

PRODUCT BULLETIN

ISSUE/DATE:	March 28, 2008 rev A	BULLETIN NUMBER:	AQ032808
SUBJECT:	Monitoring Station	PRODUCT LINE:	Aquafine UV Equipment
TOPIC:	REVISION TO THE 41114-1 MONITORING STATION		

OVERVIEW / DESCRIPTION

Aquafine Corporation has qualified a new revision to the 41114-1 Monitoring Station.

Attached with this Product Bulletin are the set up and operating instructions for the UV Monitoring Station PN 41114-1 Rev. B.

DETAILS

Aquafine has released a redesign version of the UV Monitoring Station. The latest version has eliminated the use of trim potentiometers to adjust the UV alarms and set points. Controller setting and adjustments are now completed thru software. We have also added password protection to eliminate adjustment by unauthorized personnel.

Please note that this Revision B Monitoring Station is a direct replacement for the Revision A Monitoring Station.

Aquafine will begin manufacturing equipment with this Revision B Monitoring Station effective March 14, 2008.

Aquafine will continue to support legacy equipment manufactured with PN 41114-1

Rev. A Monitoring Station offering PN 41114-1 Rev. B as a direct replacement.

REVISION CHANGE

Was: 41114-1 Rev. A
Is: 41114-1 Rev. B

WARRANTY

Standard 12 Month Aquafine Warranty applies.

ASSISTANCE

If you require technical assistance or have any comments or suggestions on the content/format of this bulletin, please contact your Authorized Distributor or Customer Care Representative at Aquafine.

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1 Wiring

Prior to working on the electrical panel, all electrical power must be removed and isolated from the system. Please note that there maybe additional electrical power connected to the system if there are customer interface wire connected to the alarm contacts from the Low UV sensor or High Temperature alarm.



Monitoring Station Rev A



Monitoring Station Rev B

Fig 1 Existing Wiring Termination points to (Rev A) the Monitoring Station

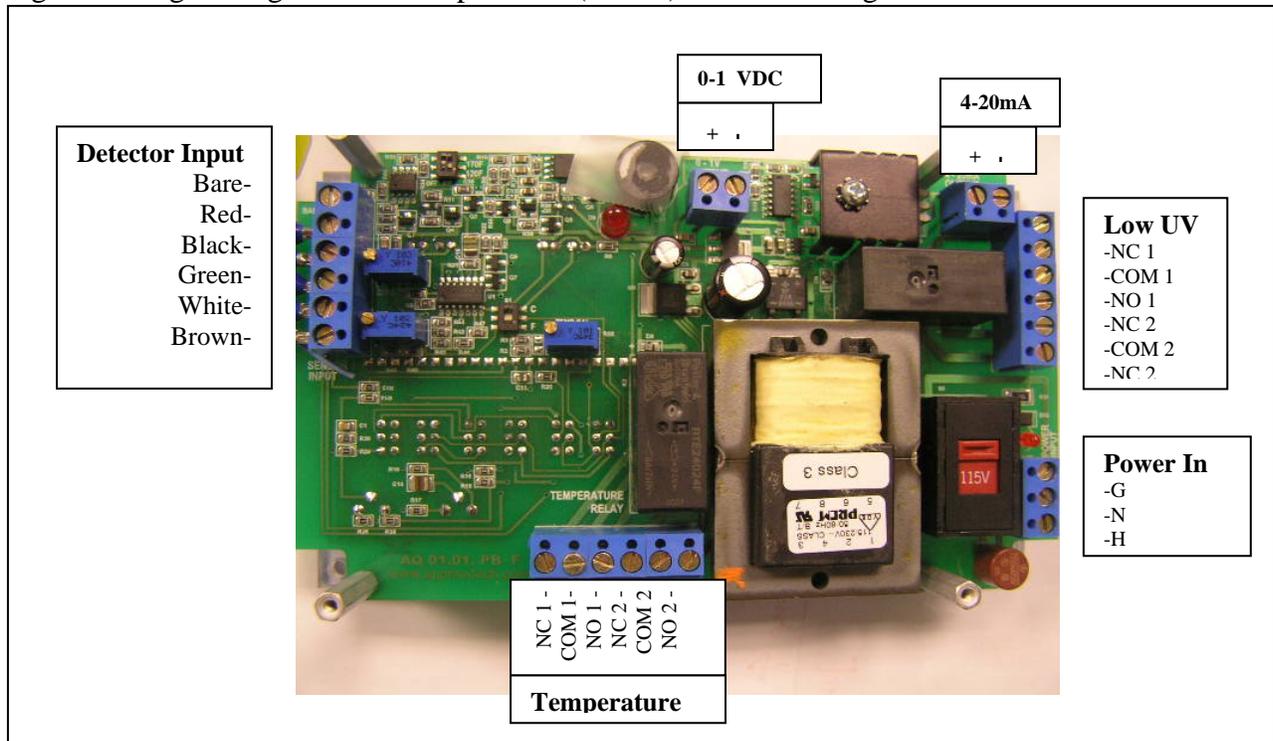


Fig 2 Existing Wiring to the Monitoring Station Rev A

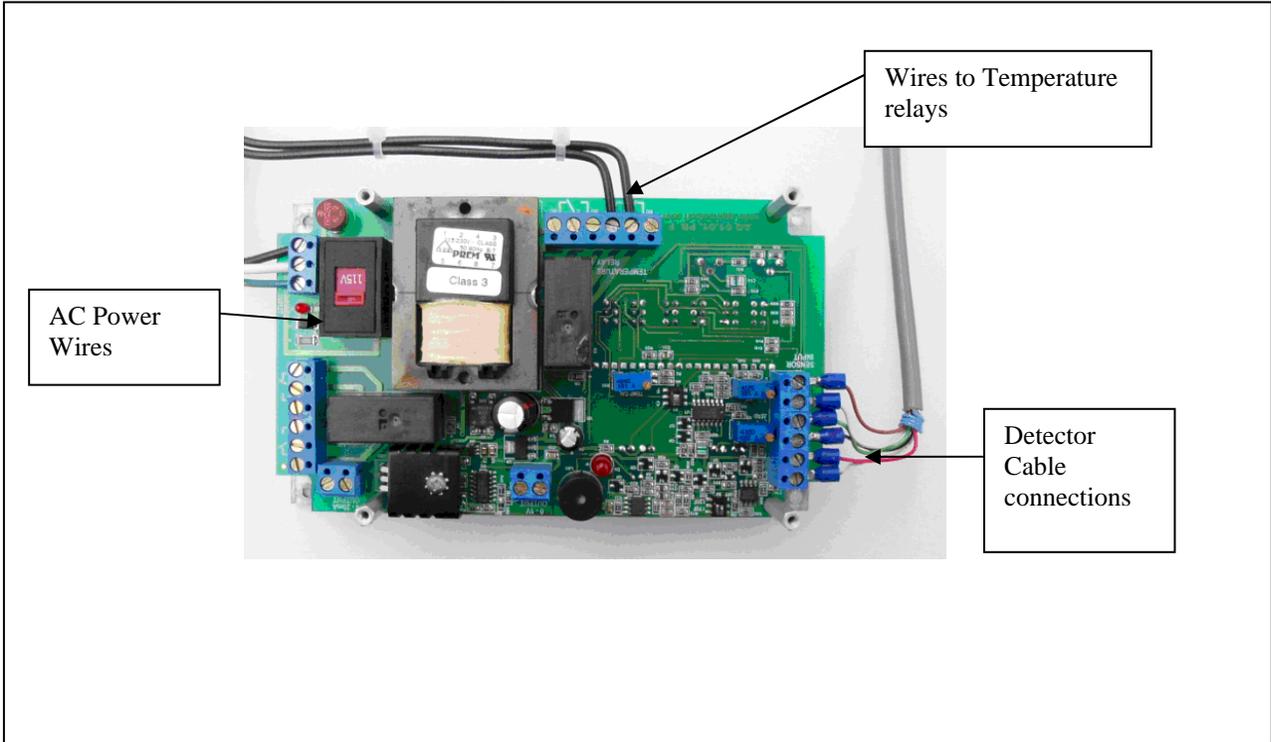


Fig 3 Wiring termination Points to the Monitoring Station Rev B

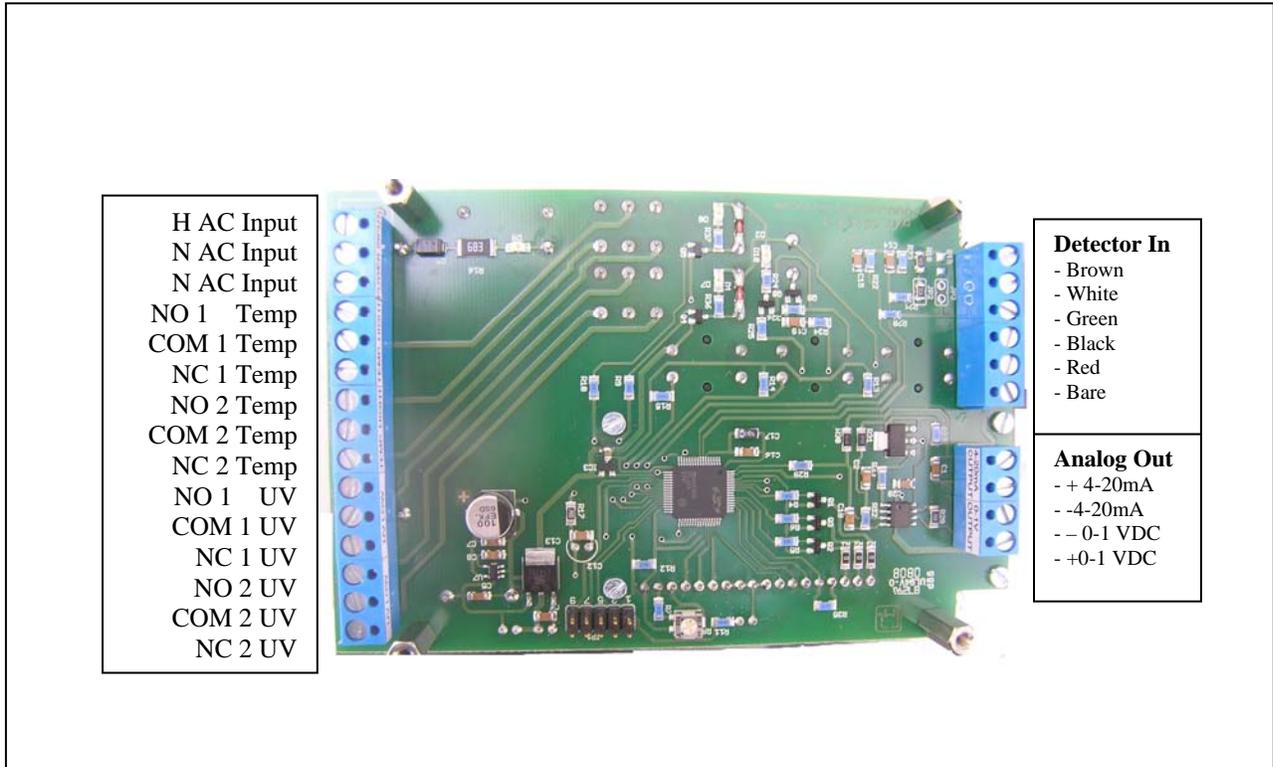
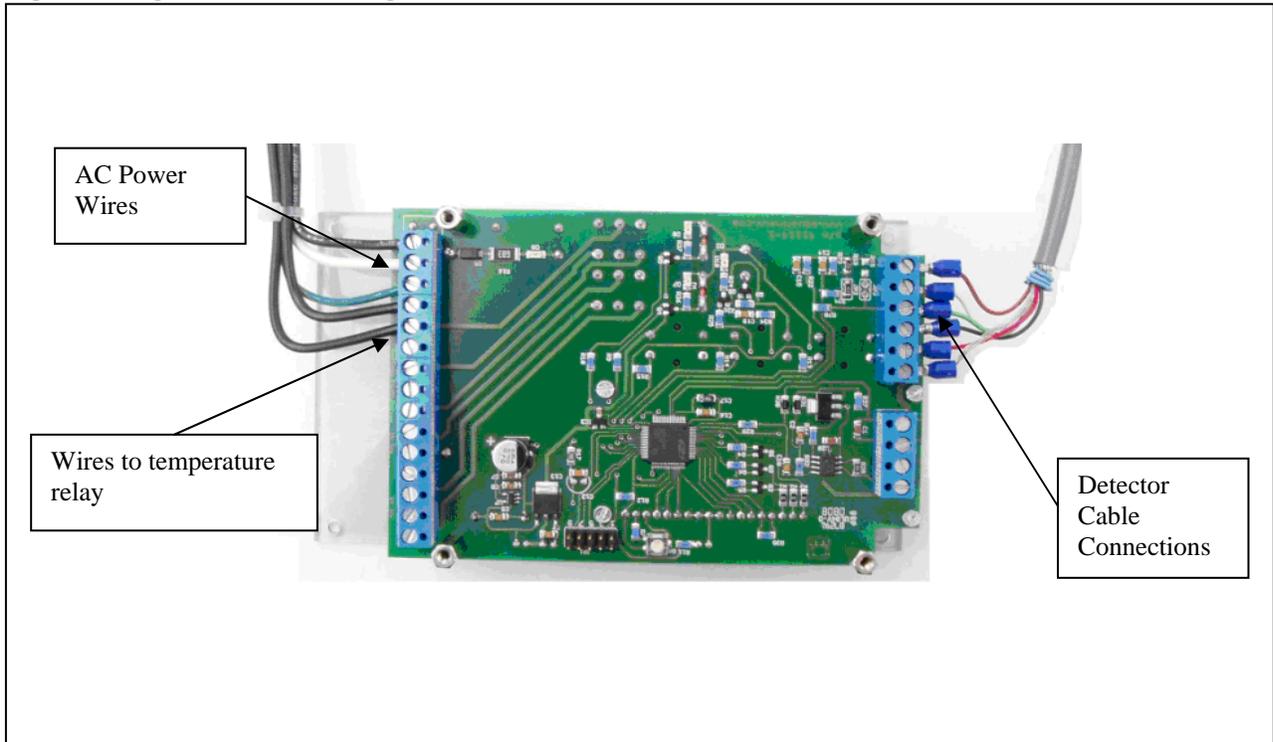


Fig 4 Wiring to the Monitoring Station Rev B



Wiring the Unit

The wiring consist of the following

1. AC power wires
2. Detector input connections
3. High temperature relay alarm(s)
4. Low UV relay alarm(s)
5. Analog signal 4-20mA and 0-1VDC

1. Wiring AC power wires

The existing H-N-G wires should be removed from the existing terminal to the Ac input of the new Monitoring Station. There is no voltage selector switch on rev 2.

2. Wiring the detector input connection

The existing 6 wires should be removed from the existing terminal to the detector input of the new Monitoring Station.

3. Wiring the high temperature relay alarm

The existing wires to the COM-NC and NO should be removed from the existing terminal to temperature input of the new Monitoring Station. Please note that there are two sets of relay contacts (1 and 2). The wiring from the existing set of contacts should be noted before removing the wires and reconnecting.

4. Wiring the low UV relay alarm

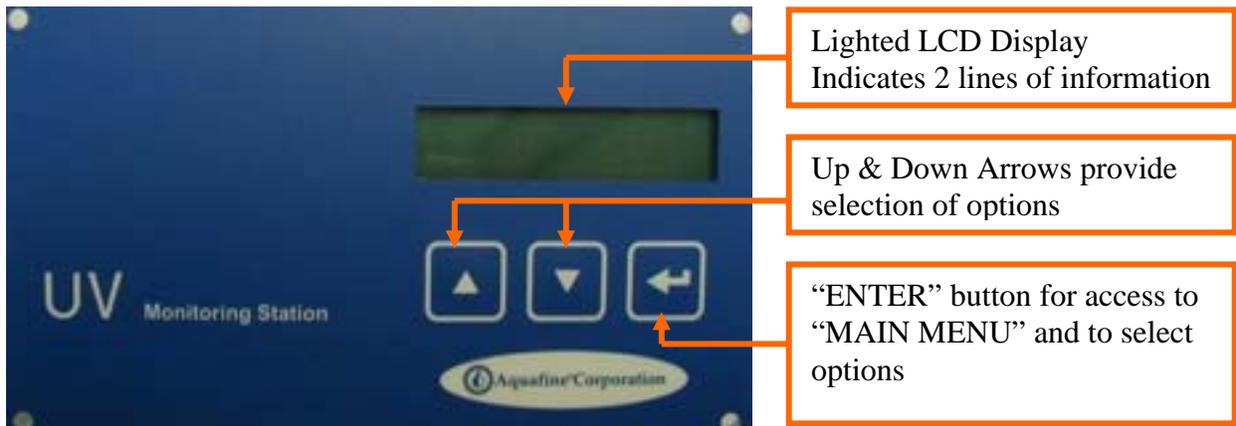
The Low UV relays are generally connected to customer interface wiring. The existing wires if any should be removed and reinstalled to the Low UV input of the Monitoring station.

5. Wiring the Analog signal 4-20mA and 0-1VDC

Any analog connects should be removed and re terminated.

2. SETUP AND OPERATING INSTRUCTIONS

PICTURE #1 – The front face plate of the UV Monitor Station



A) Operation

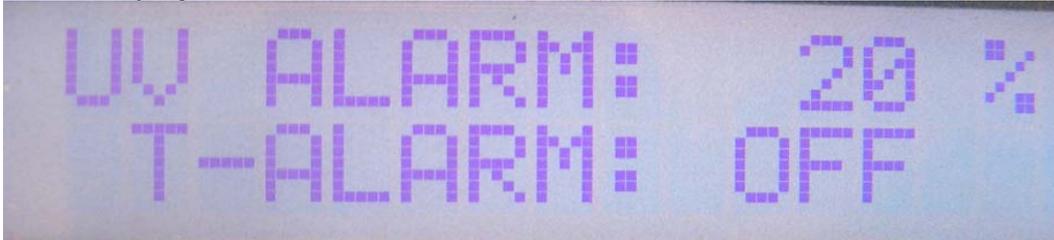
The Monitoring station is a combination UV and temperature controller. The signals from the detector are displaying the UV intensity and water temperature. Each of values may have a corresponding alarm set point.

The first line of the main menu display indicates the UV intensity in relative or absolute units. The second line indicates water temperature in F or C.

Main display



Alarm display



The first line of the alarm display indicates the relative UV intensity alarm set point. The second line indicates temperature alarm set point. This display is accessed by pressing the up arrow when in the main display.

B) Software set up procedure will require accessing the main menu. This process is started by depressing the “ENTER” button, (described in picture #1), and then entering the password.

- 1.) The password **1234** is entered by:
 - a) Depressing the up arrow will cycle to each digit.
 - b) When the digit is achieved – Depress the down arrow to move to the next digit position.
 - c) Repeat procedure until all four digits indicate the correct password.
 - d) Then depress enter
 - e) The Display will indicate “MAIN MENU”

C) From the “MAIN MENU” the following parameters can be accessed. To modify or change these parameters follow the steps described in paragraph ‘D’

- 1) The UV intensity display, (“UV DISPLAY”)
 - a) RELATIVE – Display of relative intensity 0-100%
 - b) ABSOLUTE – Display absolute intensity 0-5000 $\mu\text{w}/\text{cm}^2$
- 2) The UV intensity alarm set point (“UV ALARM”)
 - a) ON (set point) – To enable UV alarm (DEFAULT)
 - b) EDIT –Select UV alarm set point 20-90%
 - c) OFF –disable UV alarm
- 3) Setting the UV 100% value, (“UV 100% LEVEL”)
 - a) DIRECT – Sets 100% UV (current value of absolute intensity)
 - b) EDIT – Sets 100% to entered absolute intensity value
- 4) The temperature display, (“TEMP DISPLAY”)
 - a) FAHRENHEIT - select temperature unit of measurement
 - b) CELCIUS - select temperature unit of measurement

- c) OFF - disable temperature measurement
- 5) The temperature alarm set point, ("TEMP ALARM")
 - a) 120°F (49°C) –set temp alarm to 120F (DEFAULT)
 - b) 170°F (77°C) –set temp alarm to 170F
 - c) OFF –disable temperature alarm

D) The following steps will specify how to set each parameter of the monitoring station. After a parameter is set, the operator will be instructed to select "RETURN" once or twice to return to the operating screen. The operating screen will have the UV intensity displayed on the first line, and the temperature displayed on the second line.

1a) Setting the UV intensity display (Absolute $\mu\text{w}/\text{cm}^2$ or Relative %):

- i. The main menu is accessed per the steps in paragraph 'B'
- ii. The Display will indicate "MAIN MENU"
- iii. Use up / down arrows to scroll to "UV DISPLAY" in the sub-menu – "ENTER"
- iv. Use up / down arrows to scroll to "RELATIVE" in sub menu – "ENTER" or "ABSOLUTE" as indicated – "ENTER"
- v. The display will indicate "MAIN MENU" with sub menu indicating "UV DISPLAY".
- vi. Use up / down arrows to scroll to "RETURN" – "ENTER"
- vii. The display should be at the main operating screen indicating UV intensity and temperature

2a) Setting the Low UV Alarm Set point:

The alarm point will be a number between 20-90%. The selection is typically based upon the lamp type and operating conditions. Typical alarm set point values for equipment: with HX lamps 80% and standard lamps 60%.

- i. Follow the procedure in paragraph 'B' to enter the "MAIN MENU".
- ii. Use up / down arrows to scroll to "UV ALARM" – "ENTER".
- iii. Use up / down arrows to scroll to "EDIT" – "ENTER"
- iv. Use up down arrows to scroll to preferred UV alarm threshold percentage – "ENTER".
- v. Verify main menu line indicates "UV ALARM" and the sub menu indicates "ON(XX %)"
Note the 'XX' indicates selected value
- vi. Use up / down arrows to scroll to "RETURN" – "ENTER".
- vii. Then again scroll to "RETURN" – "ENTER".
- viii. The display should be at the main operating screen indicating UV intensity and temperature

3a) Setting the 100% UV:

Typically the UV Monitoring station intensity is set to 100% UV when new lamps and quartz sleeves have been installed and the system is operating under "normal operating conditions" (flow, temperature and water quality).

- i. Use up / down arrows to scroll to “UV 100% LEVEL” is indicated in the sub menu – “ENTER”.
- ii. The main menu will indicate “UV LEVEL”.
- iii. Use up / down arrows to scroll to “DIRECT” in the sub menu – “ENTER”.
- iv. The main menu will indicate “UV LEVEL”, the sub menu will display an actual UV intensity value – “ENTER”
- v. The “MAIN MENU” will be displayed, with sub menu displaying “UV 100% LEVEL”
- vi. Use up / down arrows to scroll to “RETURN” – “ENTER”
- ix. The display should be at the main operating screen indicating UV intensity and temperature

4a) To set the temperature units (Fahrenheit or Celsius):

- i. Follow the procedure in paragraph ‘B’ to enter the “MAIN MENU”.
- ii. Use up / down arrows to scroll to “TEMP DISPLAY” – “ENTER”.
- iii. Use up / down arrows to scroll to desired temperature F, C or off. – “ENTER”
- iv. Verify main menu line indicates “MAIN MENU”.
- v. Use up / down arrows to scroll to “RETURN” – “ENTER”
- vi. The display should be at the main operating screen indicating UV intensity and temperature

5a) To set temperature alarm set point:

The temperature alarm point is normally set to 120F. High temperature units are special equipment in which the set pint is 170F. If the temperature alarm is set to off, this will disable the temperature control feature and damage to the unit can occur.

- i. Follow the procedure in paragraph ‘B’ to enter the “MAIN MENU”.
- ii. Use up / down arrows to scroll to “TEMP ALARM” – “ENTER”.
- iii. Use up / down arrows to scroll to 120F (default) , 170F or off – “ENTER”
- iv. Verify display indicates main menu indicates “MAIN MENU”, and the sub menu indicates “TEMP ALARM”.
- v. Use up / down arrows to scroll to “RETURN” – “ENTER”.
- vi. Then again scroll to “RETURN” – “ENTER”.
- vii. The display should be at the main operating screen indicating UV intensity and temperature

E) Alarm Indications

1) “Low UV Alarm”

- a) The UV alarm is activated when the detector UV measurement falls below the low UV alarm set point. Once activated, the controller will actuate the following
 - a. There will be an audio alarm once every second for 30 seconds

- b. The LCD screen flashes blue. The screen will remain flashing BLUE until the UV Intensity level adjusts above the threshold or the alarm is disabled
- c. The low UV output relays will change state

2) “HIGH TEMP ALARM”

- a) The high temperature alarm is activated when the detector senses a temperature above the high temperature set point. Once activated the controller will actuate the following
 - a. There will be an audio alarm once every second for 30 seconds.
 - b. The LCD screen flashes RED. The screen will remain flashing RED until the temperature alarm is corrected.
 - c. The temperature output relays will change state