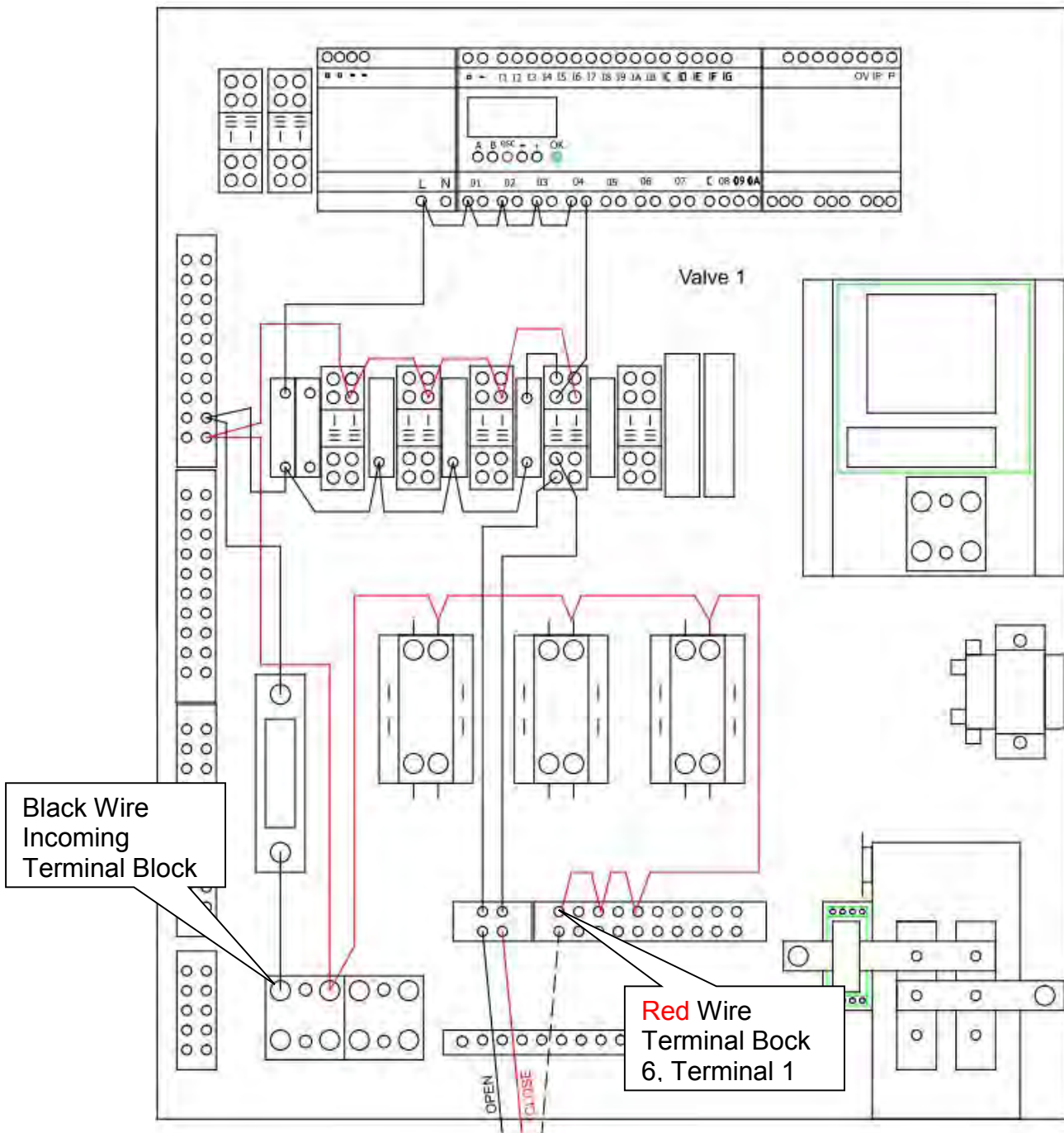   If 240 VAC is available, go to the next step.

   If 240 VAC is not available replace the microcontroller.

4. Be sure valve 1 is still energized in the open position for this test. Check for 240 VAC across the red wire on valve 1 relay, terminal 14 and the black wire at valve 1 relay, terminal 13.

If 240 VAC is available, go to the next step.

If 240 VAC is not available repair or replace the black wire from microcontroller terminal O4 to valve 1 relay, terminal 13.

O4

Valve 1 Relay,
Terminal 13

Red Wire Valve
1 Relay,
Terminal 14

OPEN   CLOSE

5. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire on the incoming terminal block.

   If 240 VAC is available, go to the next step.
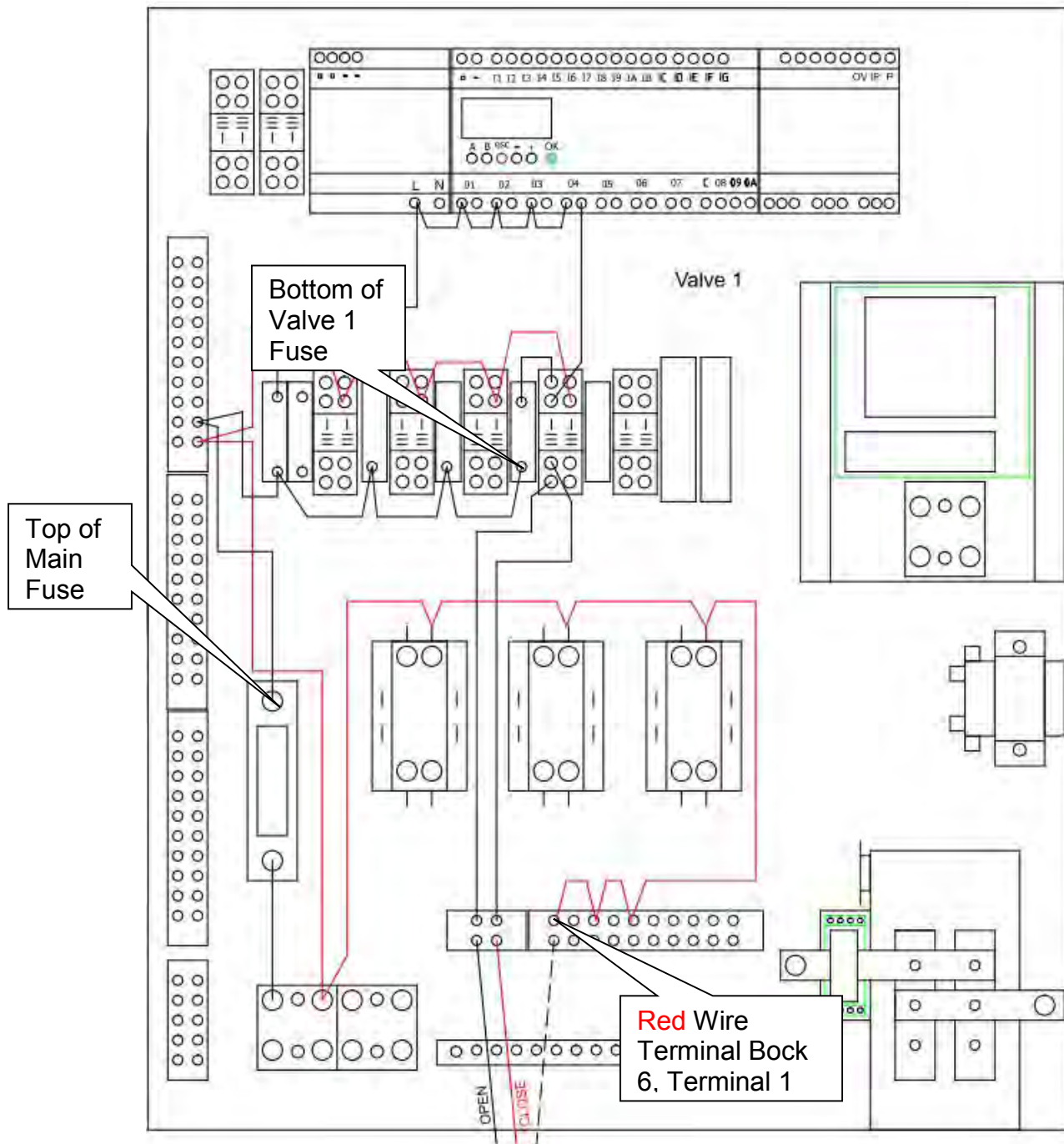
   If 240 VAC is not available repair or replace the red wire from terminal block 6, terminal 1 to the incoming terminal block.

Black Wire Incoming Terminal Block

Red Wire Terminal Bock 6, Terminal 1

Valve 1

6. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at the bottom of the valve 1 fuse.
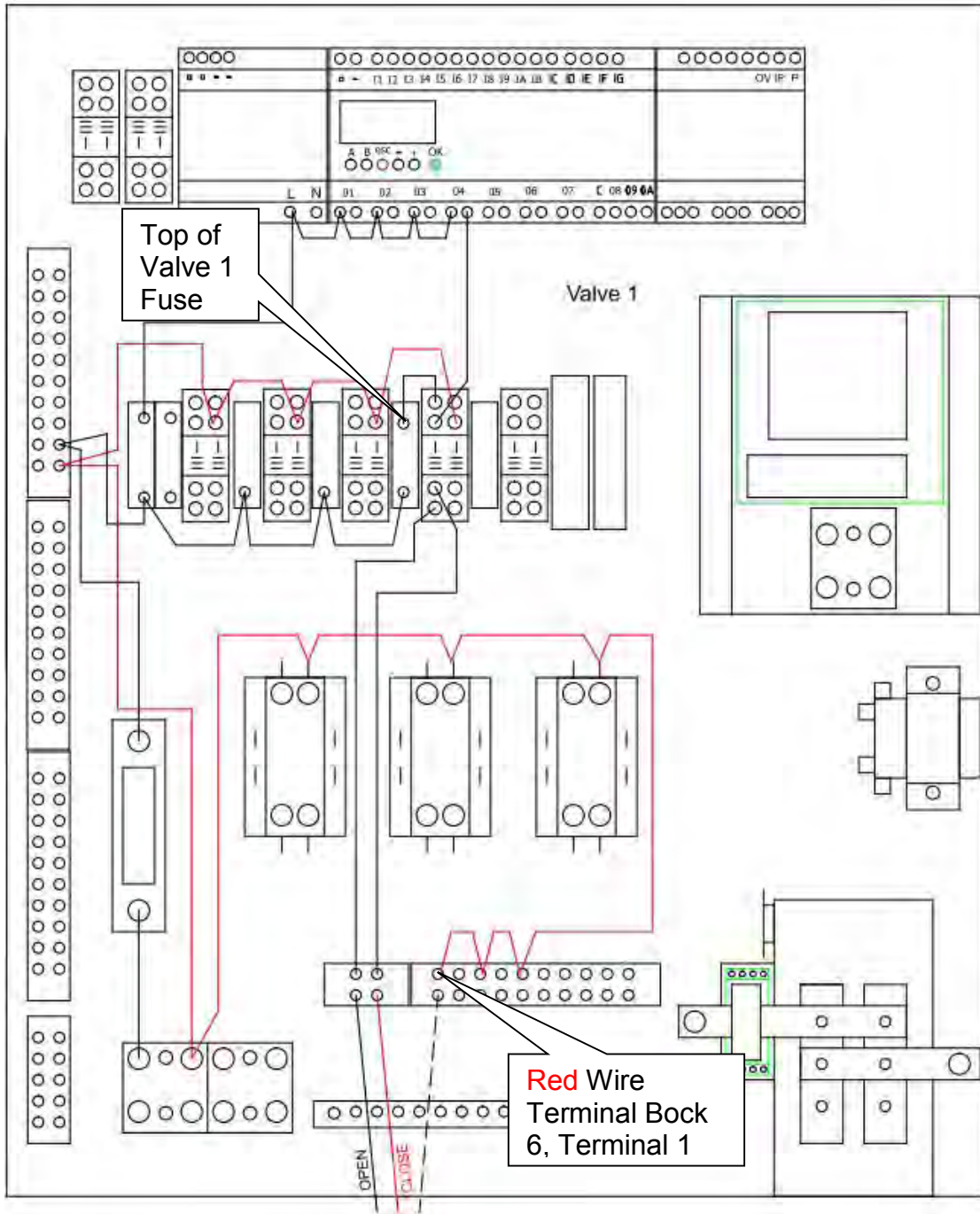
    If 240 VAC is available, go to the next step.

    If 240 VAC is not available repair or replace the black wire from the top of the main fuse to the bottom of the valve 1 fuse.

Bottom of Valve 1 Fuse

Valve 1

Top of Main Fuse

Red Wire Terminal Bock 6, Terminal 1

7. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at the top of the valve 1 fuse.

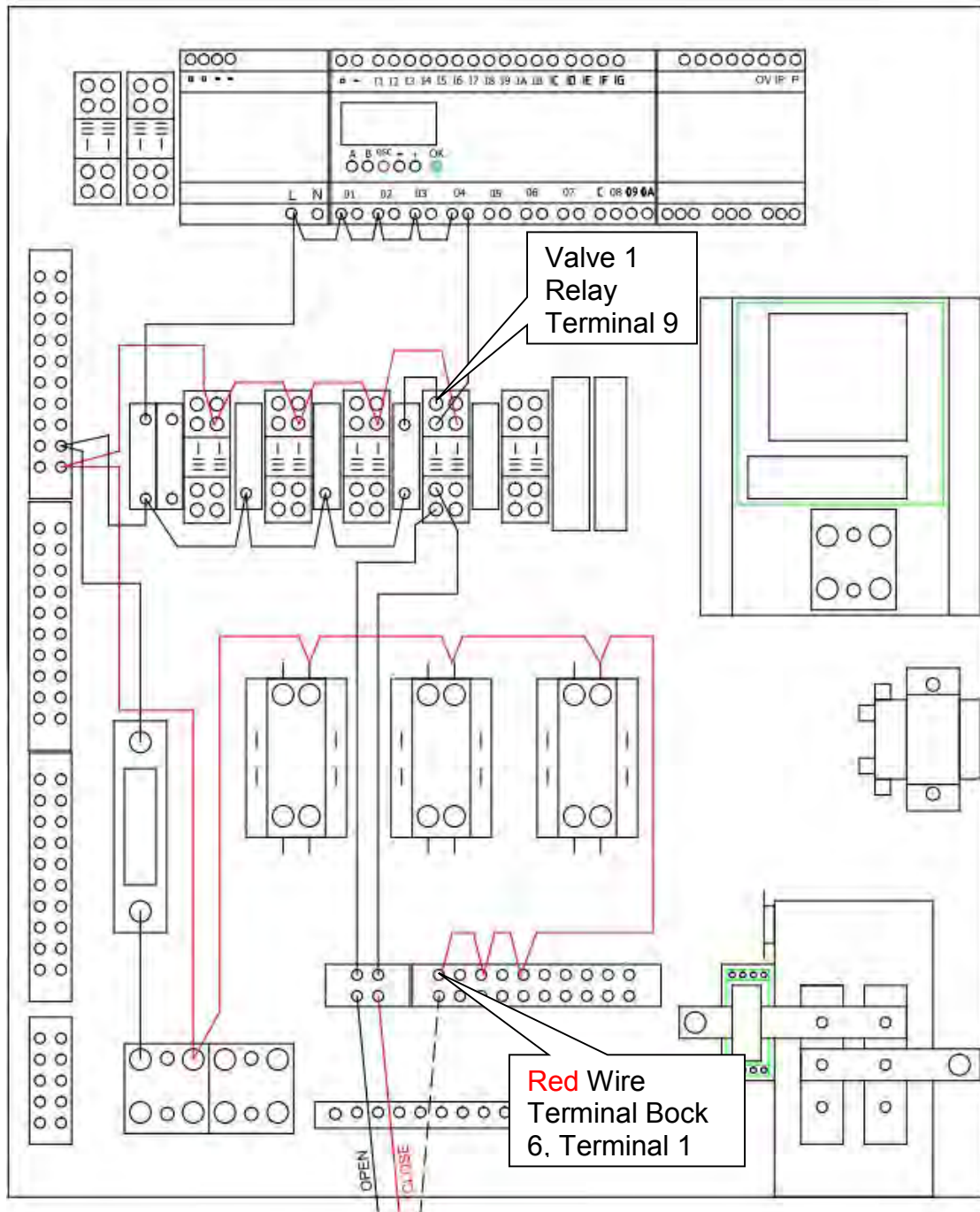   If 240 VAC is available, go to the next step.

    If 240 VAC is not available replace valve 1 fuse.

8. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at valve 1 relay, terminal 9.

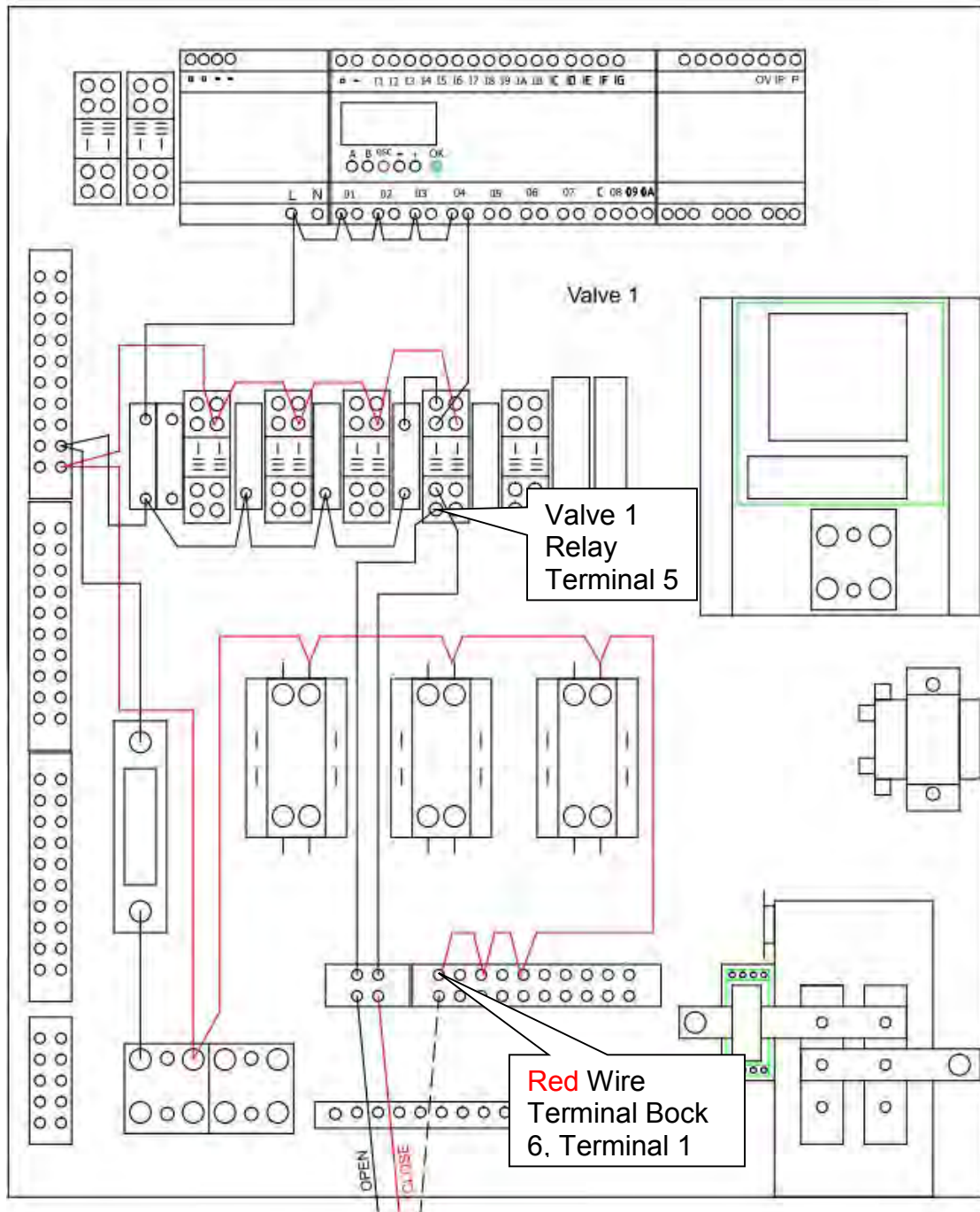   If 240 VAC is available, go to the next step.

   If 240 VAC is not available repair or replace the wire from the top of valve 1 fuse to valve 1 relay, terminal 9.

Valve 1
Relay
Terminal 9

Red Wire
Terminal Bock
6, Terminal 1

9. Be sure the output for valve 1 is energized as outlined in step 3. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire at valve 1 relay, terminal 5.

   If 240 VAC is available, go to the next step.

   If 240 VAC is not available replace valve 1 relay.

10. Check for 240 VAC across the red wire on terminal block 6, terminal 1 and the black wire on terminal block 5, terminal 1.

If 240 VAC is available, replace valve 1.

If 240 VAC is not available repair or replace the wire from valve 1 relay terminal 5 to terminal block 5, terminal 1.

Valve 1

Terminal Block 5, Terminal 2

Red Wire Terminal Bock 6, Terminal 1

OPEN   CLOSE
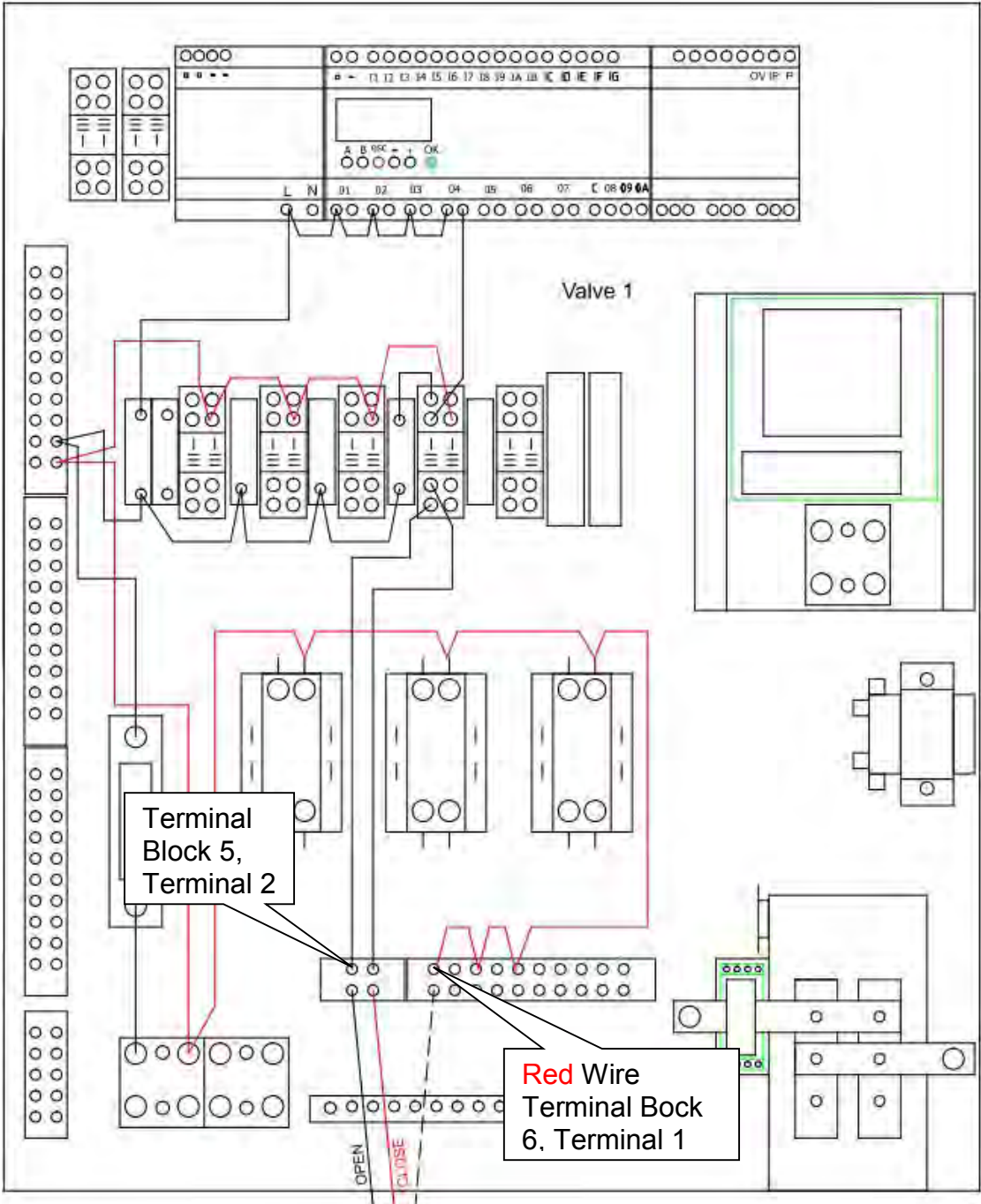
VALVE 2 DID NOT RESPOND

The opening or closing of valve 2 is controlled by an external device; however the valve is monitored by the NEX-GEN. This EVENT is displayed if VALVE 2 does not respond to an open or close command but VALVE 1 has responded to its command. When this occurs the system will shut down unless VALVE 1 has responded to an open command and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Confirm that the external devise is calling for pool 2 to feed. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST then NEXT to pull up the test screen for valve 2. This will turn the NEX-GEN off and valve 2 should close and display a green dot next to the word CLOSED on the display.

   If valve 2 closed and a green dot appeared next to the word CLOSED on the screen, go to the next step.

   If valve 2 closed but a green dot did not appear next to the word CLOSED on the screen, go to **Troubleshoot Valve 2 Did Not Respond – Feedback Circuit Close.**

   If valve 2 does not close, troubleshoot the external control device for valve 2.
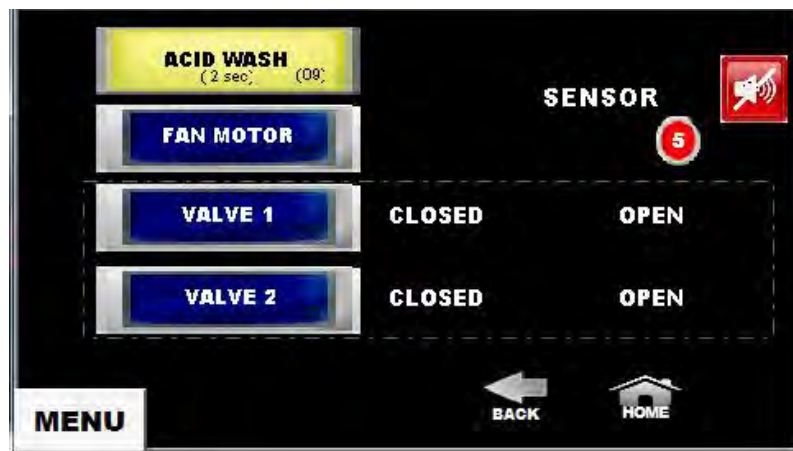
2. Confirm that the external devise is calling for pool 2 to feed. From the Touch Screen on the NEX-GEN, press VALVE 2. Valve 2 should open and a green dot should appear next to the word OPEN on the screen.

   If valve 2 opened and a green dot appeared next to the word OPEN on the screen, valve 2 is working as designed.

   If valve 2 opened but a green dot did not appear next to the word OPEN on the screen, go to **Troubleshoot Valve 2 Did Not Respond – Feedback Circuit Open.**
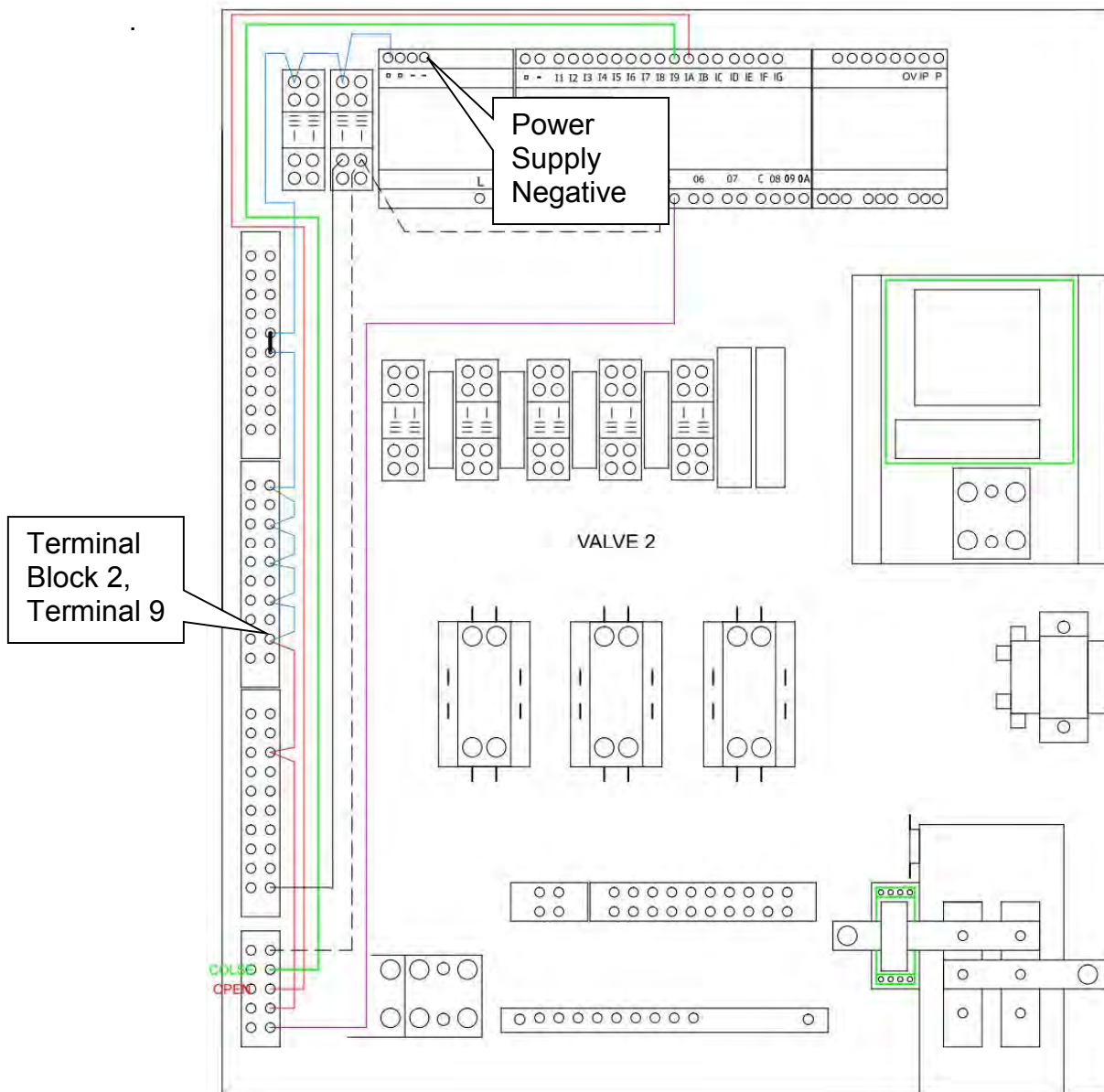
   If valve 2 does not open, go to **Troubleshoot Valve 2 Did Not Respond - Open.**

Troubleshoot Valve 2 Did Not Respond – Feedback Circuit – Open

1. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the blue/red wire on terminal block 2, terminal 9.

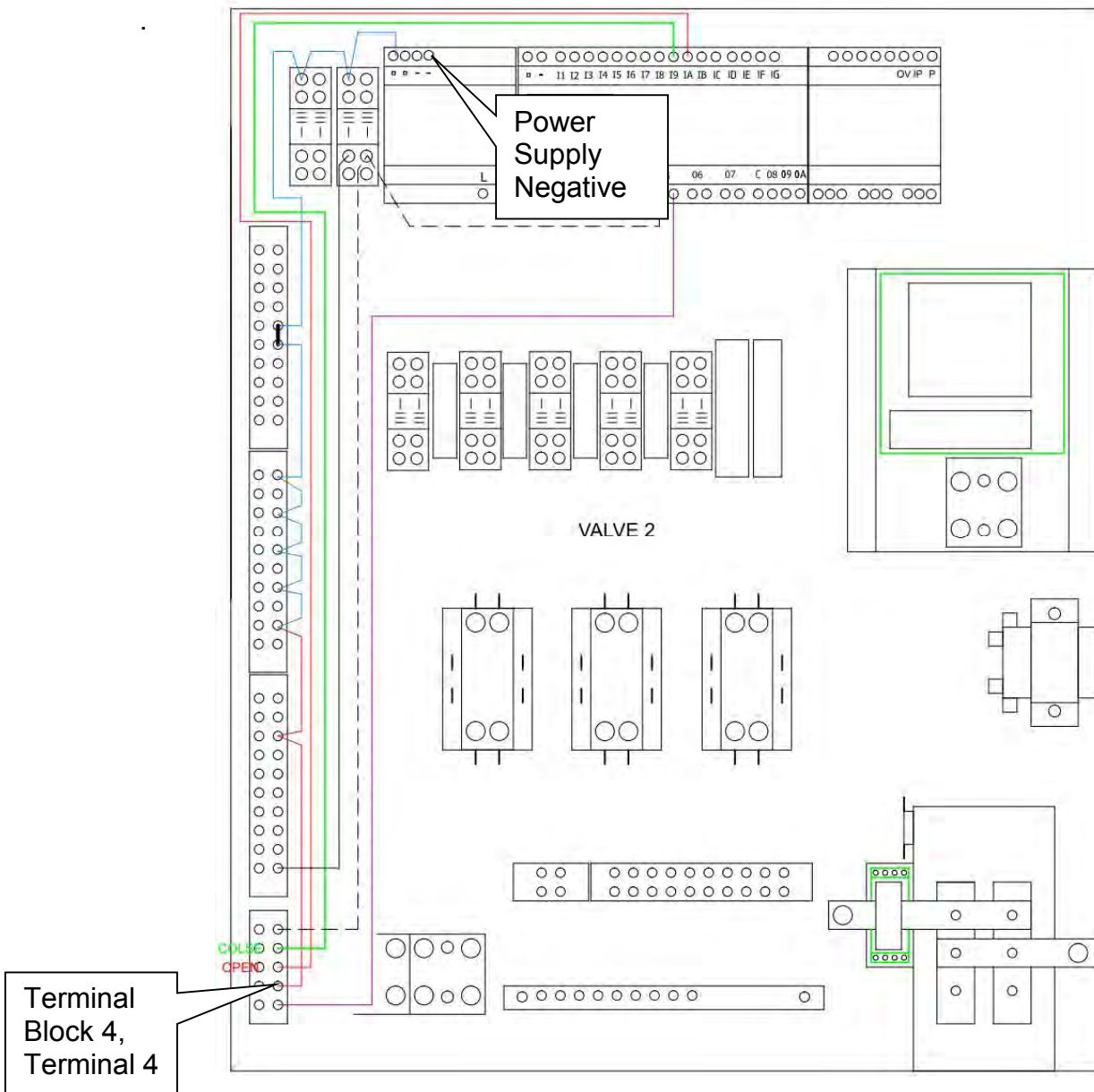   If 24 VDC is available, go to the next step.

   If 24 VDC is not available repair or replace the blue wire from power supply positive to terminal block 2, terminal 9.

2. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the red wire on terminal block 4, terminal 4.
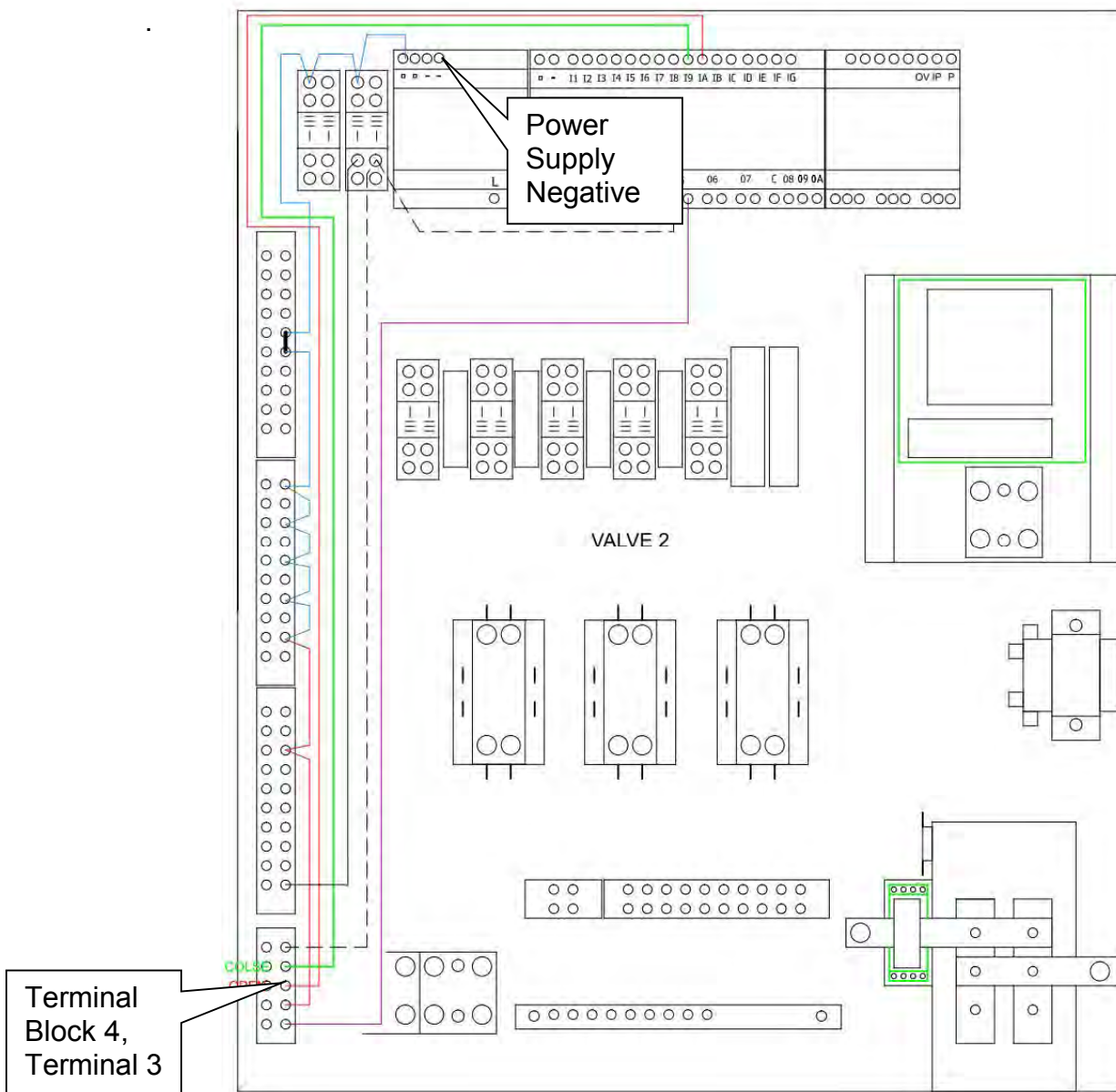
   If 24 VDC is available, go to the next step.

   If 24 VDC is not available repair or replace the red wire from terminal block 2, terminal 9 to terminal block 4, terminal 4.

3. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the orange wire on terminal block 4, terminal 3.
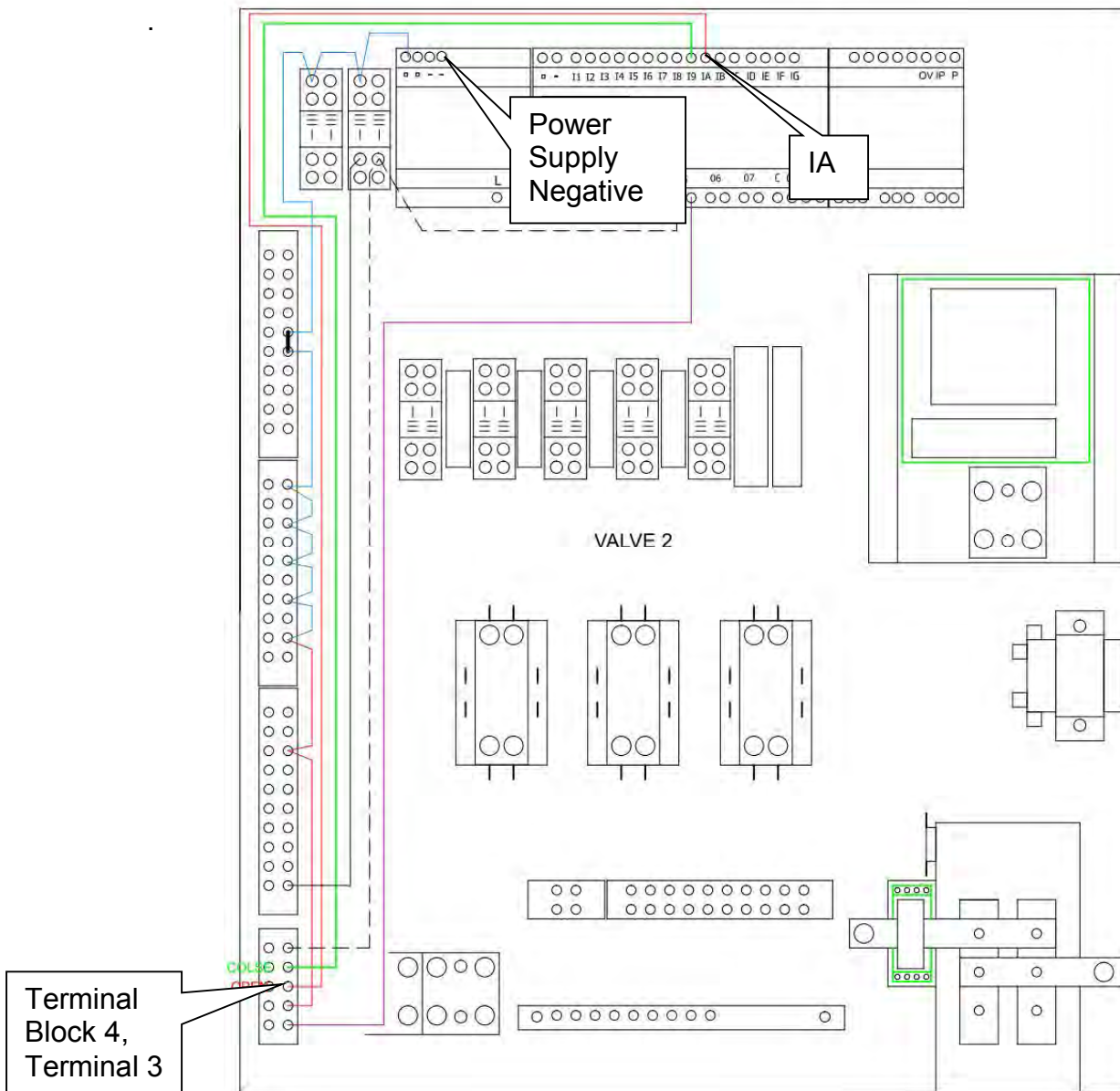
   If 24 VDC is available, go to the next step.

   If 24 VDC is not available troubleshoot the external control device for valve 2.

4. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the orange wire on terminal IA or the microcontroller.

If 24 VDC is available, replace the microcontroller.

If 24 VDC is not available repair or replace the orange wire from terminal block 4, terminal 3 to microcontroller terminal IA.
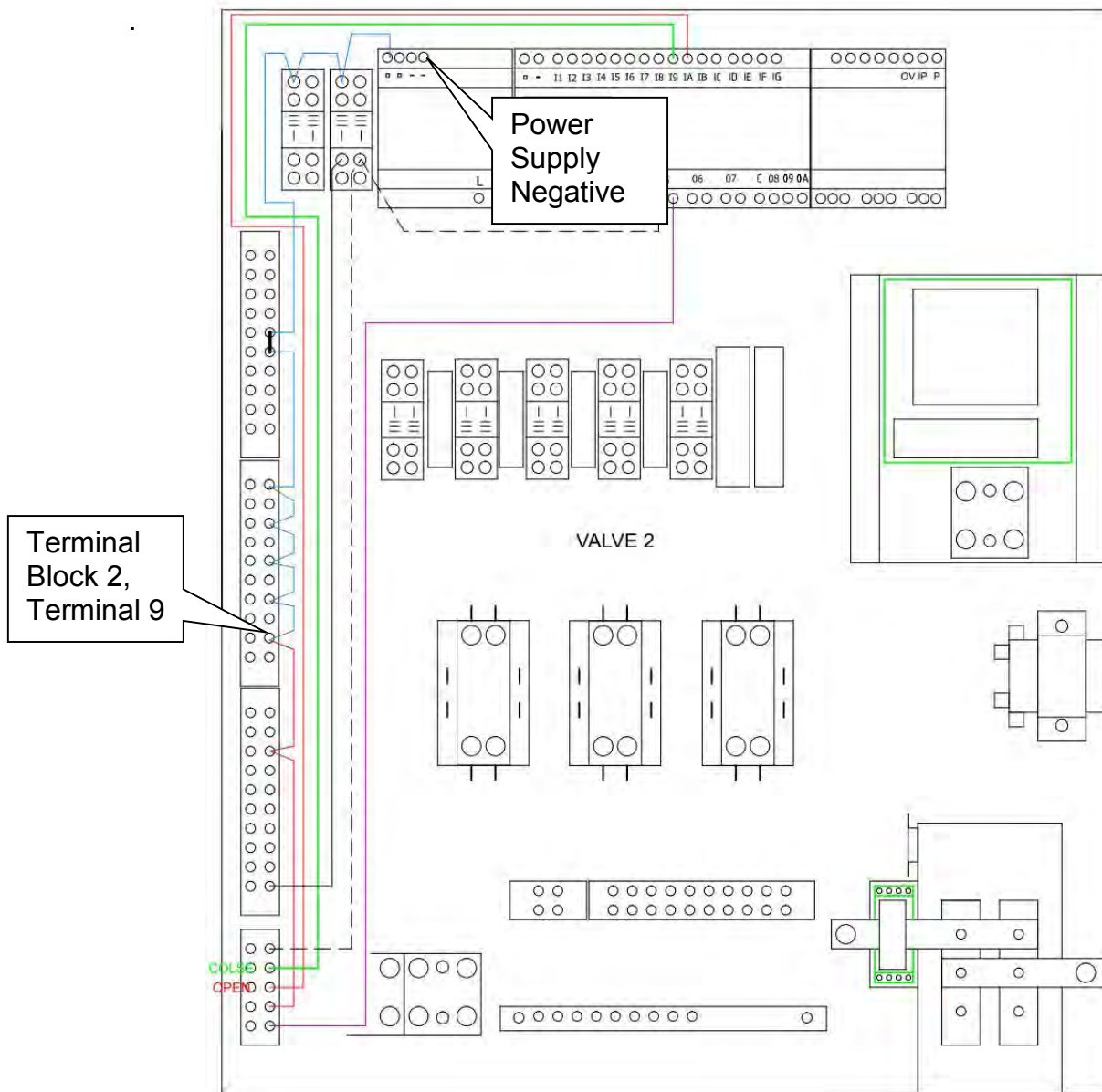
Troubleshoot Valve 2 Did Not Respond – Feedback Circuit – Closed

1. With valve 2 in the closed position check for 24 VDC from the power supply negative terminal to the blue/red wire on terminal block 2, terminal 9.

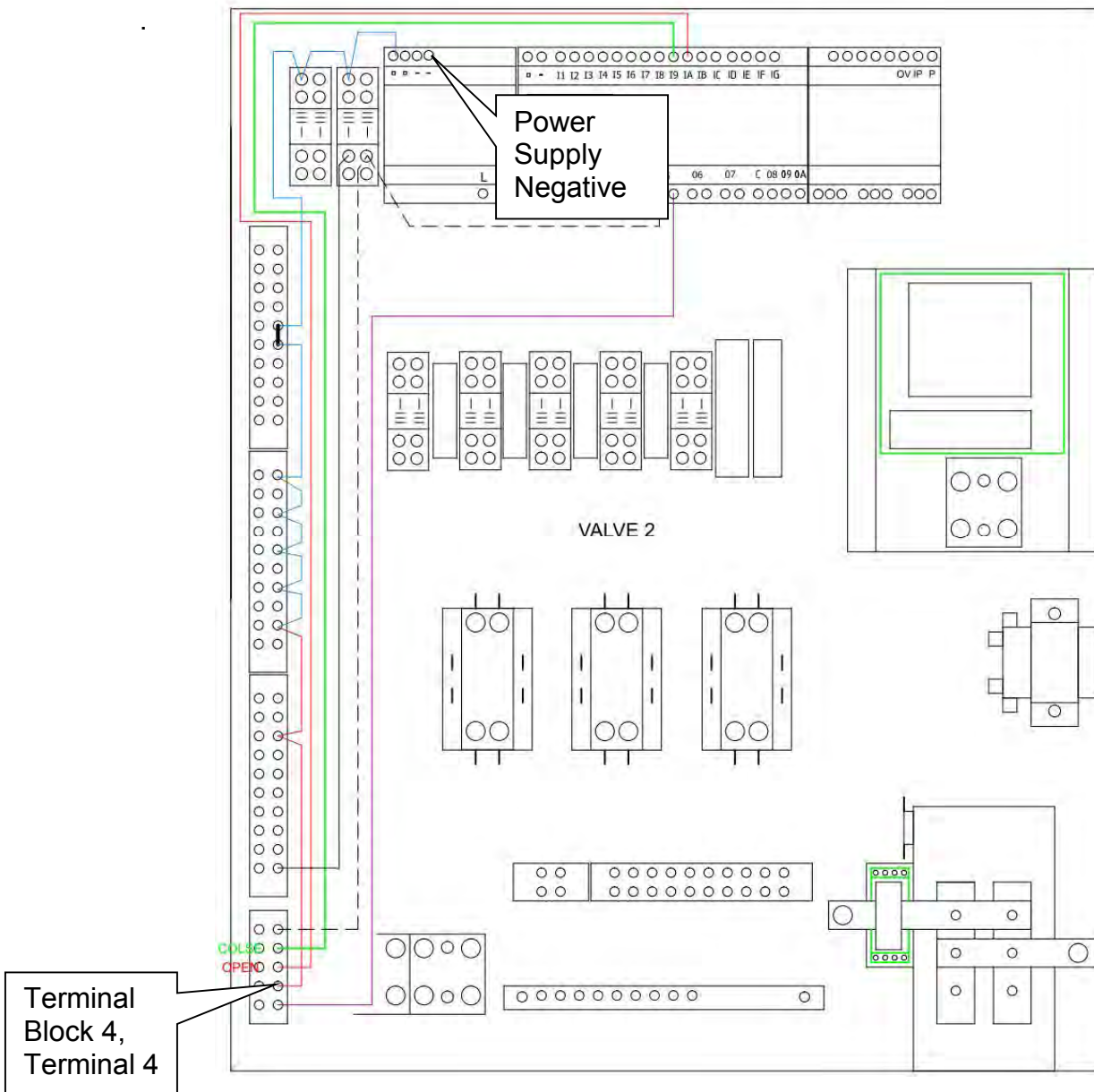   If 24 VDC is available, go to the next step.

   If 24 VDC is not available repair or replace the blue wire from power supply positive to terminal block 2, terminal 9.

2. With valve 2 in the closed position check for 24 VDC from the power supply negative terminal to the red wire on terminal block 4, terminal 4.

   If 24 VDC is available, go to the next step.

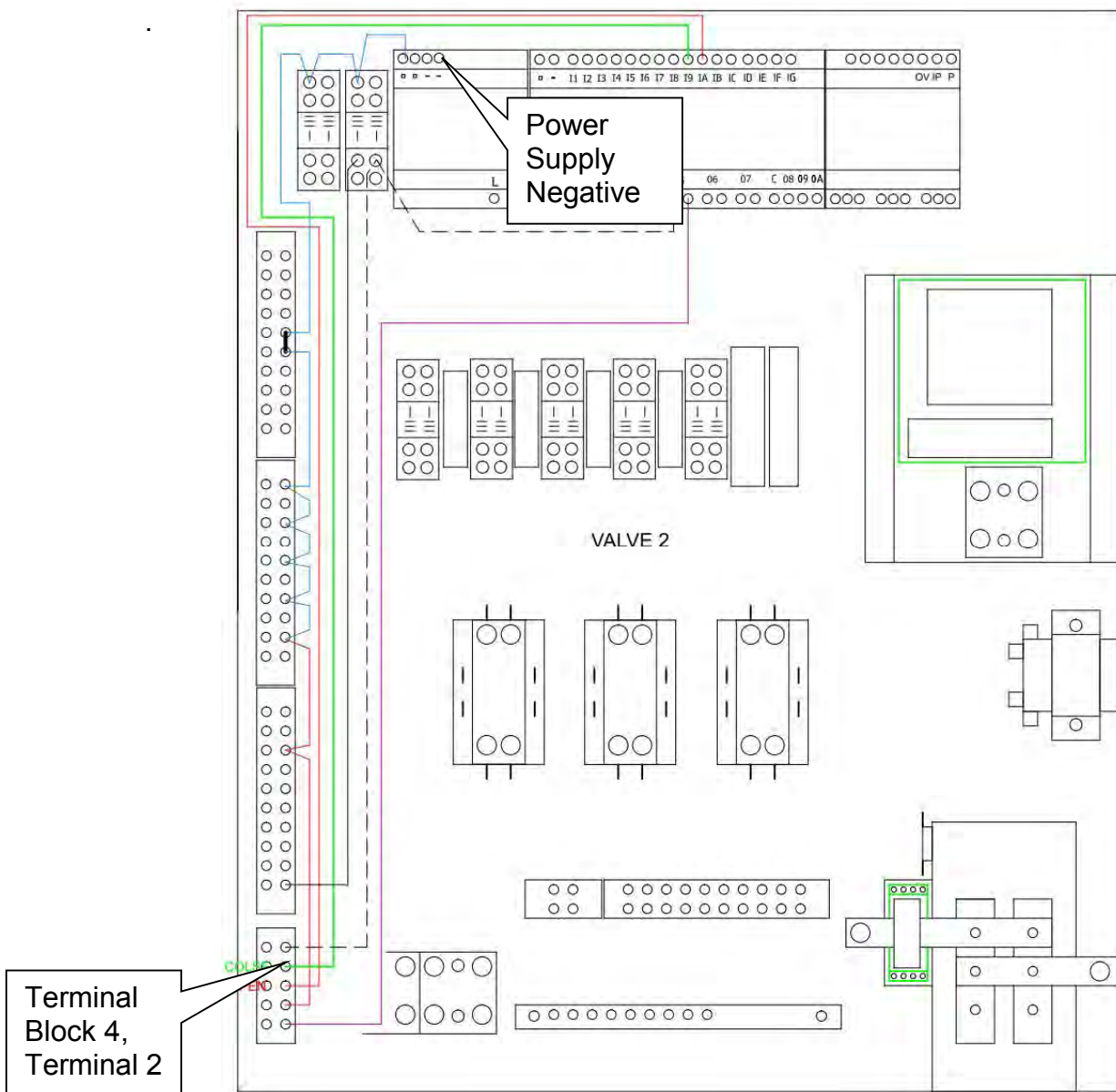   If 24 VDC is not available repair or replace the red wire from terminal block 2, terminal 9 to terminal block 4, terminal 4.

3. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the green wire on terminal block 4, terminal 2.

If 24 VDC is available, go to the next step.

If 24 VDC is not available troubleshoot the external control device for valve 2.

4. With valve 2 in the open position check for 24 VDC from the power supply negative terminal to the green wire on terminal I9 or the microcontroller.

If 24 VDC is available, replace the microcontroller.

If 24 VDC is not available repair or replace the orange wire from terminal block 4, terminal 3 to microcontroller terminal IA.
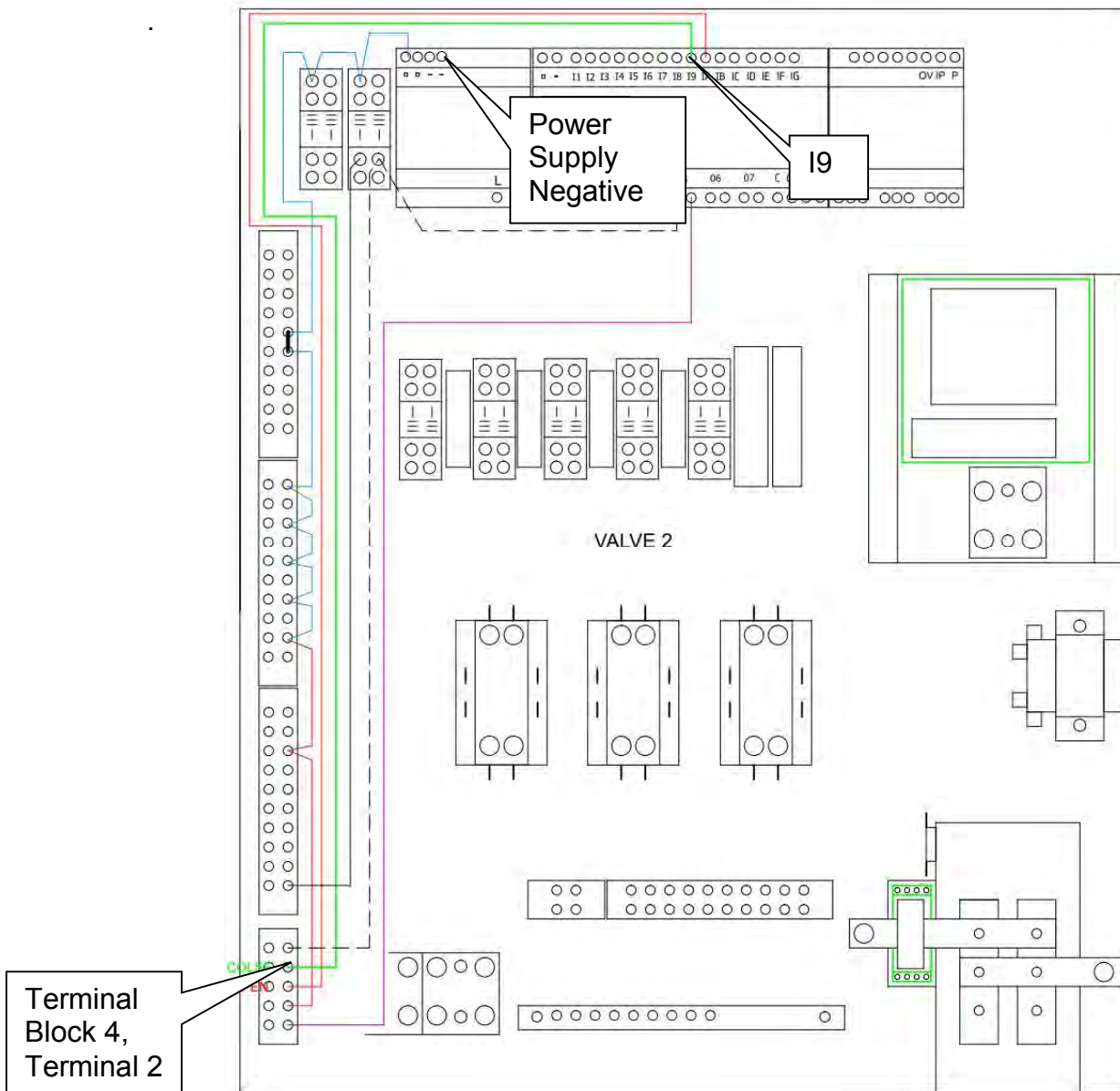
Troubleshoot Valve 2 Did Not Respond – Open

1. Confirm that an external devise is calling for pool 2 to feed and that the EVENT WAITING FOR ORP 2 is green.

   If the EVENT WAITING FOR ORP 2 is green, go to the next step.

   If the EVENT WAITING FOR ORP 2 is black, go to WAITING FOR ORP 2 troubleshooting.

2. Check for 120 VAC across Pool 2 relay terminal 14 and microcontroller terminal O5.

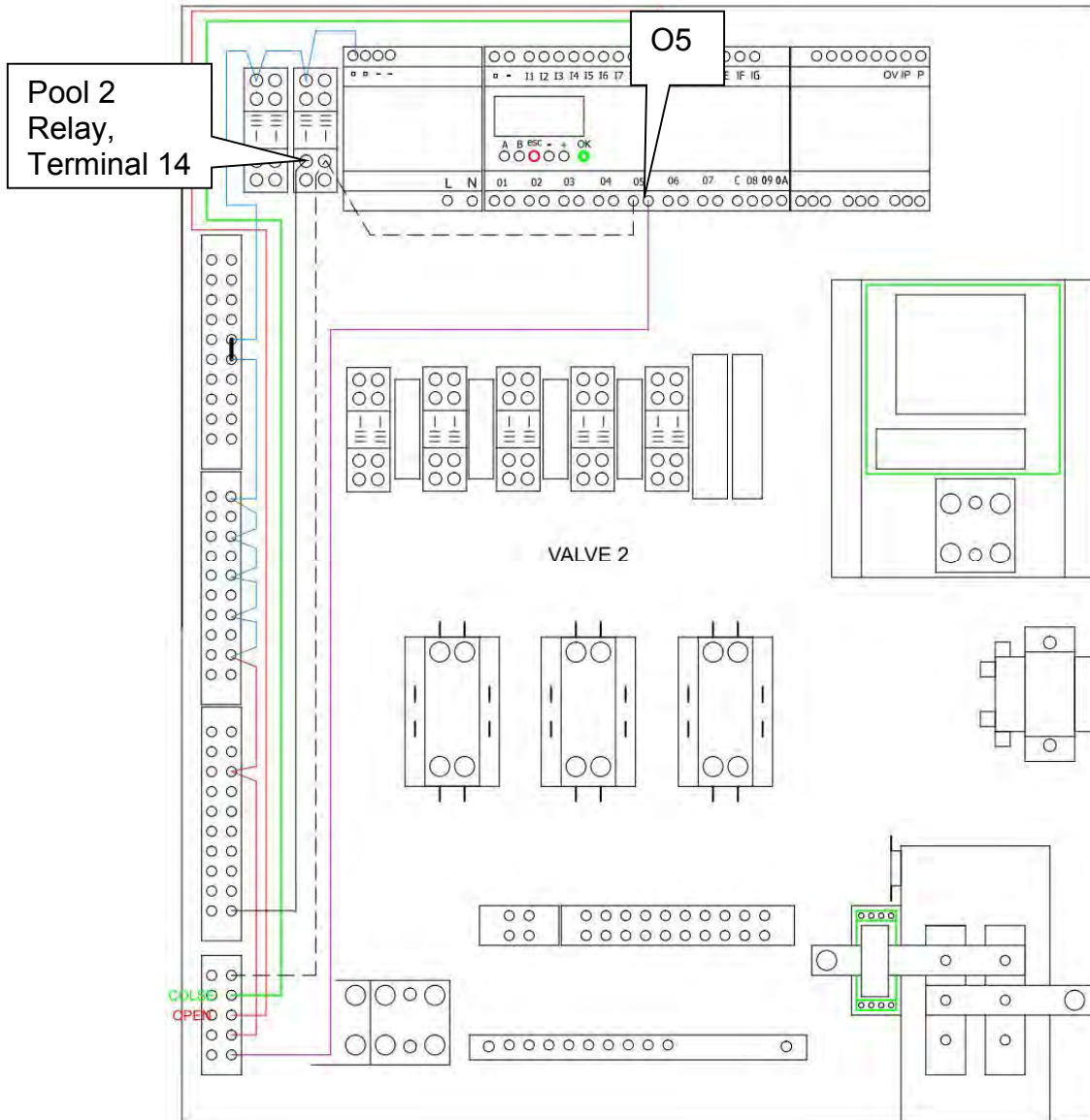   If 120 VAC is available, go to the next step.

   If 120 VAC is not available, repair or replace the white wire from pool 2 relay, terminal 13 to microcontroller terminal O5.
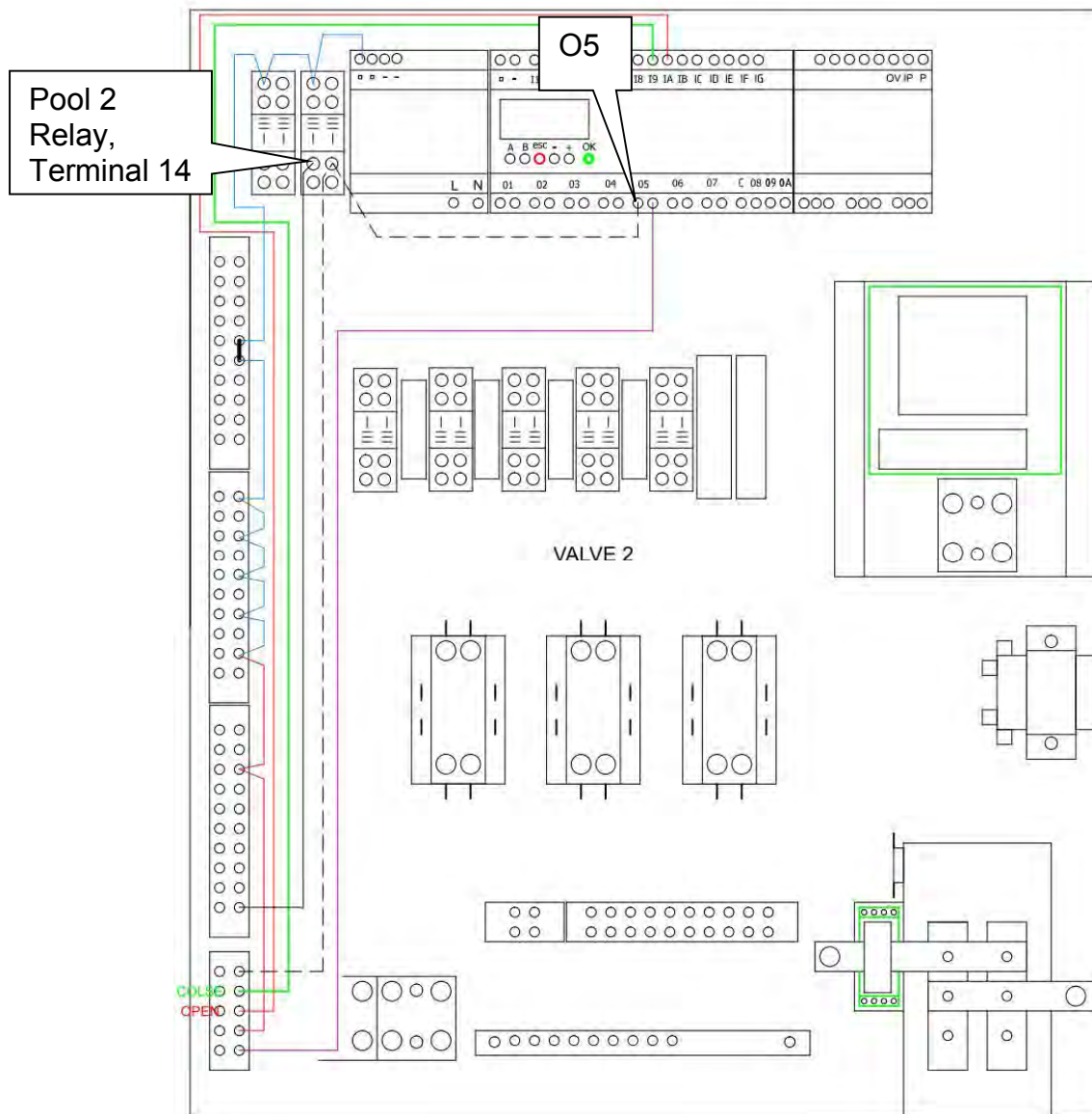
3. Check for 120 VAC across Pool 2 relay terminal 14 and microcontroller terminal O5 purple wire.

   If 120 VAC is available, go to the next step.

   If 120 VAC is not available, repair or replace the microcontroller.

4. Check for 120 VAC across Pool 2 relay terminal 14 and terminal block 4, terminal 5.

If 120 VAC is available, troubleshoot the external device controlling pool 2.

If 120 VAC is not available, repair or replace the purple wire from microcontroller terminal 5 to terminal block 4, terminal 5.
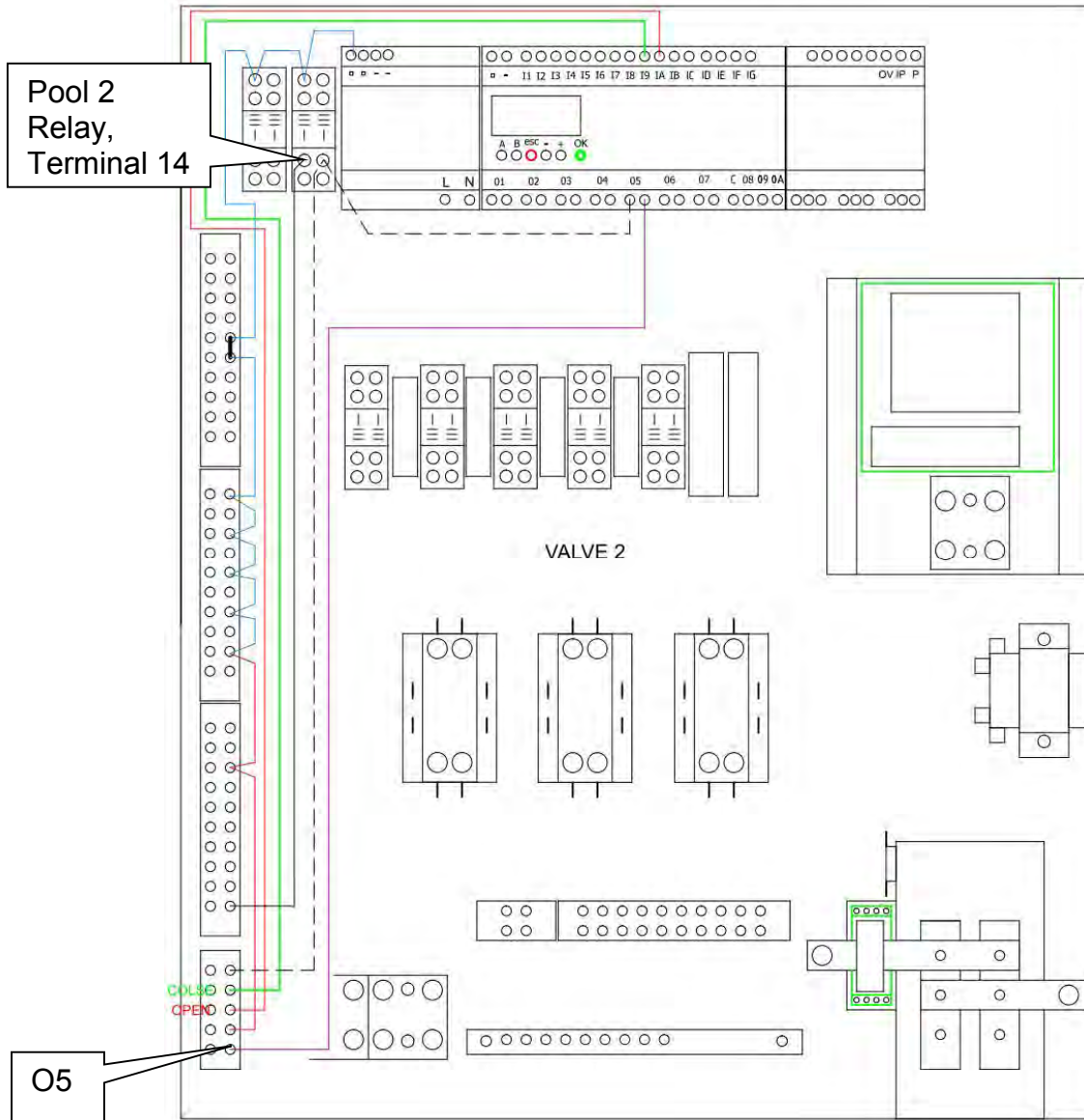
VALVES 1 & 2 DID NOT OPEN

This EVENT is displayed if VALVE 1 or VALVE 2 did not responded to an open command and both valves are closed. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot using the steps in Valve 1 Did Not Respond or Valve 2 Did Not Respond depending on which valve is not responding.
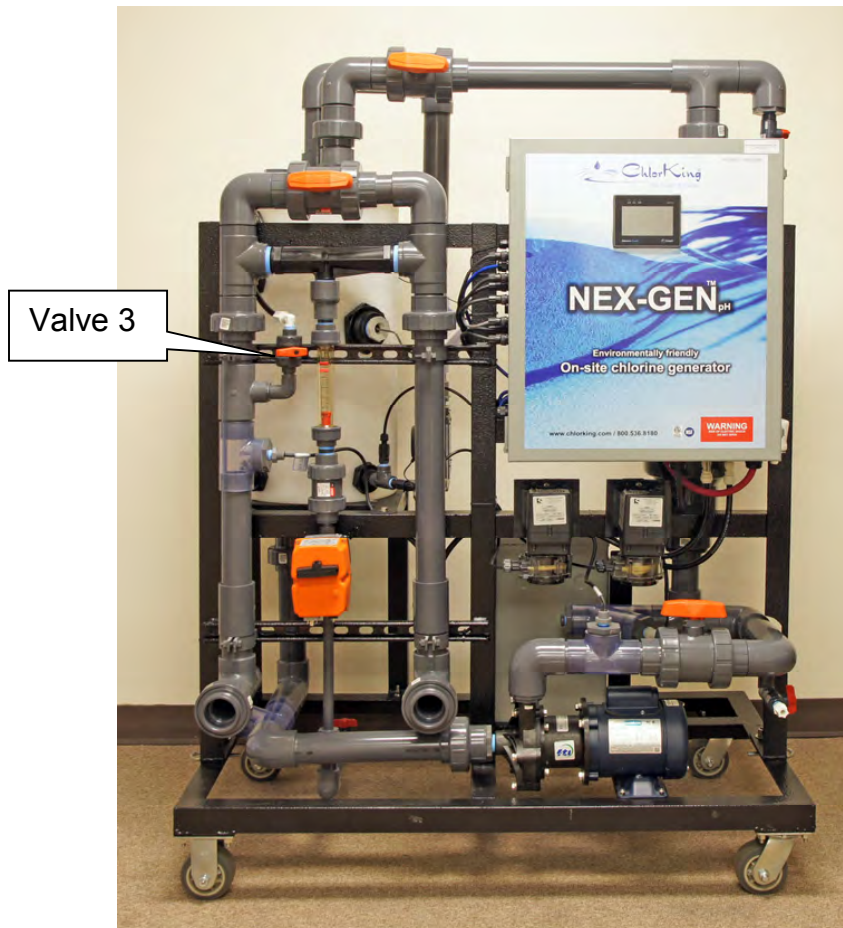
INSUFFICIENT WATER TO TANK

This EVENT is displayed if the water level in the production tank falls below the salt sensor for more than 30 seconds five times in 1 hour. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Check Valve 3, Tank Fill Valve to make sure it is all the way open.

   If Valve 3 is open, go to the next step.

   If Valve 3 is not all the way open, correct this.

2. Check the float inside the production tank for mechanical damage or obstructions and repair or replace the float.

TANK FILL TIMED OUT

This EVENT is displayed if the water level in the production tank is below the salt sensor for more than 1 hour with the booster pump running. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Check Valve 3, Tank Fill Valve to make sure it is all the way open.

   If Valve 3 is open, go to the next step.

   If Valve 3 is not all the way open, open Valve 3.
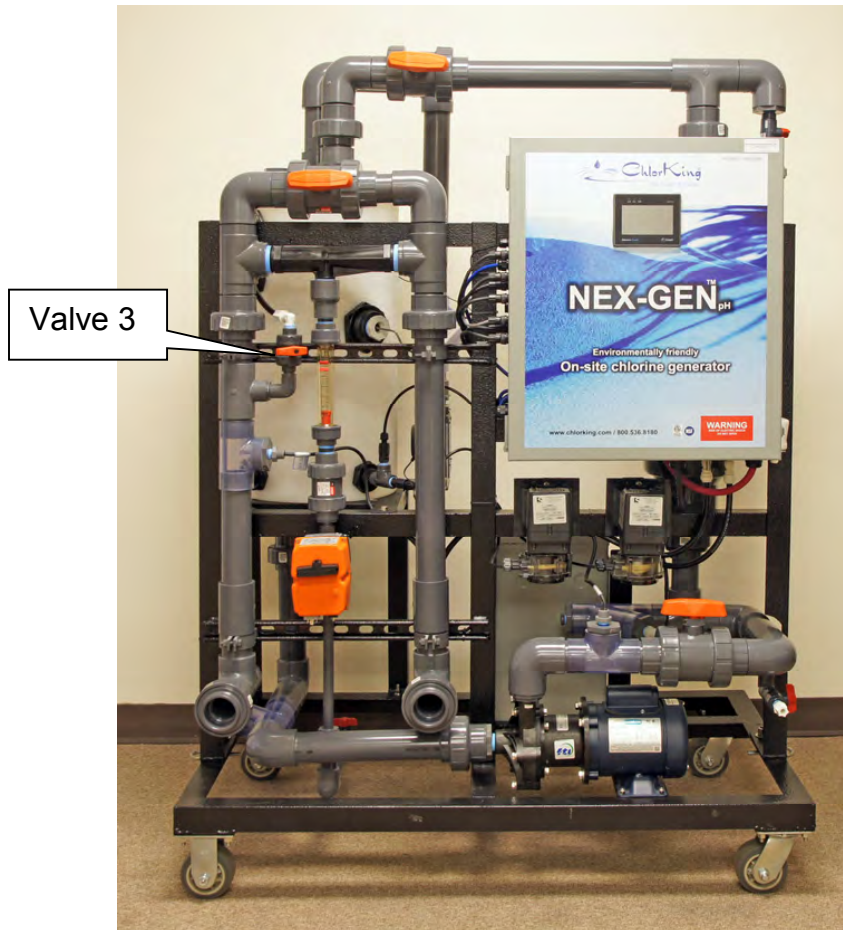
2. Check the float inside the production tank for mechanical damage or obstructions and repair or replace the float.

LOW SALT

This EVENT is displayed if the salt concentration in the production tank falls below 3000 PPM or if the salt concentration set-point cannot be reached in 15 minutes. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Check that the Saturated Salt Feeder is full of rock or pellet salt. Only use rock or pellet salt in the ChlorKing Saturated Salt Feeder. Fine salt can clog the suction of the feeder. The Saturated Salt Feeder may require cleaning at regular intervals to remove debris introduced with the salt.

    If the Saturated Salt Feeder is full of rock or pellet salt, go to the next step.

    If the Saturated Salt Feeder is not full or has the wrong type of salt, add or replace salt as necessary.

2. Check that the Saturated Salt Feeder float tank has a source of water and is approximately ¼ full of water.

    If the Saturated Salt Feeder has a source of water, go to the next step.

    If the Saturated Salt Feeder has no water, correct this condition. See the NEX-GEN Installation and Operating Manual for details on Saturated Salt Feeder installation and operation.

3. Check that the peristaltic salt pump is plugged in, turned on, and the suction and discharge lines are connected to the Saturated Salt Feeder and NEX-GEN.

    If all of the above conditions check OK, go to the next step.

    If any of the above conditions are not OK, correct them.

4. Check that the peristaltic pump head is not collapsed and that the #5 hose is in good condition. The #5 hose will require replacement at regular intervals.

    If the above items check OK, go to the next step.

    If the above items are not OK, correct them. Information on servicing Stenner peristaltic pumps
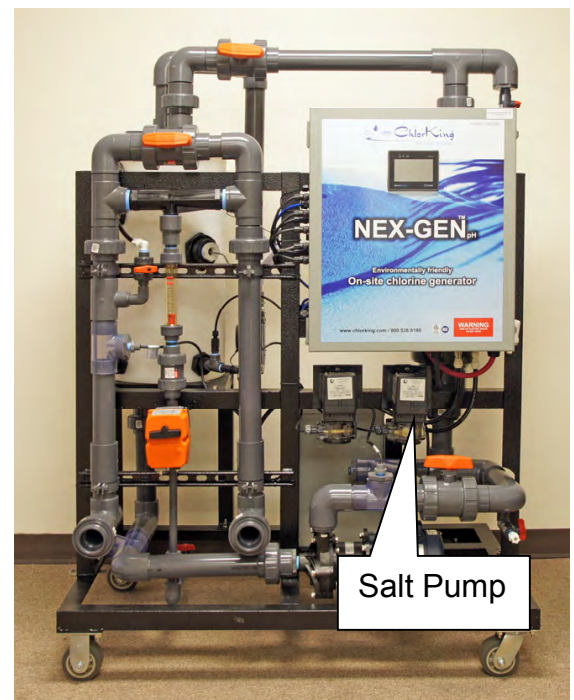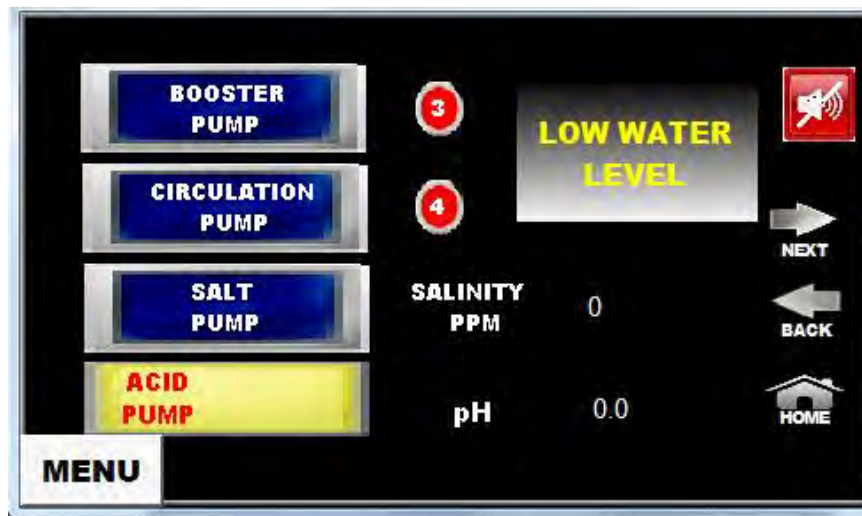

Salt Pump

can be found in the Stenner Pump Installation and Maintenance Manual.

5. From the Touch Screen on the NEX-GEN, select MENU then SERVICE then TEST to pull up the test screen. Select and press the SALT PUMP button. The salt pump will operate for 1 minute.

   If the salt pump runs, replace all salt pump tubing and the injection check valve.

   I the salt pump does not run, go to the next step.

6. Unplug the salt pump from the electrical plug and check for 208/240 VAC at the plug. Be sure to restart the salt pump outlined in step 5 if it has been more than 1 minute since it was last started.

   If 208/2040 VAC is available at the plug, replace the salt pump.

   If 208/240 is not available, go to the next step.

7. Check for 208/240 VAC from the black wire on the incoming terminal block to the red wire on salt relay, terminal 14.

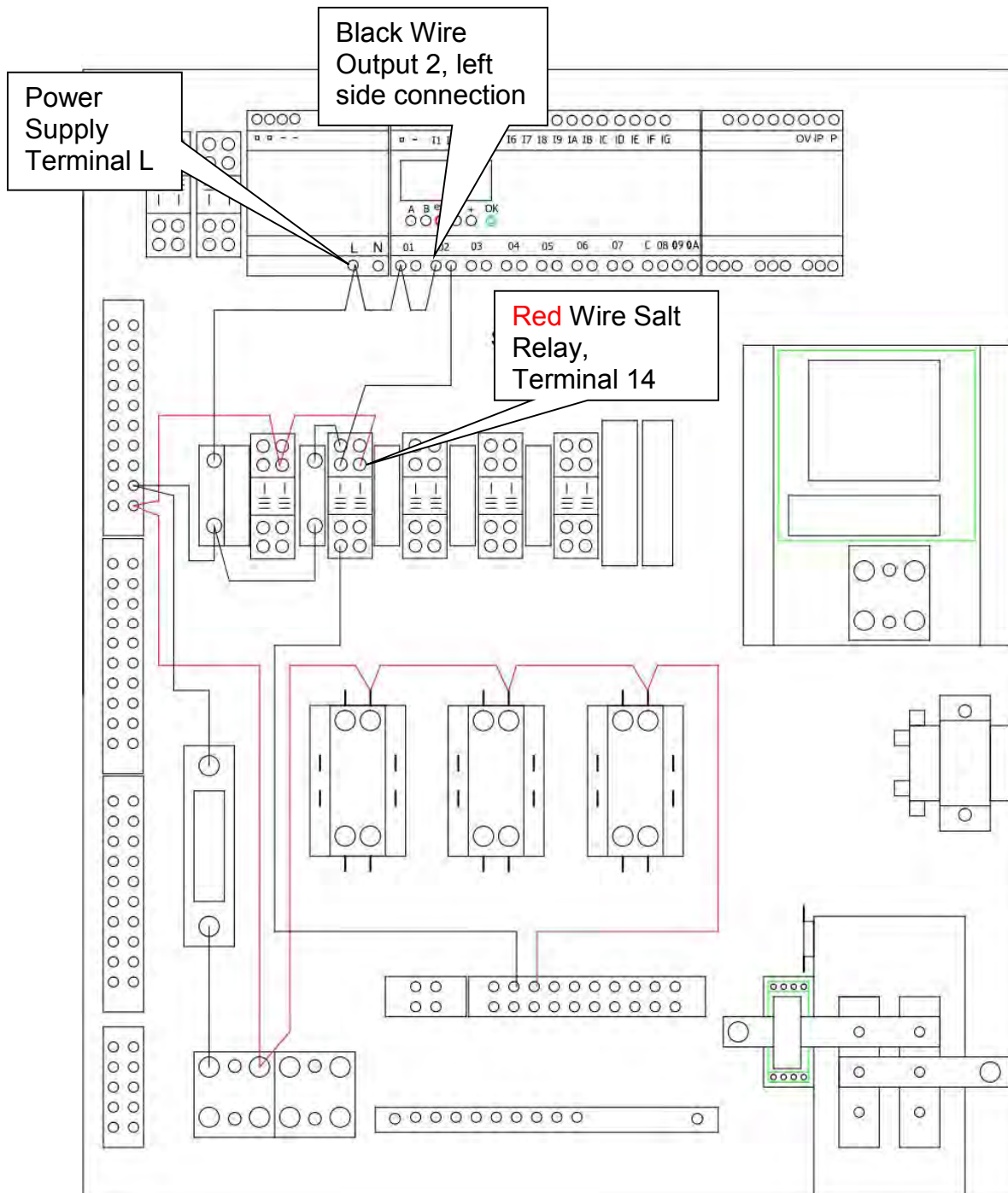   If 208/240 is available, go to the next step.

   If 208/240 is not available, repair or replace the red wire from the incoming terminal block to the salt relay, terminal 14.

Red Wire Salt Relay, Terminal 14

Black Wire Incoming Terminal Block
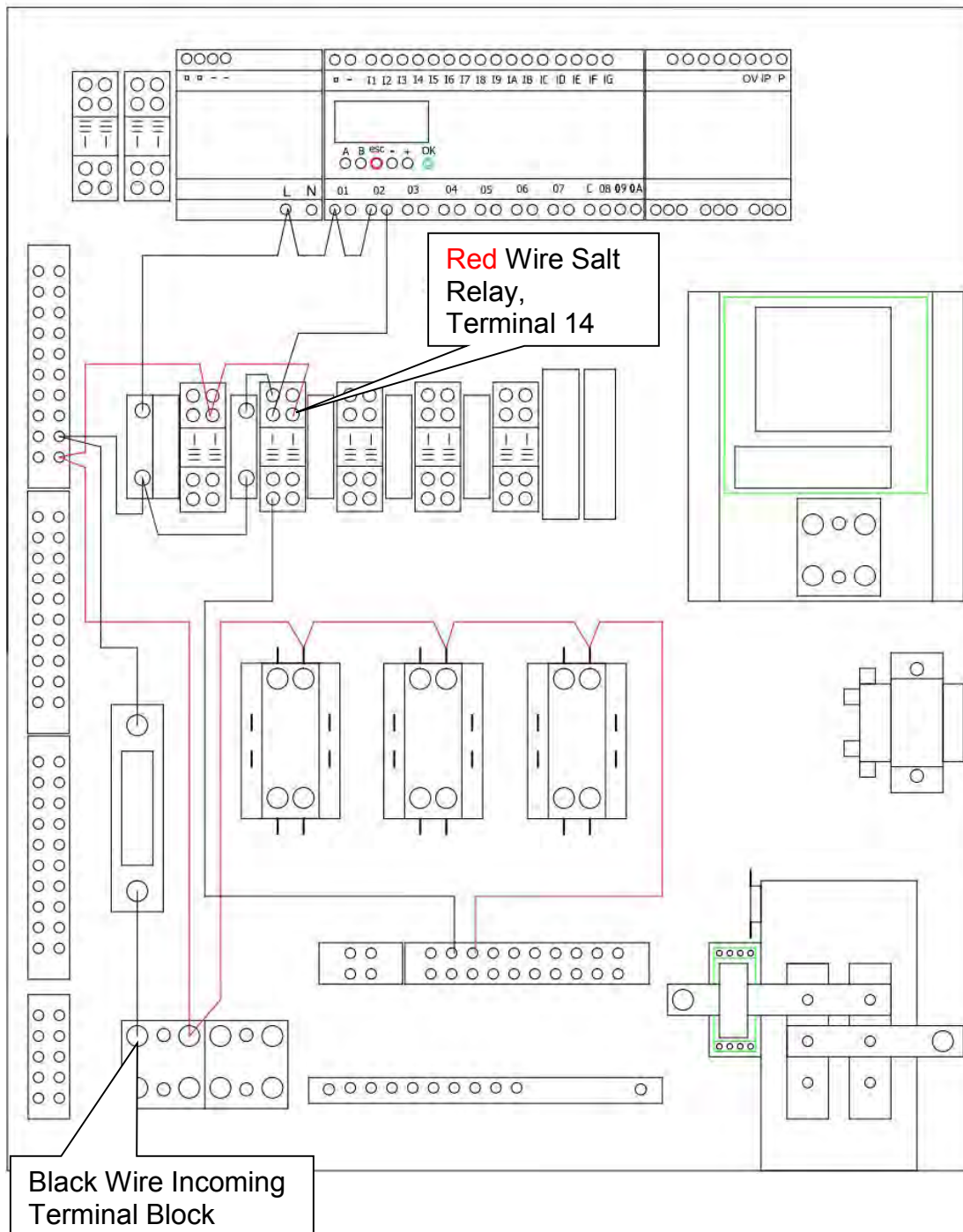
8. Check for 208/240 VAC from the black wire at output 2, left side connection to the red wire on salt relay, terminal 14.

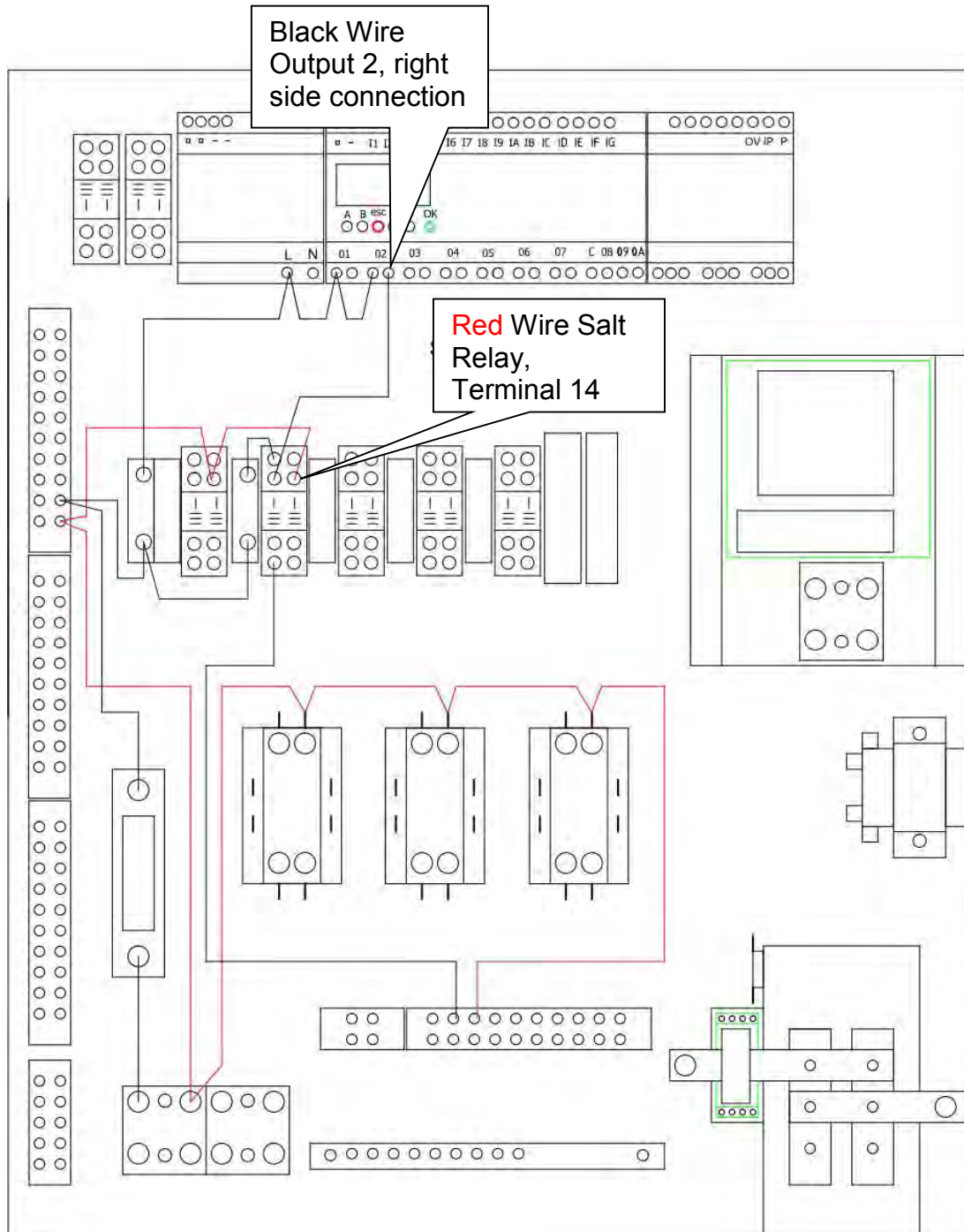   If 208/240 is available, go to the next step.

   If 208/240 is not available, repair or replace the wire from the power supply L terminal to output 2, left side connection.

9. Check for 208/240 VAC from the black wire at output 2, right side connection to the red wire on salt relay, terminal 14. Be sure to restart the salt pump outlined in step 5 if it has been more than 1 minute since it was last started.

If 208/240 is available, go to the next step.

If 208/240 is not available, output 2 of the microcontroller is bad. Replace the microcontroller.

Black Wire Output 2, right side connection

Red Wire Salt Relay, Terminal 14

10. Check for 208/240 VAC from the black wire at the salt relay, terminal 13 to the red wire on salt relay, terminal 14. Be sure to restart the salt pump outlined in step 5 if it has been more than 1 minute since it was last started.
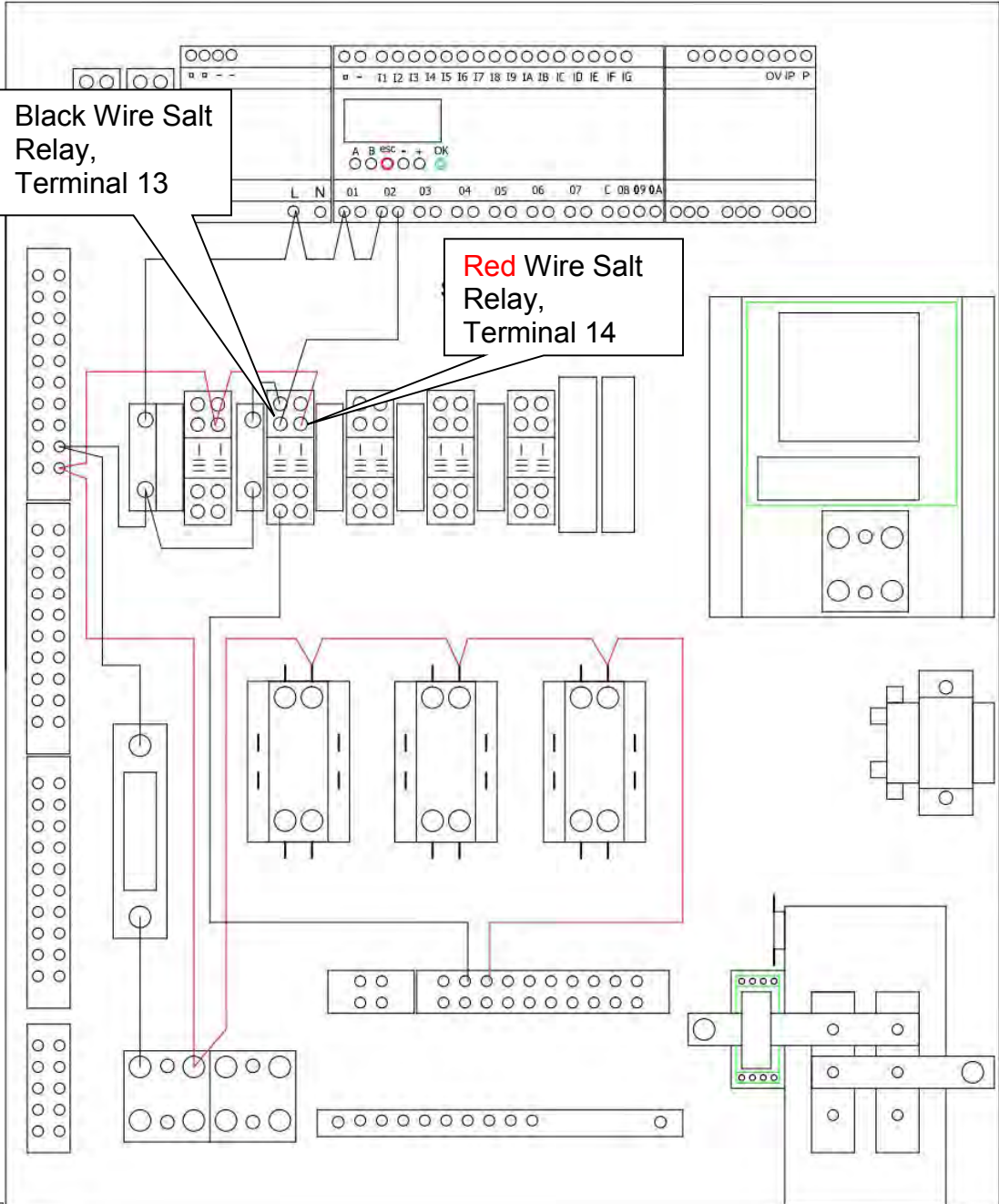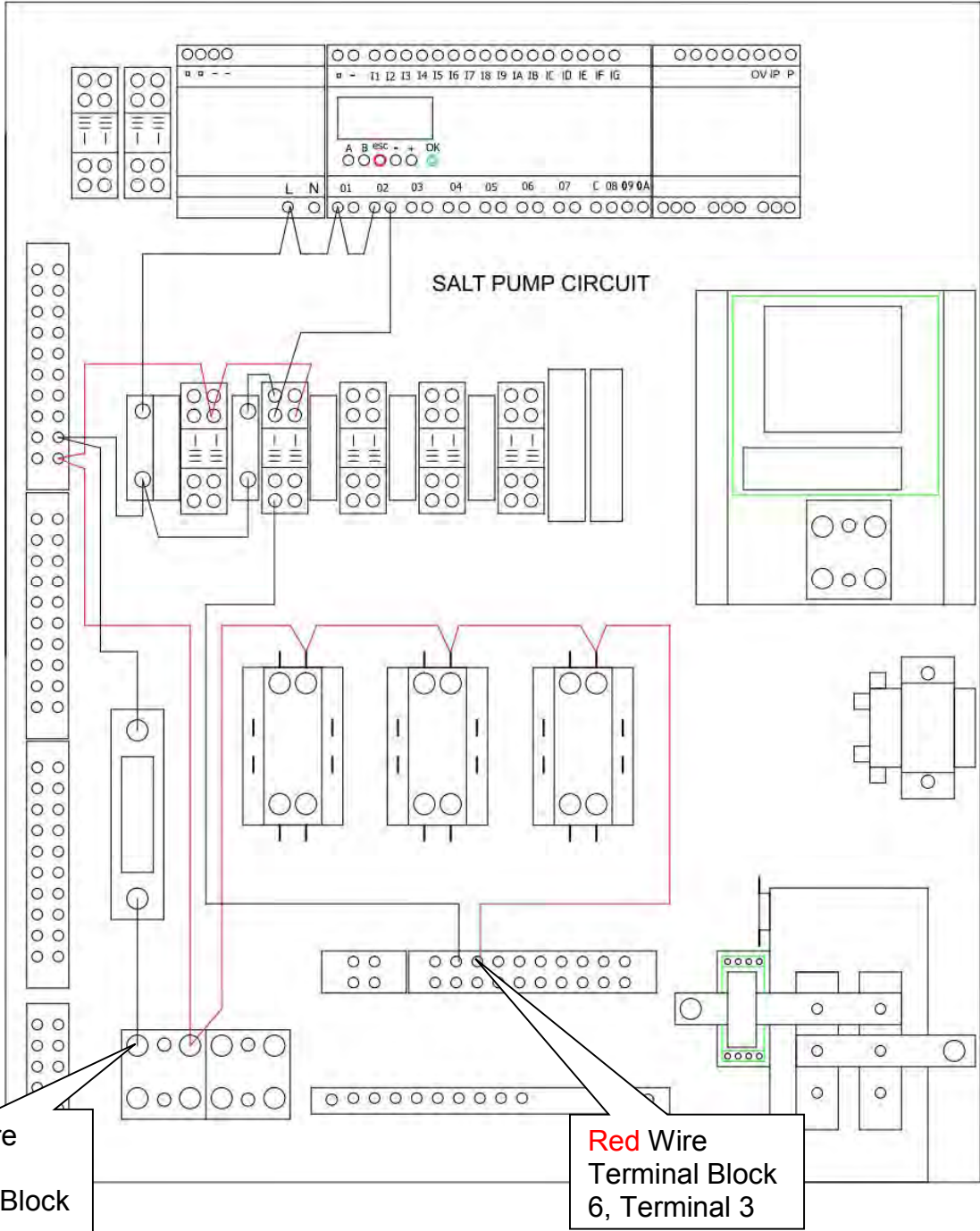
If 208/240 is available, go to the next step.

If 208/240 is not available, repair or replace the wire from output 2, right side connection to the salt relay, terminal 13.

Black Wire Salt Relay, Terminal 13

Red Wire Salt Relay, Terminal 14

11. Check for 208/240 VAC from the black wire at the incoming terminal block to the red wire on terminal block 6, terminal 3.

If 208/240 is available, go to the next step.
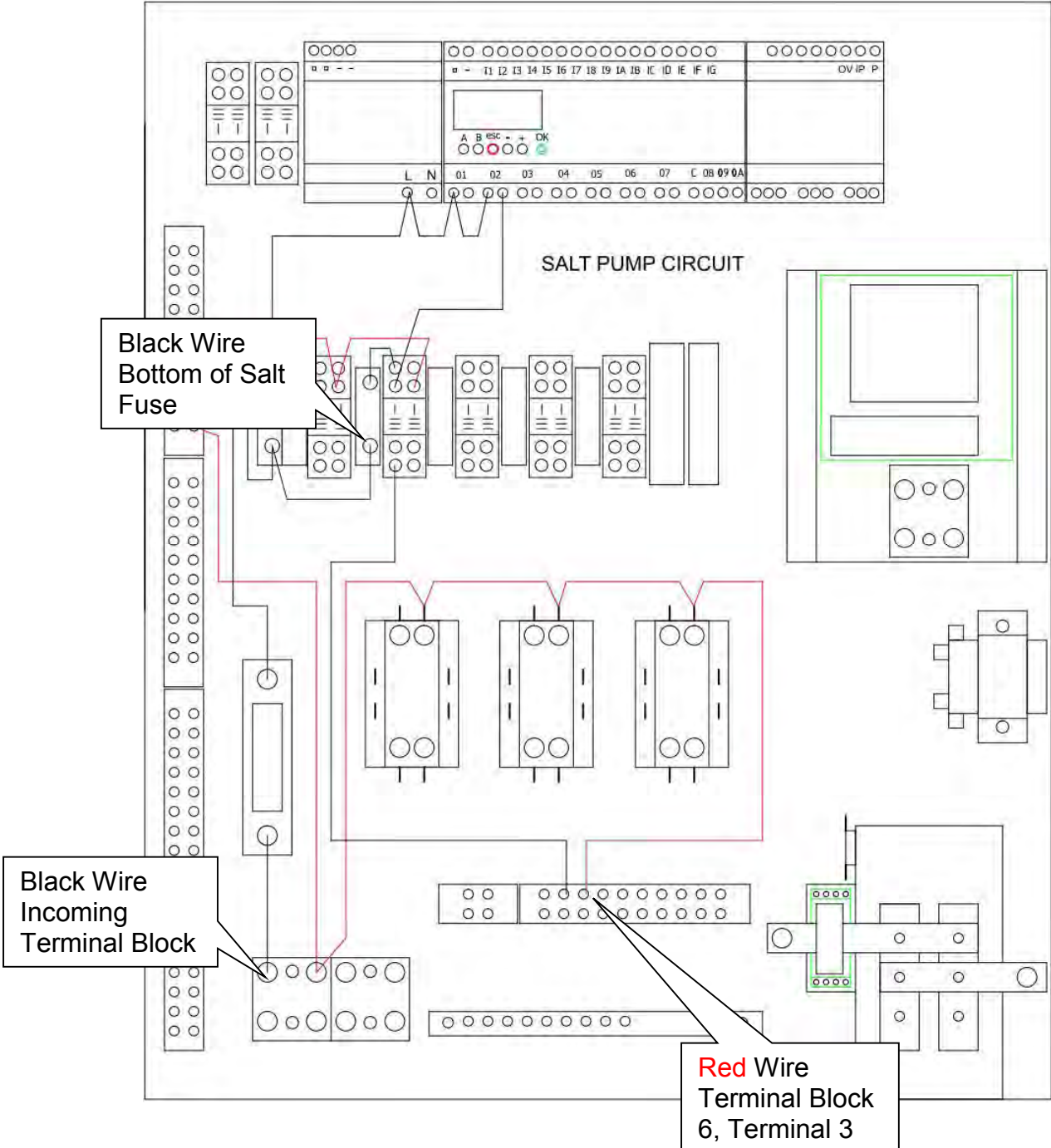
If 208/240 is not available, repair or replace the wire from terminal block 6, terminal 3 to the red wire on the incoming terminal block.

SALT PUMP CIRCUIT

Black Wire
Incoming
Terminal Block

Red Wire
Terminal Block
6, Terminal 3

12. Check for 208/240 VAC from the black wire at the bottom of the salt fuse to the red wire on terminal block 6, terminal 3.

   If 208/240 is available, go to the next step.

   If 208/240 is not available, repair or replace the wire from the incoming terminal block to the bottom of the salt fuse.

SALT PUMP CIRCUIT

Black Wire
Bottom of Salt
Fuse

Black Wire
Incoming
Terminal Block

Red Wire
Terminal Block
6, Terminal 3

13. Check for 208/240 VAC from the black wire at the top of the salt fuse to the red wire on terminal block 6, terminal 3.
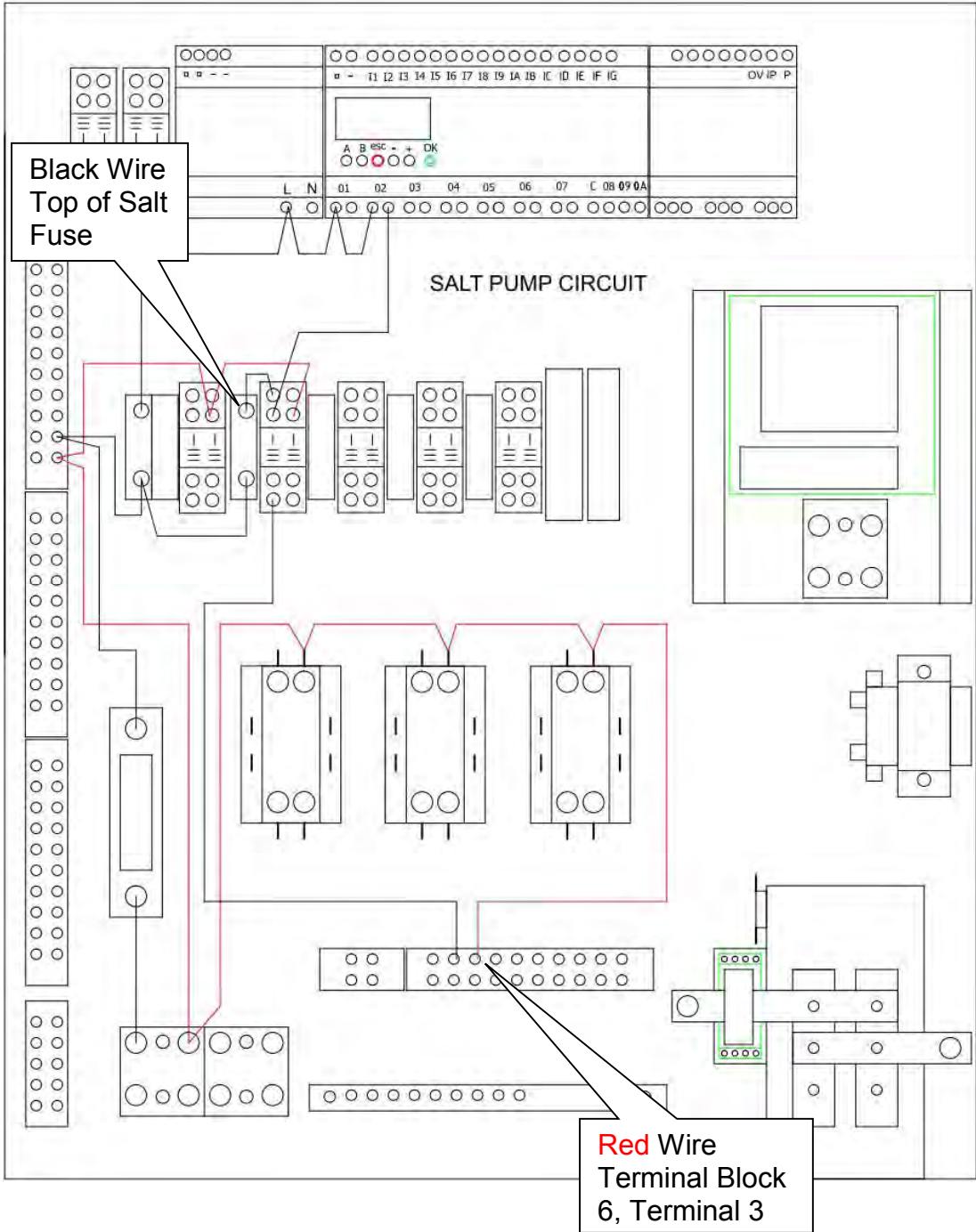
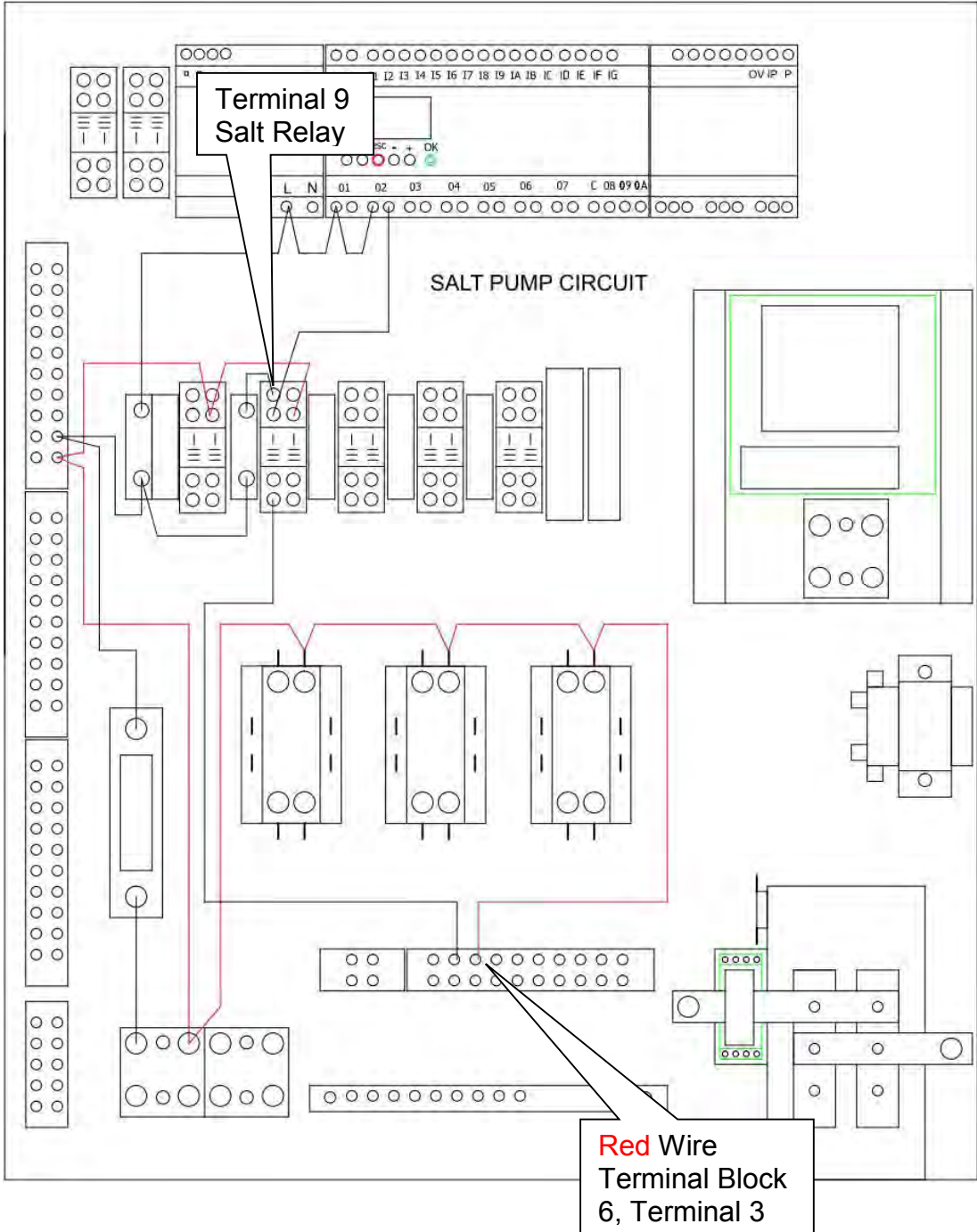If 208/240 is available, go to the next step.

If 208/240 is not available, replace the salt fuse.

Black Wire Top of Salt Fuse

SALT PUMP CIRCUIT

Red Wire Terminal Block 6, Terminal 3

14. Check for 208/240 VAC from the black wire at terminal 9 on the salt relay to the red wire on terminal block 6, terminal 3.

If 208/240 is available, go to the next step.

If 208/240 is not available, repair or replace the wire from the top of the salt fuse to the terminal 9 on the salt relay.

Terminal 9
Salt Relay

SALT PUMP CIRCUIT

Red Wire
Terminal Block
6, Terminal 3

15. Check for 208/240 VAC from the black wire at terminal 5 on the salt relay to the red wire on terminal block 6, terminal 3. Be sure to restart the salt pump outlined in step 5 if it has been more than 1 minute since it was last started.

If 208/240 is available, go to the next step.

If 208/240 is not available, replace the salt relay.

SALT PUMP CIRCUIT

Terminal 5
Salt Relay

Red Wire
Terminal Block
6, Terminal 3
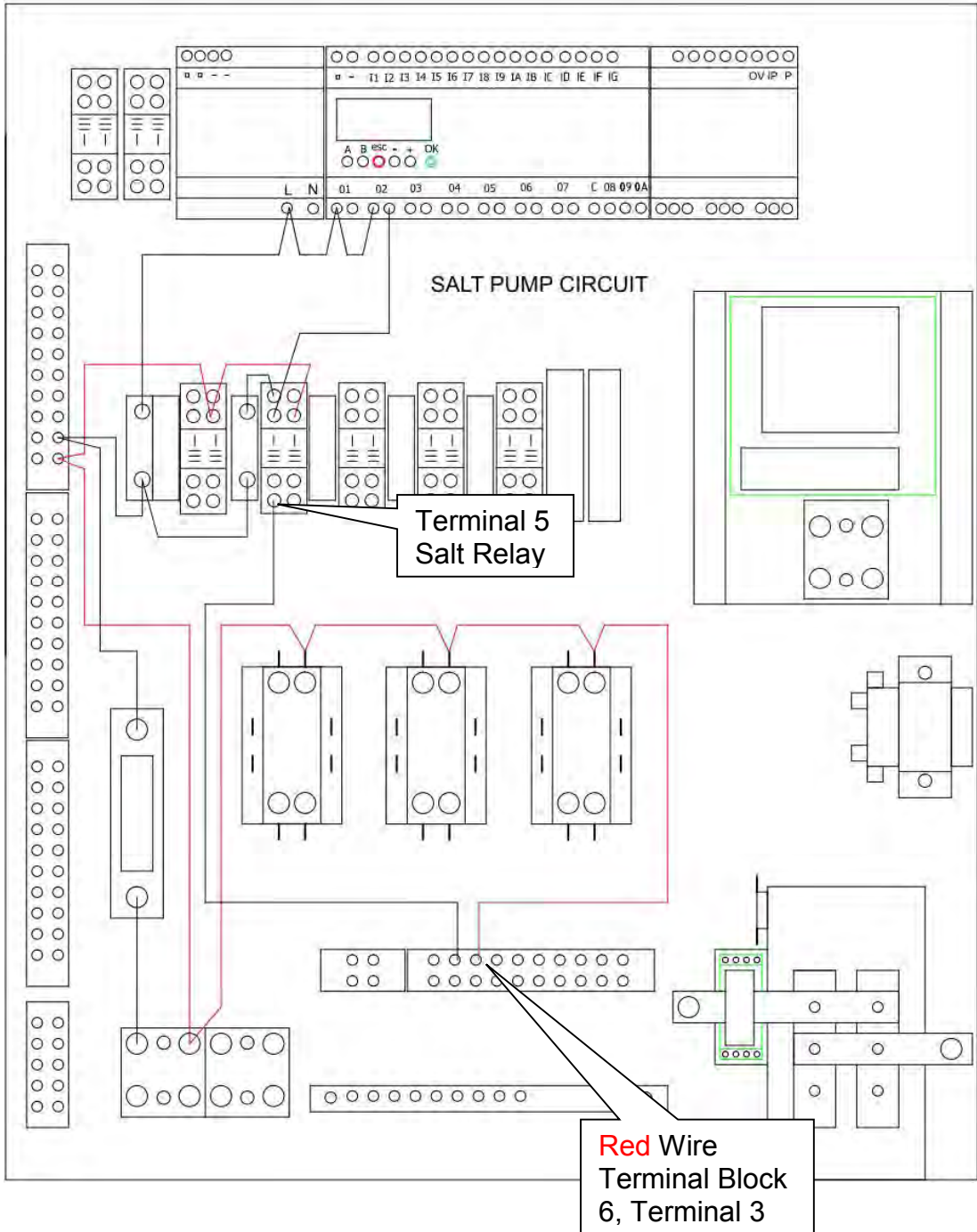
16. Check for 208/240 VAC from the black wire at terminal block 6, terminal 2 to the red wire on terminal block 6, terminal 3. Be sure to restart the salt pump outlined in step 5 if it has been more than 1 minute since it was last started.

If 208/240 is available, the problem has been resolved.

If 208/240 is not available, repair or replace the wire from the salt relay terminal 5 to terminal block 6, terminal 2.

SALT PUMP CIRCUIT

Black Wire Terminal Block 6, Terminal 2

Red Wire Terminal Block 6, Terminal 3
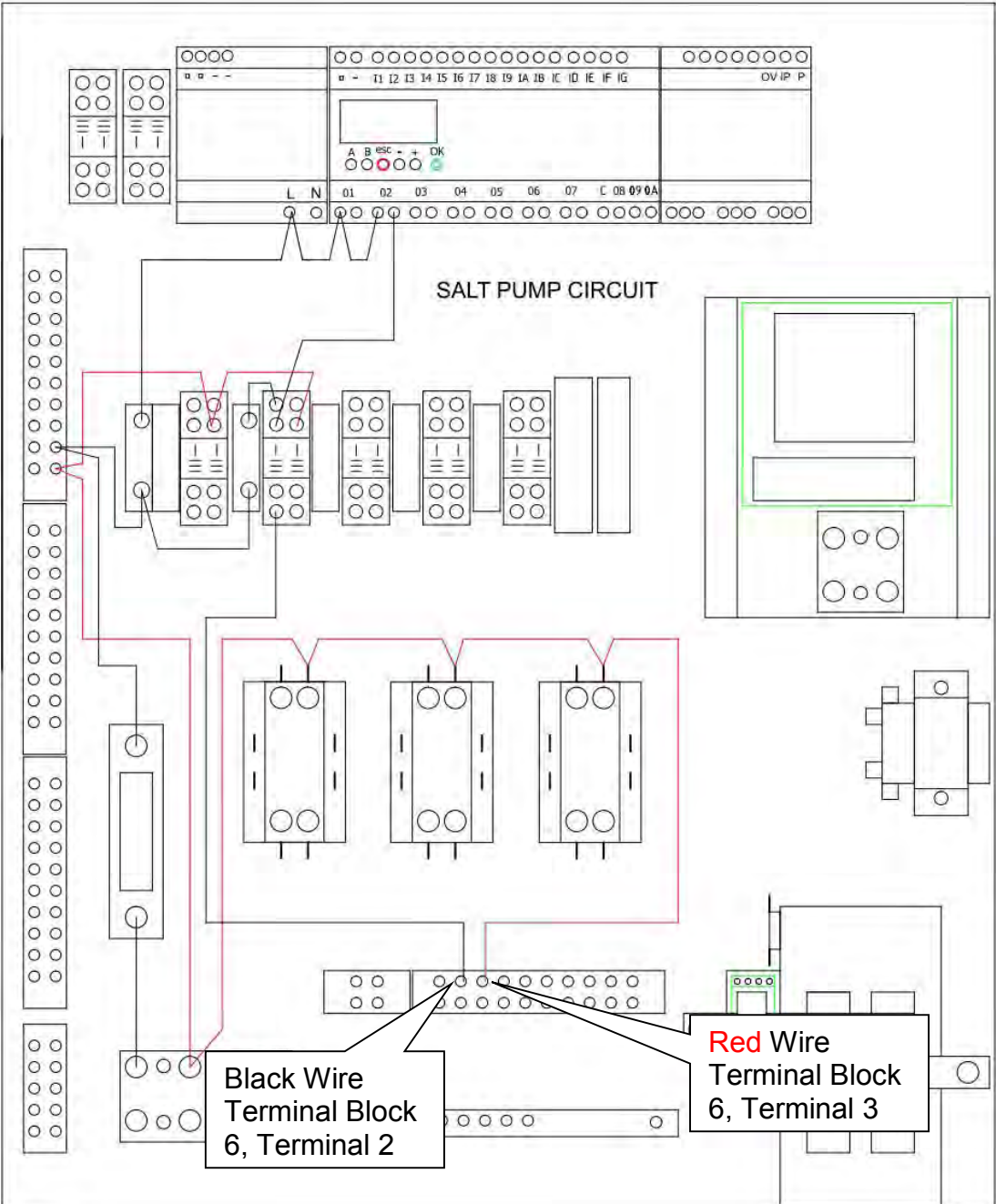
TANK TEMP LOW

This EVENT is displayed if the water temperature in the production tank is below 40° F or if the water temperature is between 40° F and 59° F and the system has operated for 1 hour in attempt to raise the water temperature. The NEX-GEN system is not designed to operate in temperatures below 59° F. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation.

TANK TEMP HIGH

This EVENT is displayed if the water temperature in the production tank is above 110° F. The system will shut down and attempt to cool the water for 1 hour to a temperature below 110° F. Once the water has cooled to a temperature below 110° F, the system will automatically restart. In the event that the water does not cool to a temperature below 110° F in 1 hour, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation.
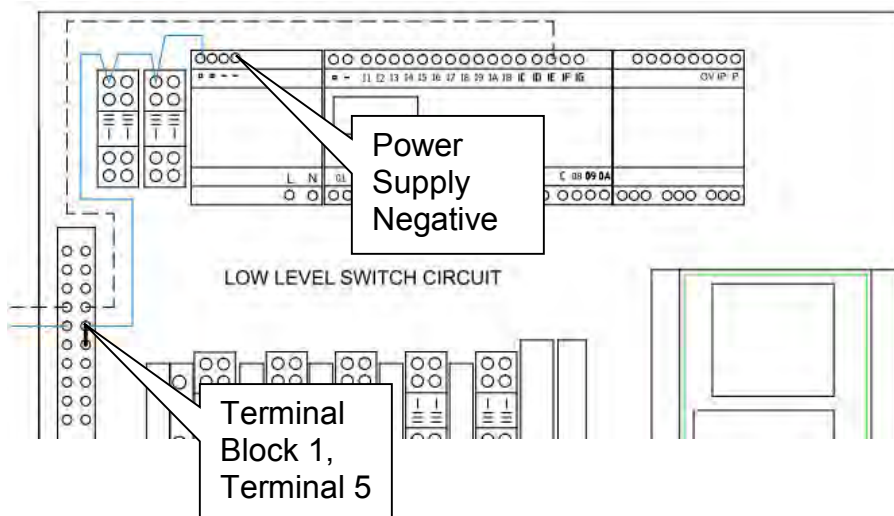
LOW LEVEL SWITCH LEVEL FAILURE

This EVENT is displayed if the salt sensor indicates the production tank is full and the low level switch indicates the production tank is empty. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. If the EVENT cannot be cleared troubleshoot as follows.

1. Check for 24 VDC from the power supply negative to terminal block 1, terminal 5.

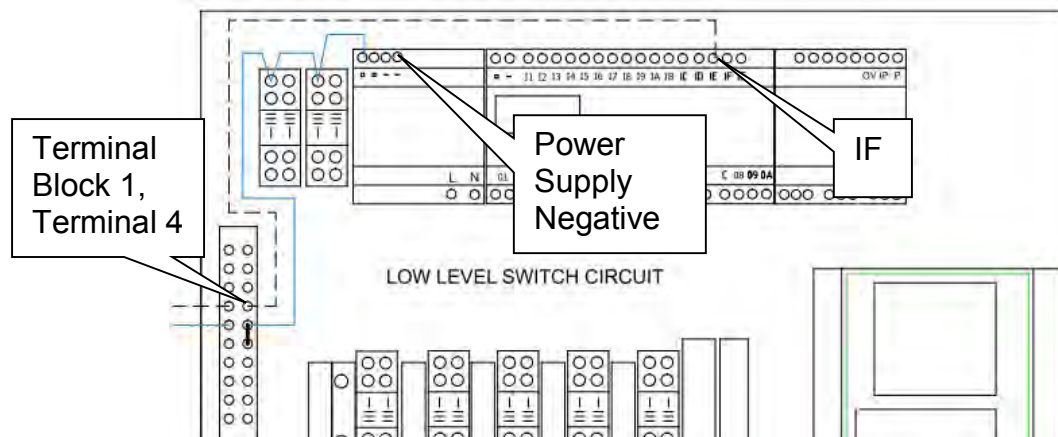   If 24 VDC is available, go to the next step.

    If 24 VDC is not available, repair or replace the blue wire from power supply positive to terminal block 1, terminal 5.

2. Check for 24 VDC from the power supply negative to terminal block 1, terminal 4.

   If 24 VDC is available, replace the low level switch.

   If 24 VDC is not available, go to the next step.

Terminal Block 1, Terminal 4

Power Supply Negative

IF

LOW LEVEL SWITCH CIRCUIT

3. Check for 24 VDC from the power supply negative to microcontroller terminal IF.

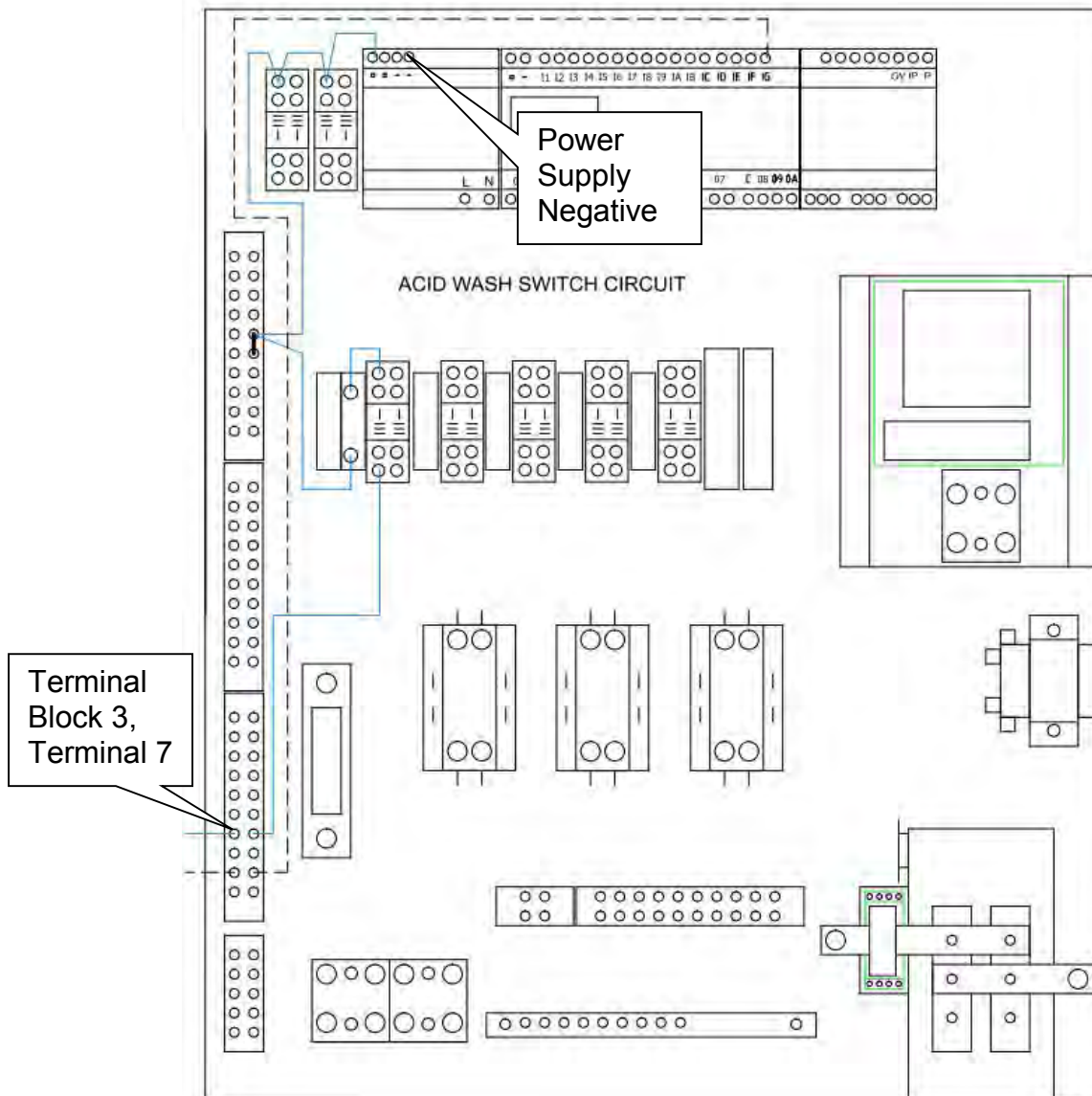   If 24 VDC is not available, replace the microcontroller.

ACID WASH SW FAILURE

This event is displayed if the salt sensor indicates the production tank is full and the acid wash switch indicates the system is empty. This event will not stop system production however the cell cleaning procedure will not function. If the EVENT cannot be cleared troubleshoot as follows.
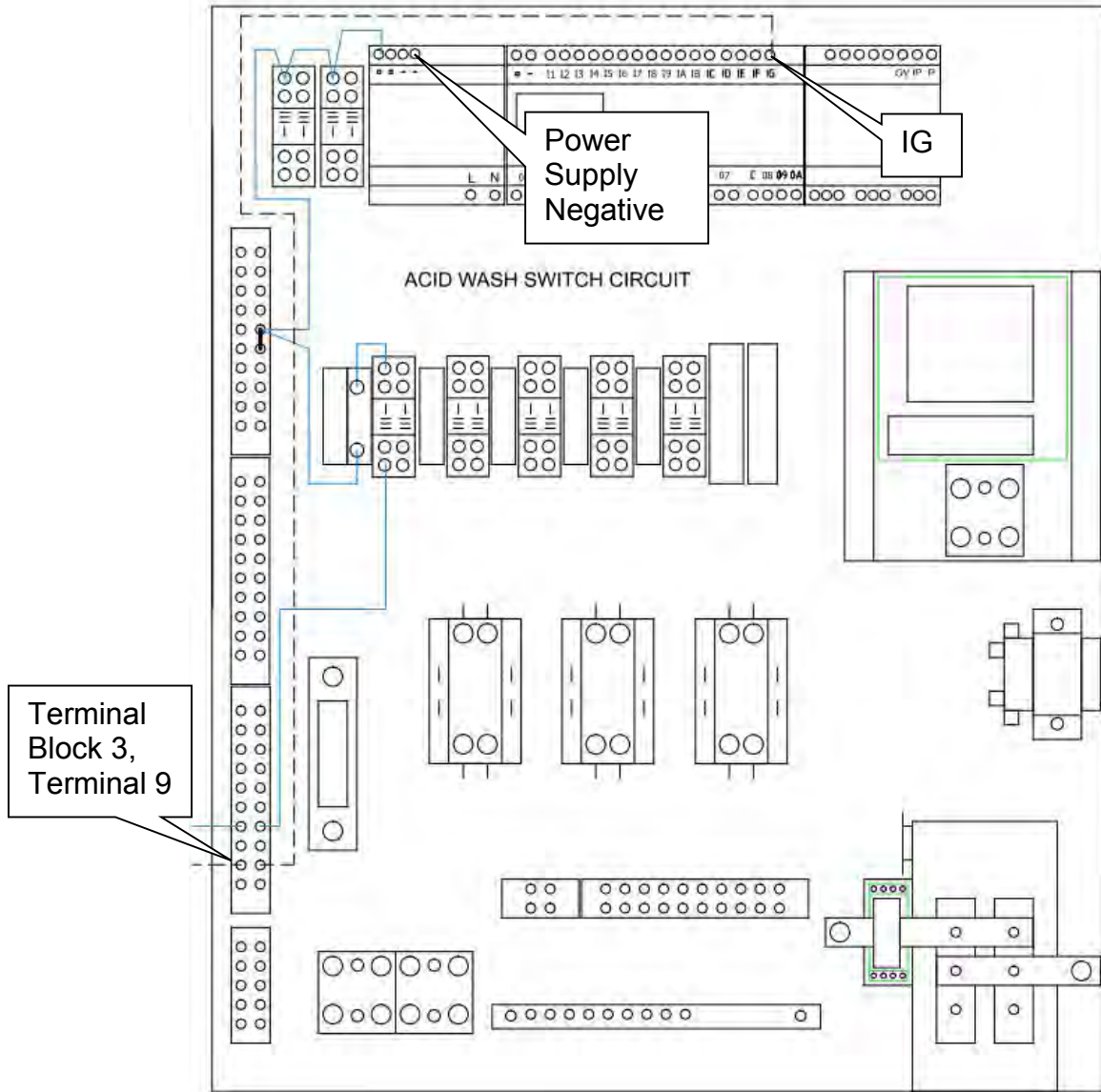
1. Check for 24 VDC from the power supply negative to terminal block 3, terminal 7.

    If 24 VDC is available, go to the next step.

    If 24 VDC is not available, repair or replace the blue wire from power supply positive to terminal block 3, terminal 7.

2. Check for 24 VDC from the power supply negative to terminal block 3, terminal 9.

   If 24 VDC is available, replace the acid wash switch.

   If 24 VDC is not available, go to the next step.

3. Check for 24 VDC from the power supply negative to microcontroller terminal IG.

   If 24 VDC is not available, replace the microcontroller.

LOW pH ALARM

This EVENT will be displayed if the system pH is below 6.0 for more than 1 hour. When this occurs, the system will shut down and will require the EVENT to be acknowledged and cleared before the system will resume operation. The Low pH Alarm EVENT will only become active after the system has flushed the production tank for 1 hour under the Low pH EVENT.

1. Acknowledge and clear the event to force the system into Low pH flushing. During flushing verify that Tank Fill Valve 3 is open, Flow Adjust Valve 4 is adjusted properly, Actuated Feed Valve 1 is open, and the Flow Meter has fluid being drawn though it.

   If the above items are verified to be correct, go to the next step.

   If the above items are not correct, correct them and allow the system to flush for 1 hour.
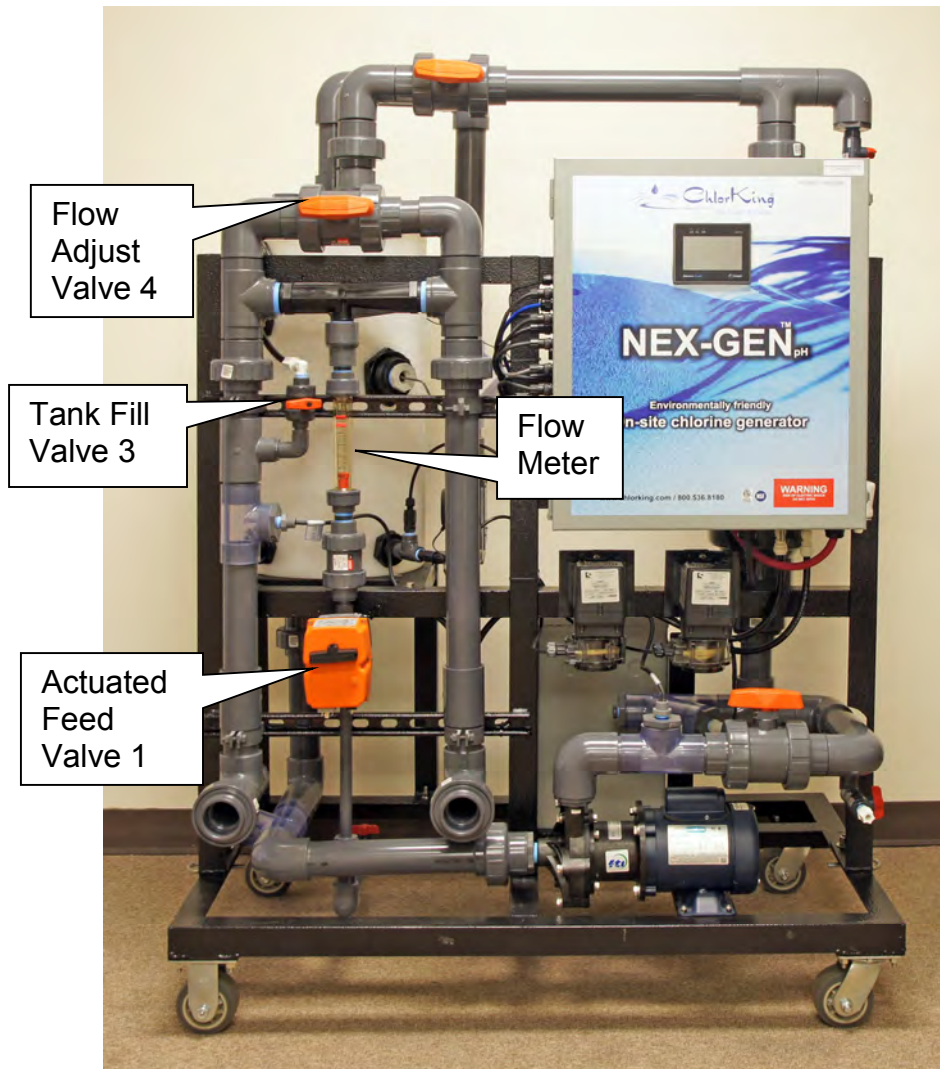
2. Verify that the supply water to the NEX-GEN has a pH greater than 6.0.

   If the supply water has a pH greater than 6.0, replace the pH probe.

   If the supply water has a pH less than 6.0, correct the water supply.