

OPERATING GUIDE

Pulse Controller 200 Series



Installation



Operation



Product Maintenance

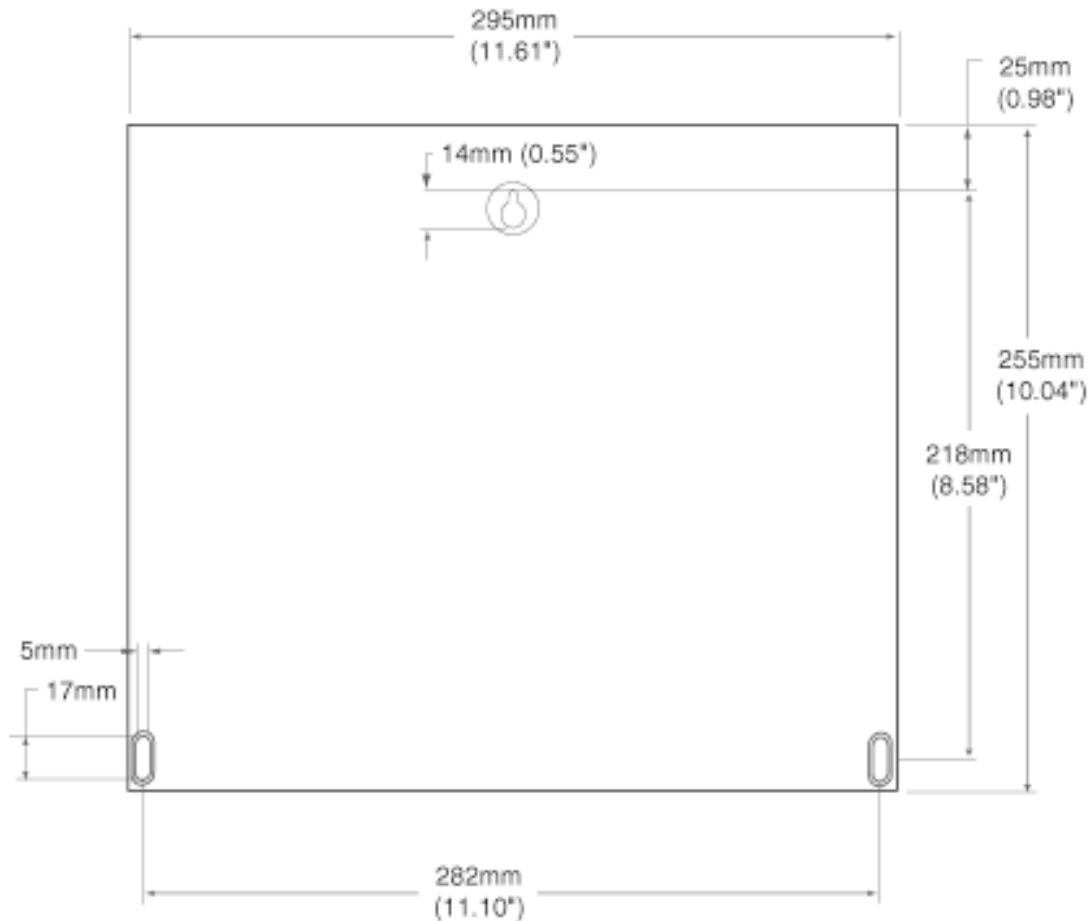


INSTALLATION

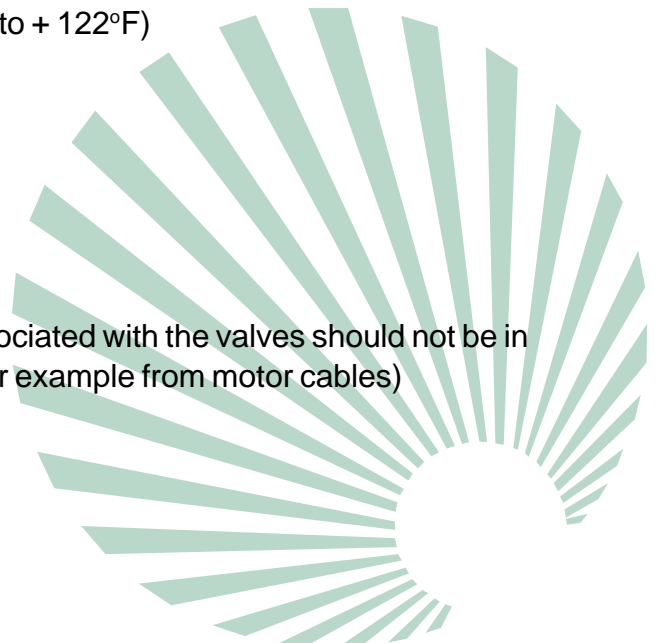
Mechanical Installation

View of mechanical fastening points on rear of enclosure

Note: Figure not drawn to scale



- Mount in environments of -10°C to + 50°C (-14°F to + 122°F)
- Do not mount directly to hot surfaces
- Do not expose directly to sunlight
- Protect from infiltrations of water and humidity
- Do not install on vibrating surfaces
- All electrical connections including the wiring associated with the valves should not be in close proximity to wiring for other applications (for example from motor cables)
- 3 point mounting

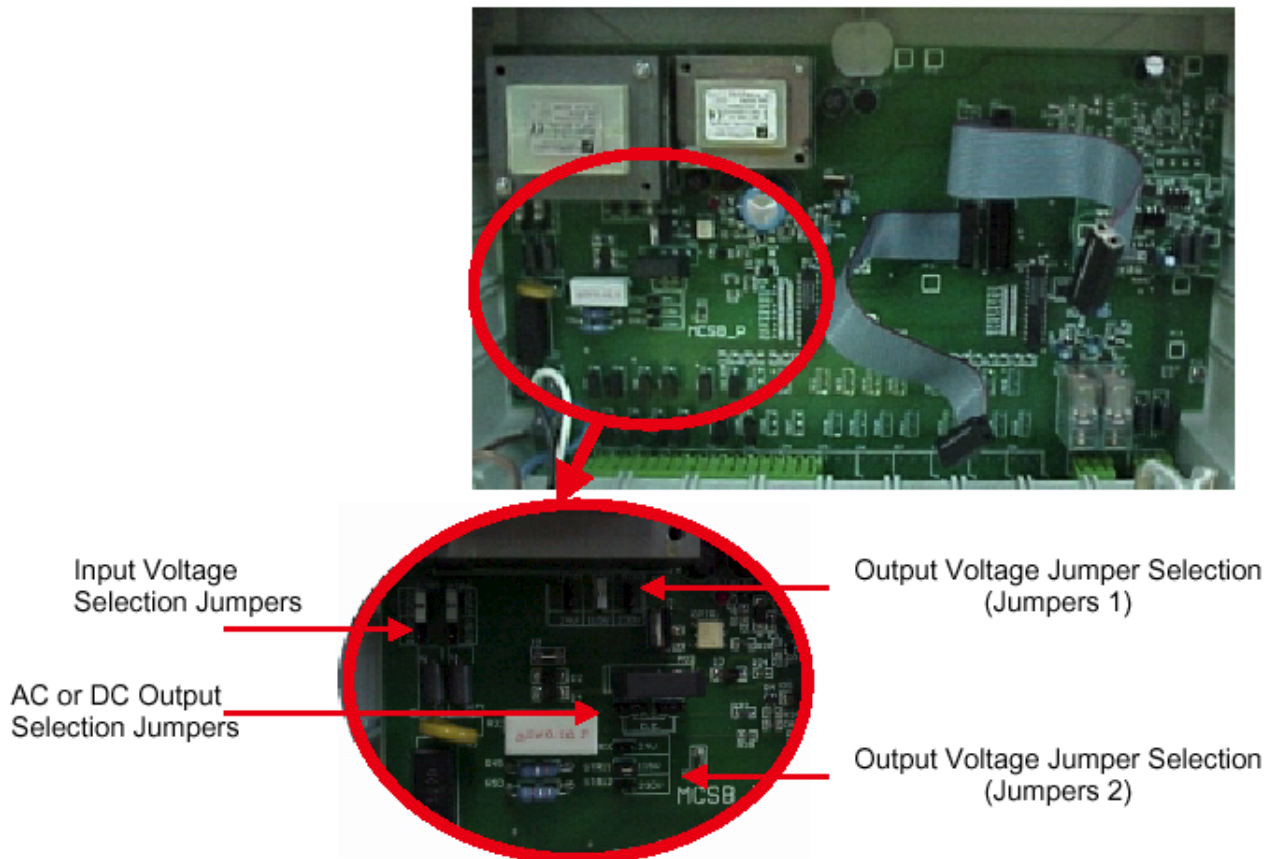


Electrical Installation

Basic Installation

Figure 1. Electrical Circuit Board with Jumper Selections magnified

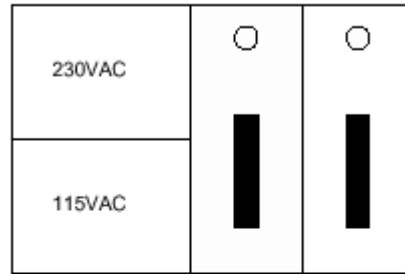
Firstly, the power should be isolated from the unit, or at the very least have the power switch in the "O" (OFF) position.



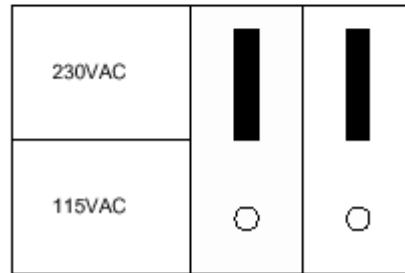
Select the input voltage being supplied to the unit by use of the jumper terminals shown in Figure 2. (Refer to Figure 1 for location on the PCB)

Figure 2. Possible Input Voltage Jumper Selections

115 VAC Supply Voltage



230 VAC Supply Voltage

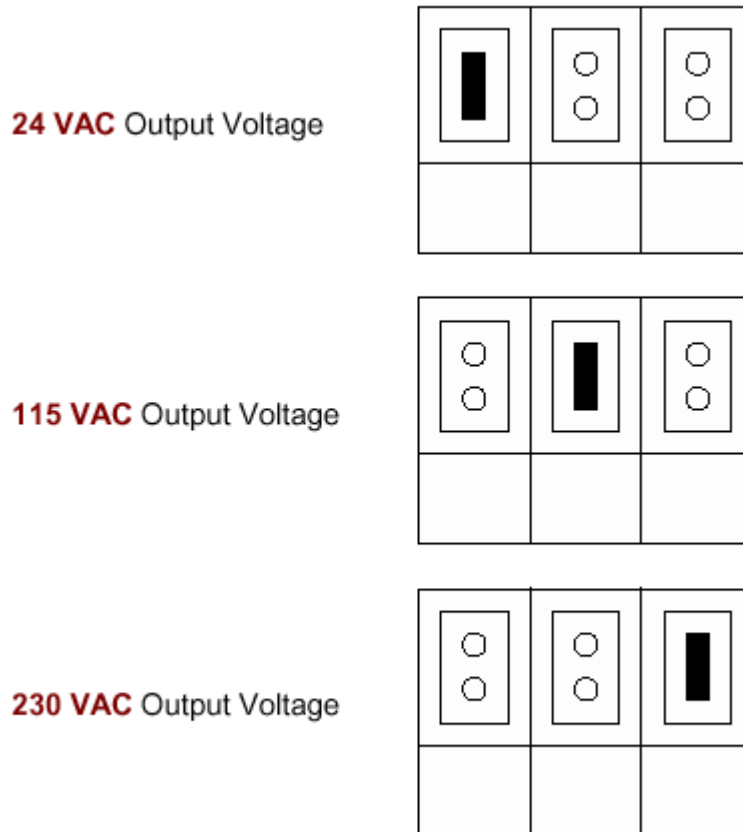


Important Note: It is of the utmost importance that when setting the Input Voltage for the controller, that the two (2) sets of jumpers shown in Figure 2 are both set to the same Input Voltage.



Select the output voltage being supplied to the unit by use of the jumper terminals shown in Figure 3. (Refer to Figure 1 for location on the PCB)

Figure 3. Possible Output Voltage Jumper Selections (Jumpers 1)

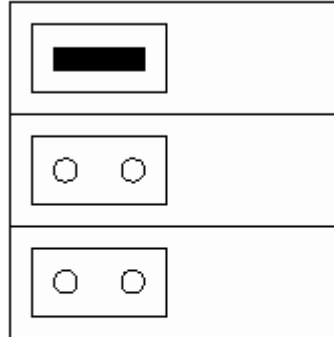


Important Note: It is of the utmost importance that when setting the Output Voltage for the controller, that the two (2) sets of jumpers shown in Figure 3 and 4 are both set to the same Output Voltage.

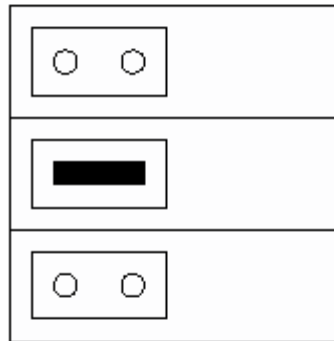


Figure 4. Possible Output Voltage Jumper Selections (Jumpers 2)

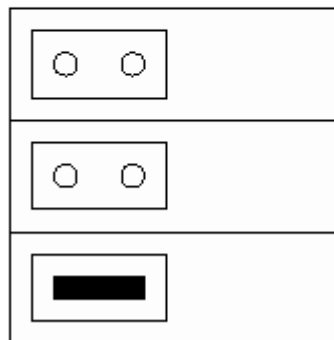
24 V Output Voltage



115 V Output Voltage



230 V Output Voltage

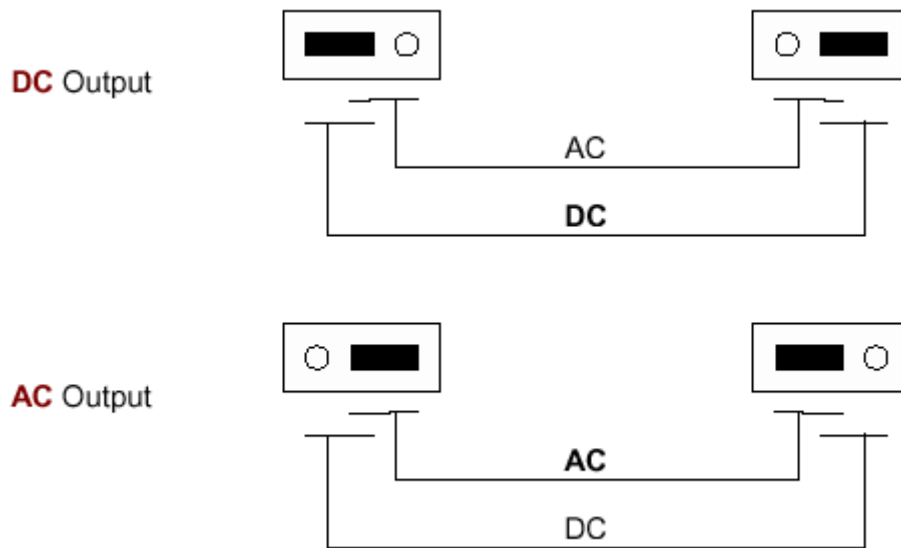


Choose whether the output is to be either AC or DC. (See figure 5 for selections and refer to Figure 1 for location on the PCB)

IMPORTANT NOTE: NEVER select 230V Output as DC!



Figure 5. Possible AC/DC Voltage Output Jumper Selections



Connect the valves to the terminals shown in Figure 6 with the line power for the solenoids being supplied from the top screw terminals and the common connection being from the bottom row of screw terminals.

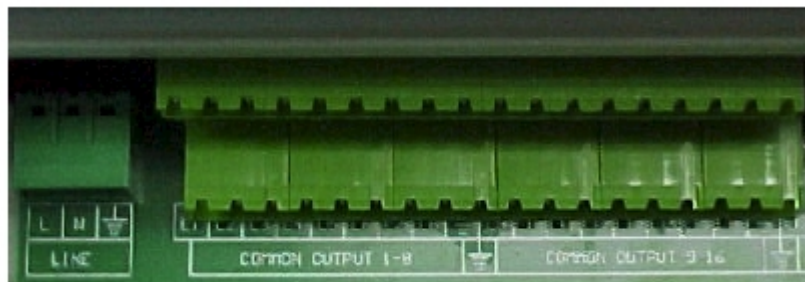


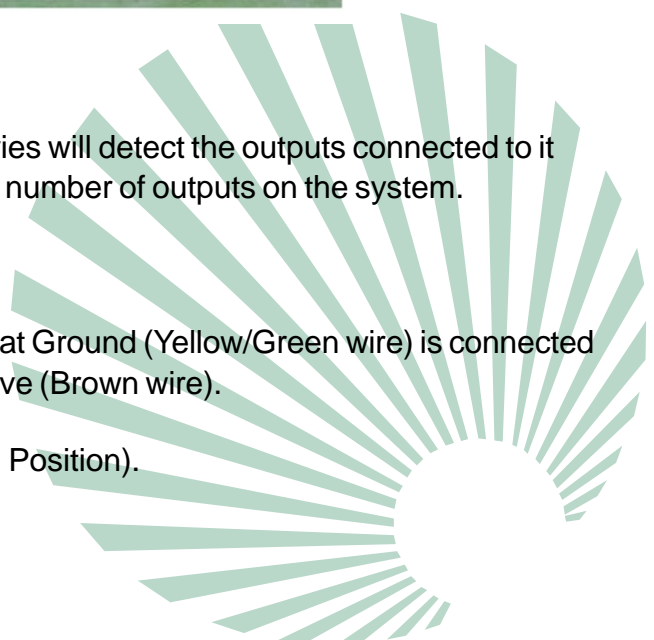
Figure 6. Output terminals for solenoids

Please note that the Goyen Pulse Controller 200 Series will detect the outputs connected to it and as a result, there is no need (or facility) to set the number of outputs on the system.

Ensure that the unit is still switched off.

Now connect the input power to the unit, observing that Ground (Yellow/Green wire) is connected properly, followed by Neutral (Blue wire) and finally Live (Brown wire).

When power is applied to the unit, turn the unit on ("I" Position).



Additional Wiring Features

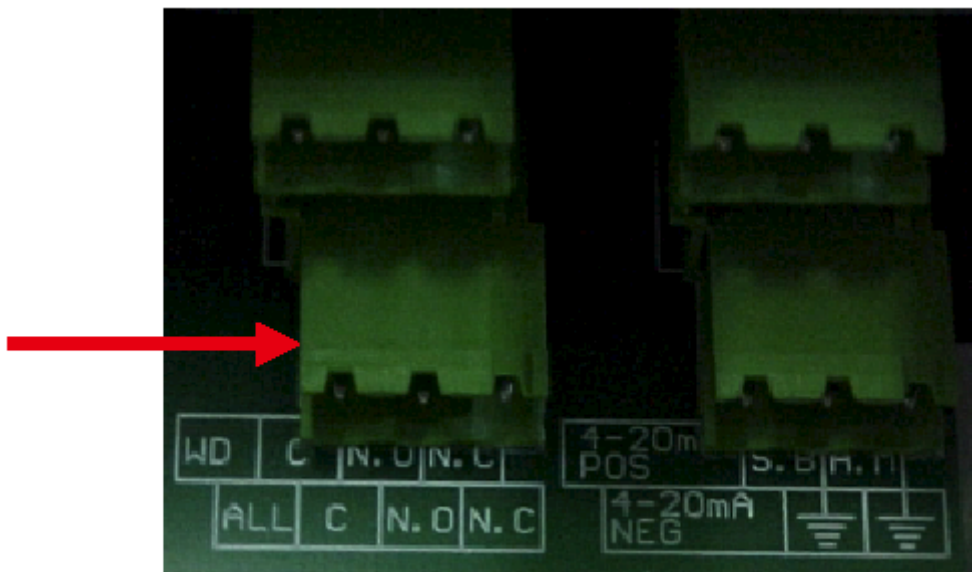
This section explains the wiring of the following features of the Goyen Pulse Controller 200 Series.

- A. Coil Failure/High dP Remote Alarm Monitoring
- B. Microprocessor 'Watchdog' Remote Alarm Monitoring
- C. 4 - 20 mA Analog Output Terminal
- D. Low (Header) Pressure LED

PLEASE NOTE: both alarm contacts on the PCB (and the Analog Output terminals) are 'Dry' contacts with relay outputs (otherwise known as 'Clean' contacts). They require voltage to be applied to them in order for them to function.

THEY ARE NOT INTERNALLY POWERED.

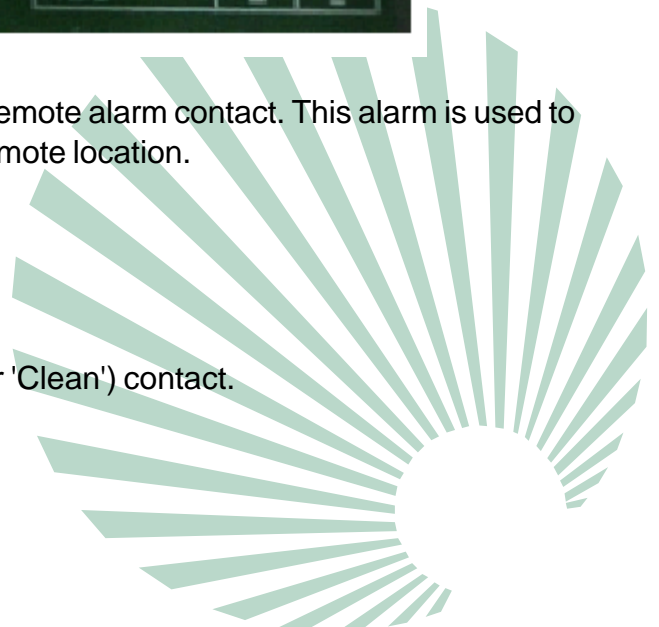
A: COIL FAILURE/HIGH DP REMOTE ALARM MONITORING



The arrow indicates the terminal connection for the remote alarm contact. This alarm is used to indicate any of the following two properties from a remote location.

- High dP
- Coil Failure

It is necessary to power this contact as it is a 'Dry' (or 'Clean') contact.



There are three contacts, one labeled

C = Common

N.O = Normally Open

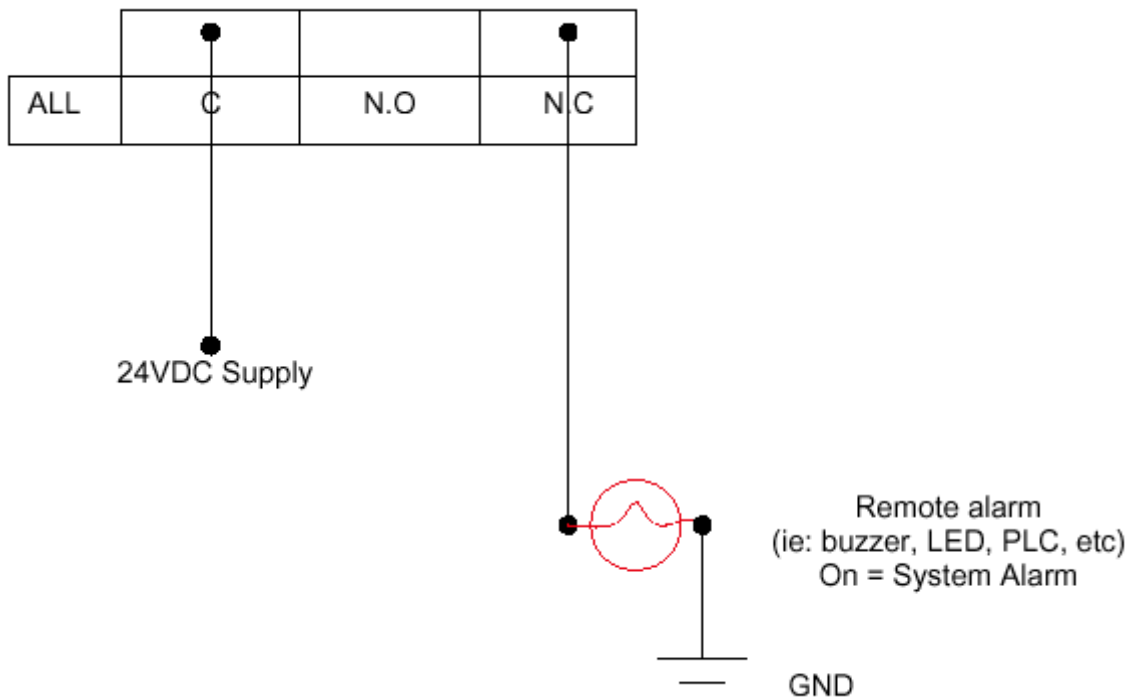
N.C = Normally Closed

A 24V DC supply is required to be connected to the Common (C) terminal in any of the three alternative ways to wire this contact.

Choice 1 – Example set up

If you wish for a light or buzzer (in a remote location) to illuminate or activate when an alarm occurs, connect the second wire to the Normally Closed (N.C) terminal as shown in Figure 7.

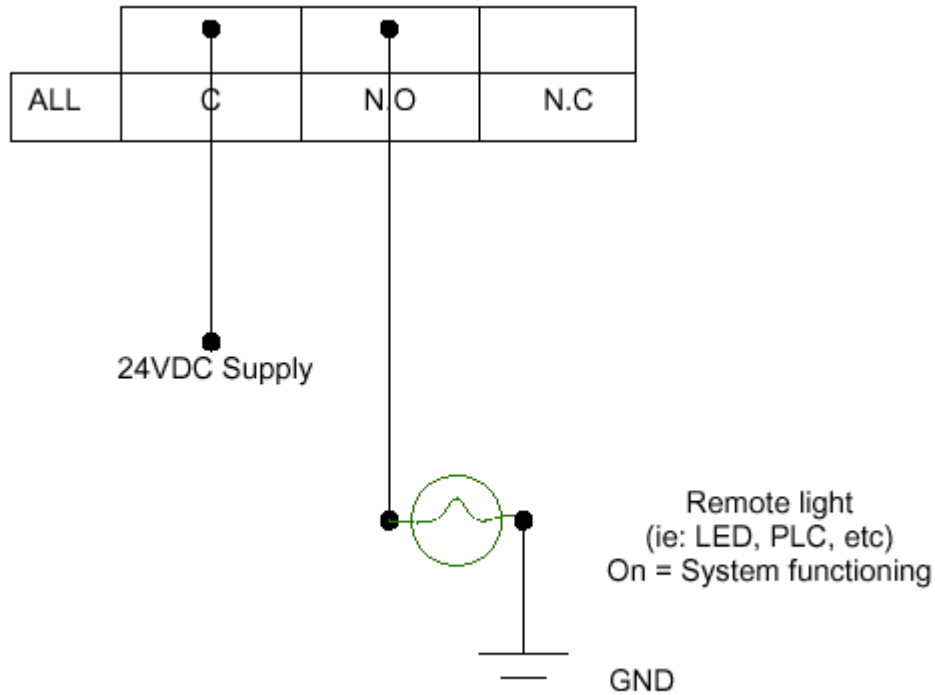
Figure 7. Remote Alarm Configuration 1



Choice 2 – Example set up

If you wish for a light (in a remote location) to illuminate at all times, and for the light to extinguish when an alarm occurs, connect the second wire to the Normally Closed (N.O) terminal as shown in Figure 8.

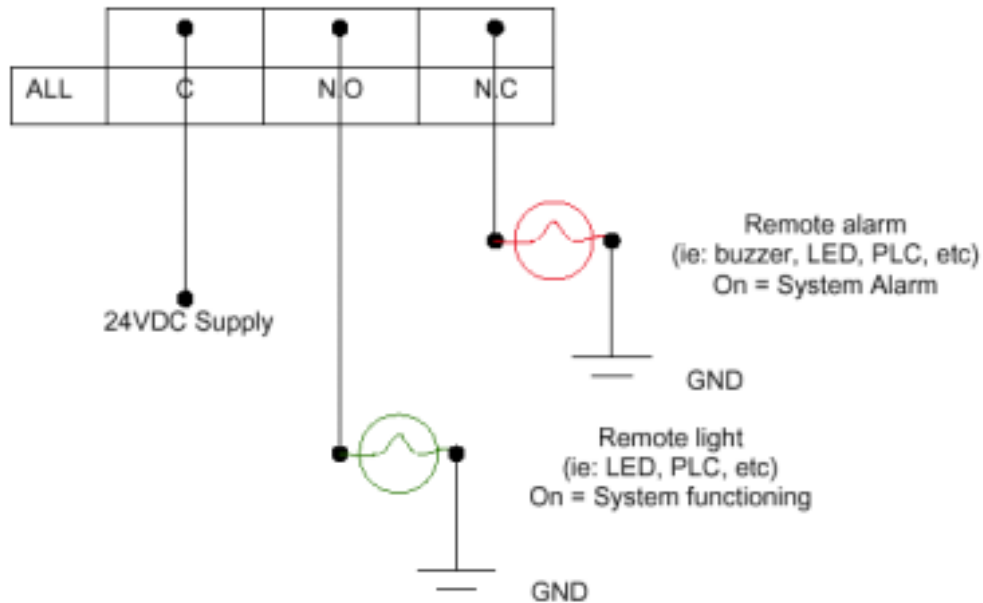
Figure 8. Remote Alarm Configuration 2



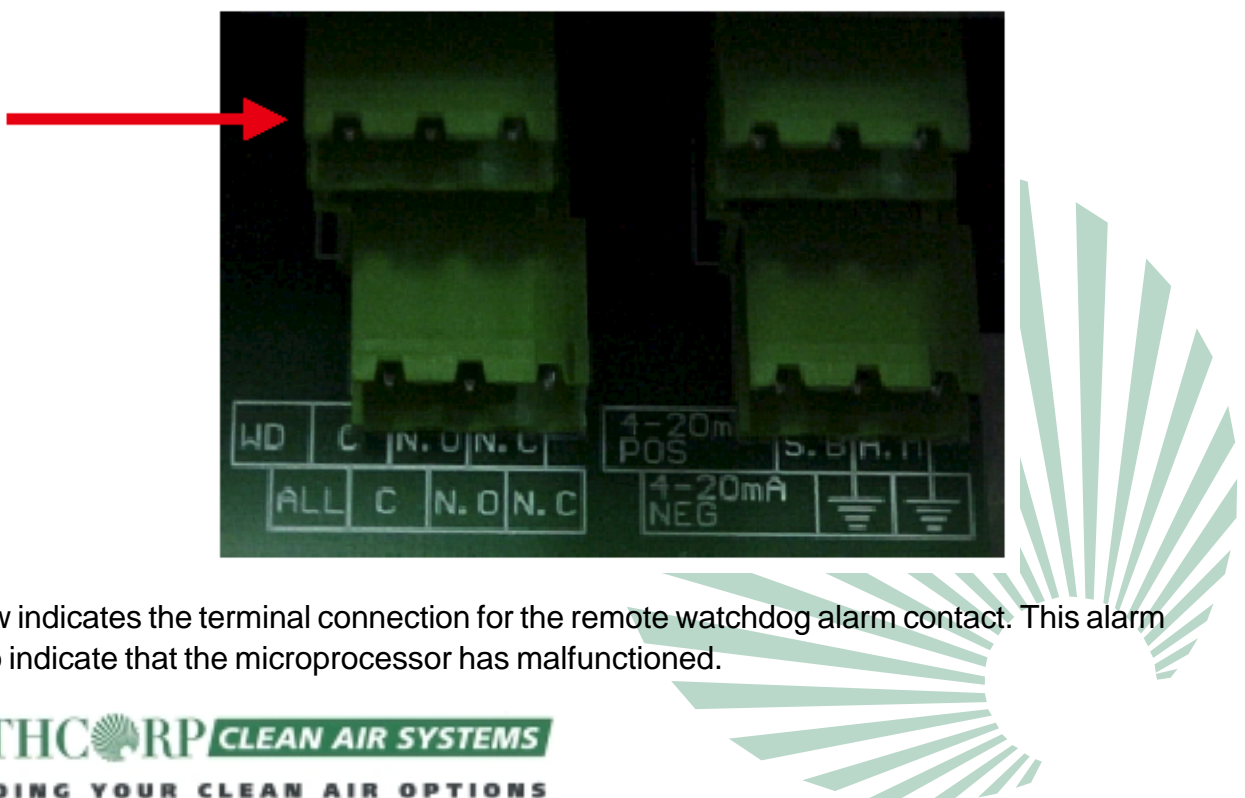
Choice 3 – Example set up

If you wish for a light (in a remote location) to illuminate at all times, and for the light to extinguish when an alarm occurs and an alarm light or buzzer to sound when an alarm occurs, connect the wires as shown in Figure 9.

Figure 9. Remote Alarm Configuration 3



B. WATCHDOG ALARM REMOTE ALARM MONITORING



The arrow indicates the terminal connection for the remote watchdog alarm contact. This alarm is used to indicate that the microprocessor has malfunctioned.

It is necessary to power this contact as it is a 'Dry' (or 'Clean') contact.

There are three contacts, one labeled

C = Common

N.O = Normally Open

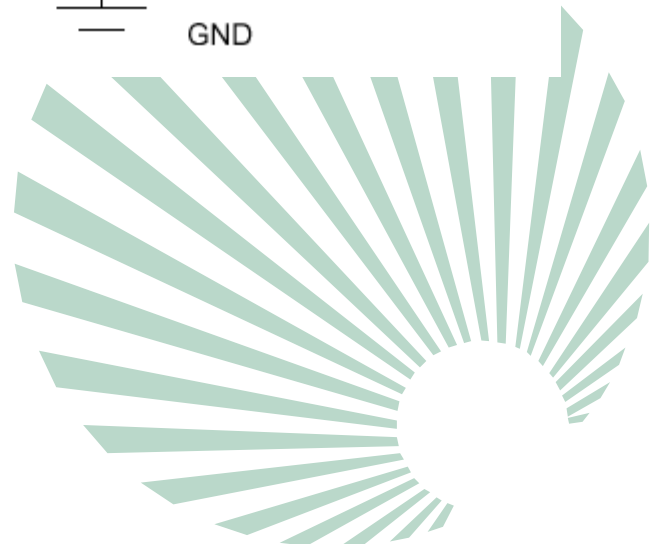
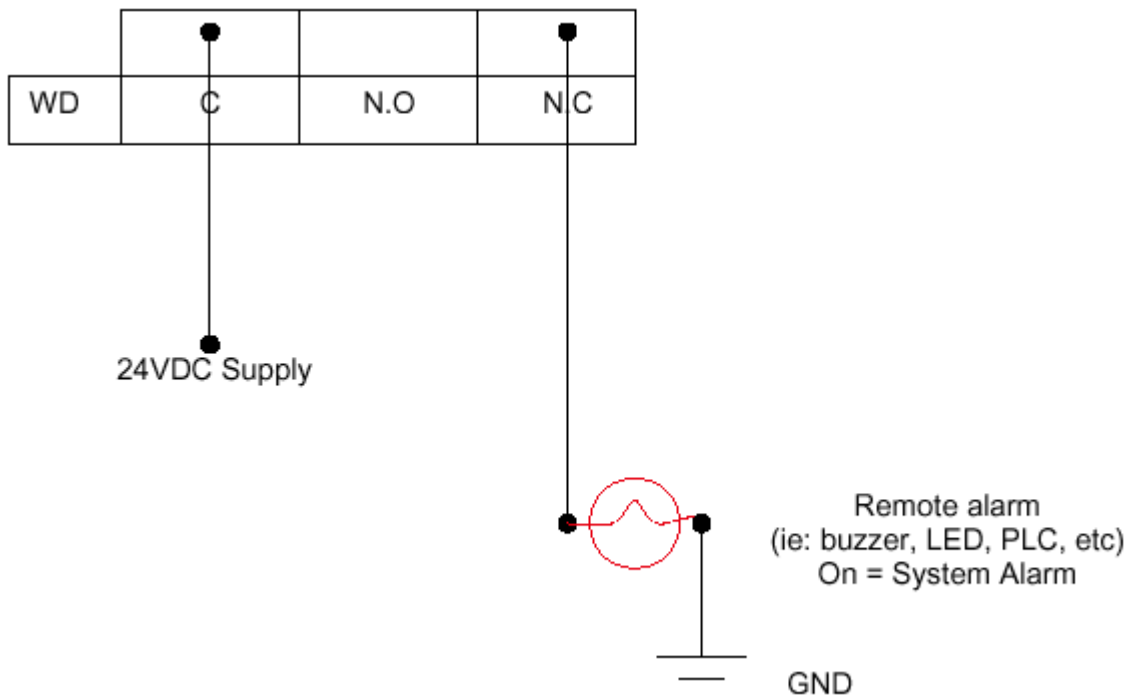
N.C = Normally Closed

A 24V DC supply is required to be connected to the Common (C) terminal in any of the three alternative ways to wire this contact.

Choice 1. - Example set up

If you wish for a light or buzzer (in a remote location) to illuminate or activate when an alarm occurs, connect the second wire to the Normally Closed (N.C) terminal as shown in Figure 10.

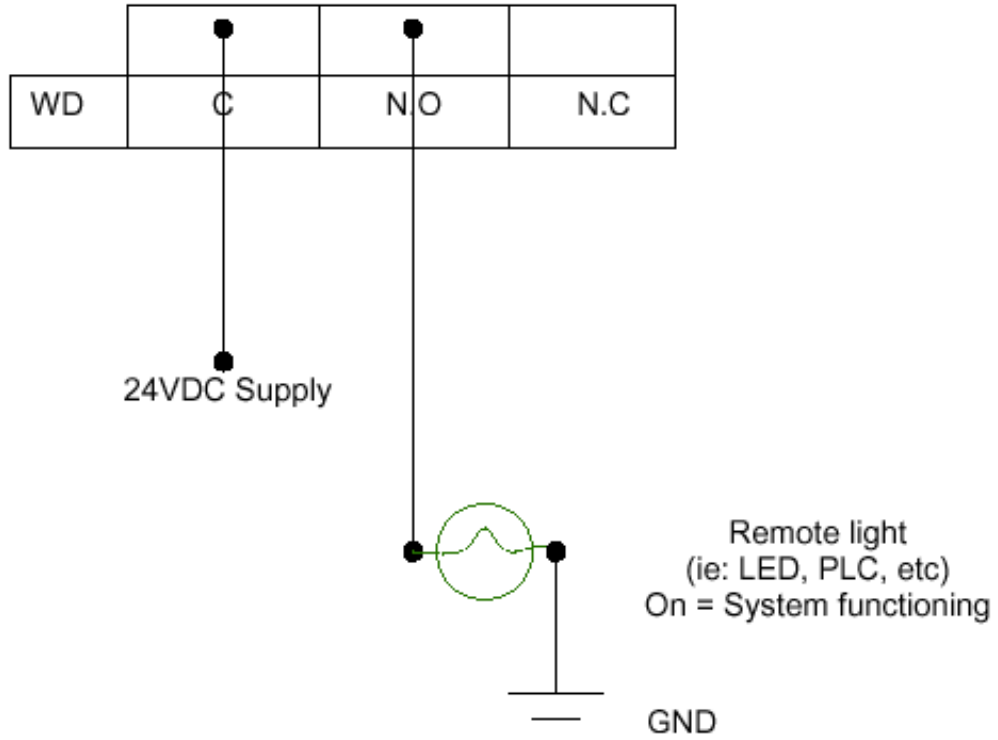
Figure 10. Remote Watchdog Alarm Configuration 1



Choice 2. - Example set up

If you wish for a light (in a remote location) to illuminate at all times, and for the light to extinguish when an alarm occurs, connect the second wire to the Normally Closed (N.O) terminal as shown in Figure 11.

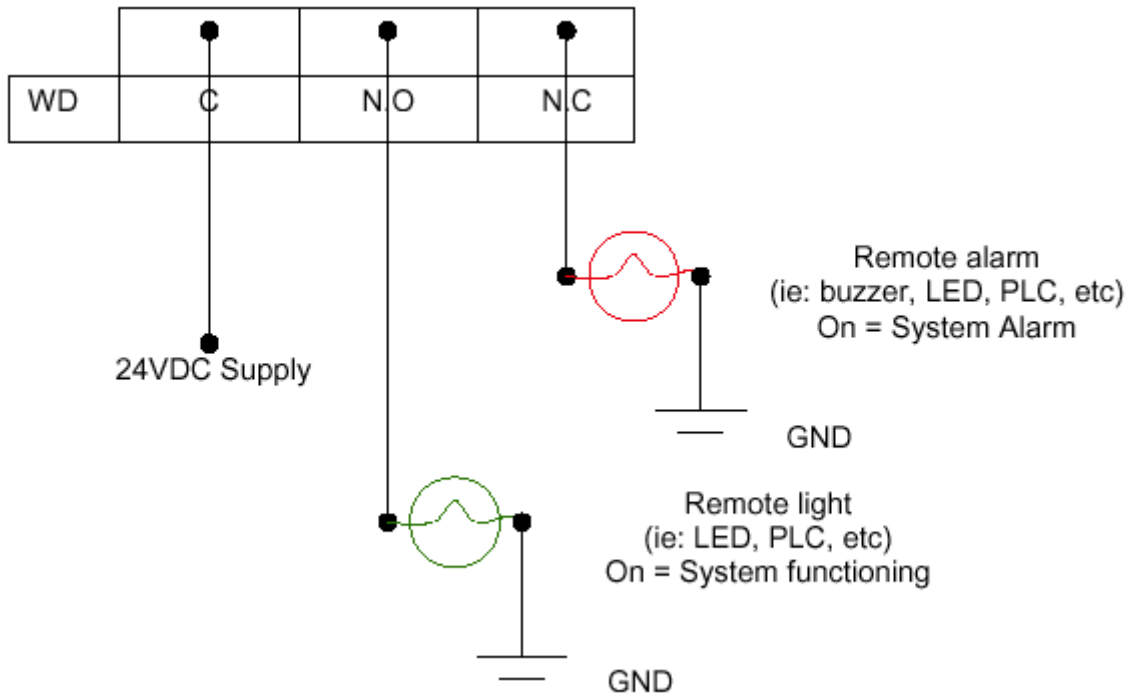
Figure 11. Remote Watchdog Alarm Configuration 2



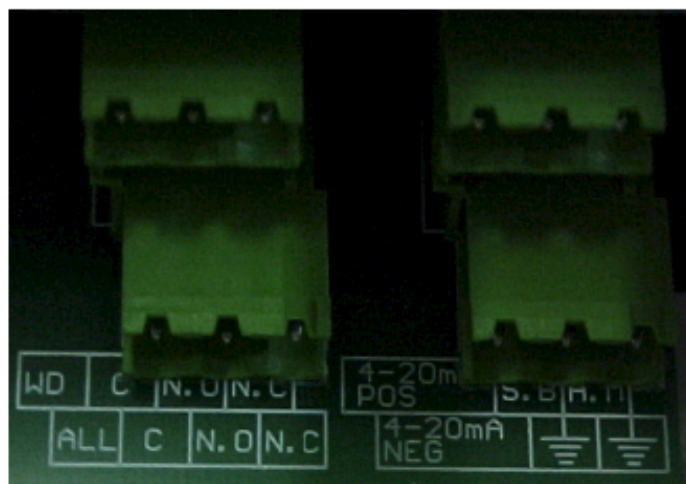
Choice 3. - Example set up

If you wish for a light (in a remote location) to illuminate at all times, and for the light to extinguish when an alarm occurs and an alarm light or buzzer to sound when an alarm occurs, connect the wires as shown in Figure 12.

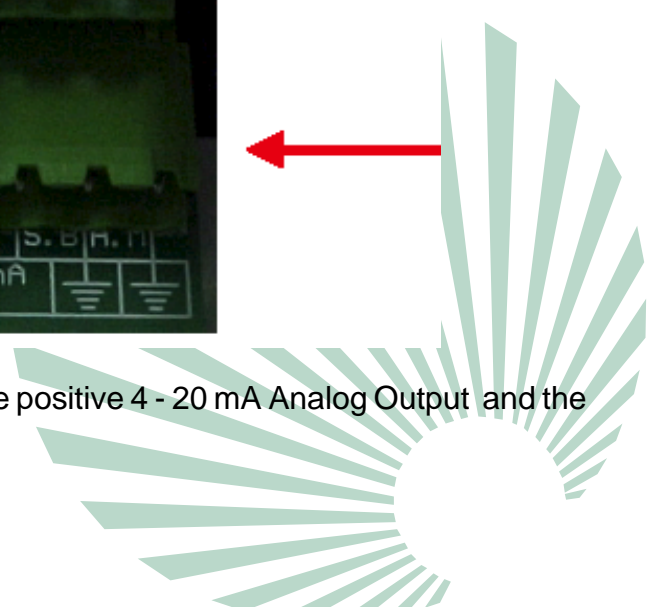
Figure 12. Remote Watchdog Alarm Configuration 3



C: 4 - 20 mA ANALOG OUTPUT TERMINAL



The arrows indicates the terminal connections for the positive 4 - 20 mA Analog Output and the negative 4 - 20 mA Analog Output.



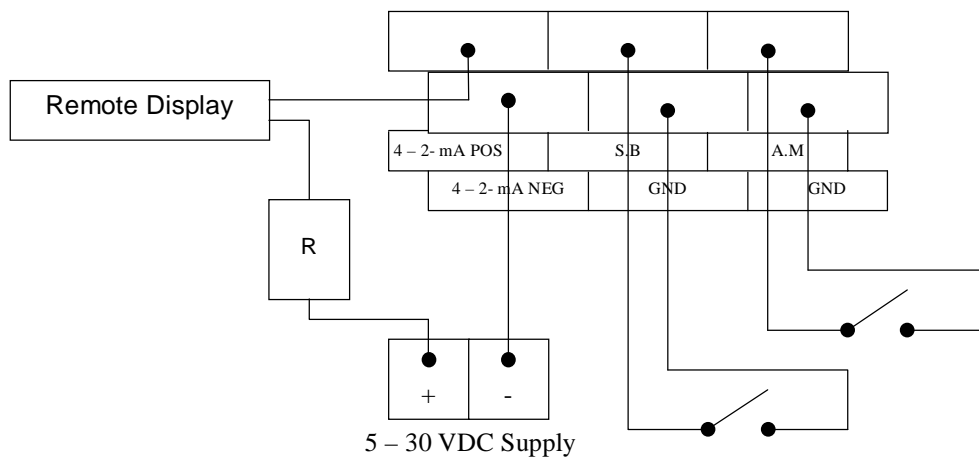
It is necessary to power this contact as it is a 'Dry' (or 'Clean') contact.

There are six contacts, one labeled

- one labeled S.B
- one labeled A.M
- one labeled 4 - 20 mA POS
- one labeled 4 - 20 mA NEG
- two labeled ground

A 5 - 30V DC supply is required to be connected as shown in the wiring diagram of Figure 13.

Figure 13. 4 - 20 mA Analog Output Wiring Configuration



Voltage applied to Analog Output Dry Contacts

Resistance Value Required

<15VDC

No resistance

15VDC < 24VDC

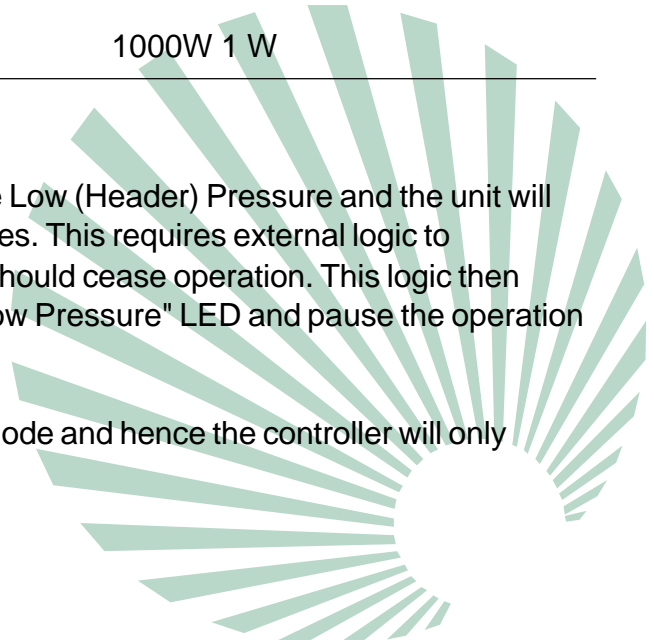
470W ½ W

24VDC < 30VDC

1000W 1 W

Closing the S.B contact will cause the unit to indicate Low (Header) Pressure and the unit will suspend operation until the header pressure increases. This requires external logic to determine the Low Pressure at which the controller should cease operation. This logic then closes the contact and the controller will flash the "Low Pressure" LED and pause the operation of the controller.

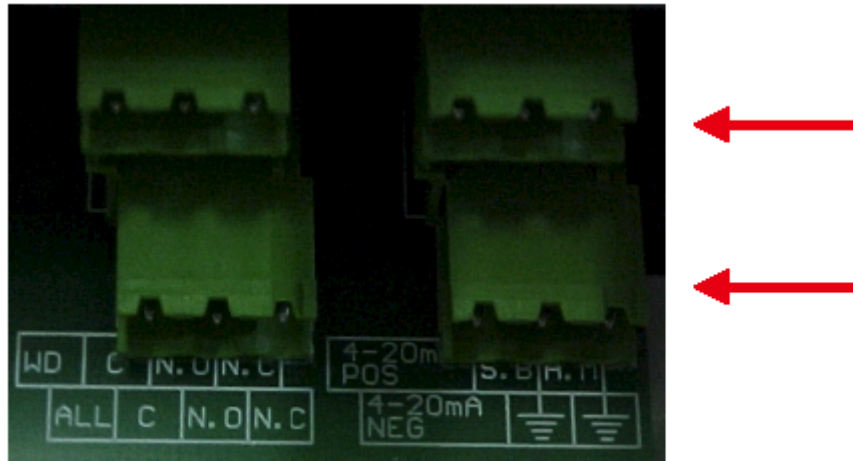
Closing the A.M contact will exclude the Automatic Mode and hence the controller will only function in Manual Mode ONLY.



The Remote Display will use the passive output of the 4-20 mA Analog Output to display the instantaneous Delta-P value of the system.

Please Note: Flat cable is recommended.

D: LOW (HEADER) PRESSURE LED



Refer to Figure 13, with reference to the contact S.B.

Closing the S.B contact will cause the unit to indicate Low (Header) Pressure and the unit will suspend operation until the header pressure increases. This requires external logic to determine the Low Pressure at which the controller should cease operation. This logic then closes the contact and the controller will flash the "Low Pressure" LED and pause the operation of the controller.



OPERATION

Electrical Pulse times

- Pulse Time (0.00 - 9.99 sec; recommended 0.1 to 0.5 sec)
- Manual Pause Time (1 - 999 sec)
- Set Delta-P (0.00 - 9.99 kPa)
- Set Delta-P Alarm (0.00 - 9.99 kPa)
- Pause in After Cleaning Cycle (1 - 99 sec)
- After Cleaning Cycle (0 - 99 Times)
- Automatic Pause Time (1 - 999 sec)

User Operation

The LED panel has a maximum of 4 characters. The first of these corresponds to one of the following.

1 Pulse Time (0.01 - 9.99 sec)

This is the time that the electrical signal is ON

2 Manual Pause Time (1 - 999 sec)

This is the time that the system pauses between activation of the solenoids while in Manual Mode

3 Set Delta-P (0 - 9.99 kPa)

This is the Delta-P that the user wishes the system to start cleaning at. It will stop cleaning when the dP falls by 5% of this value.

4 Automatic Pause Time (1 - 999 sec)

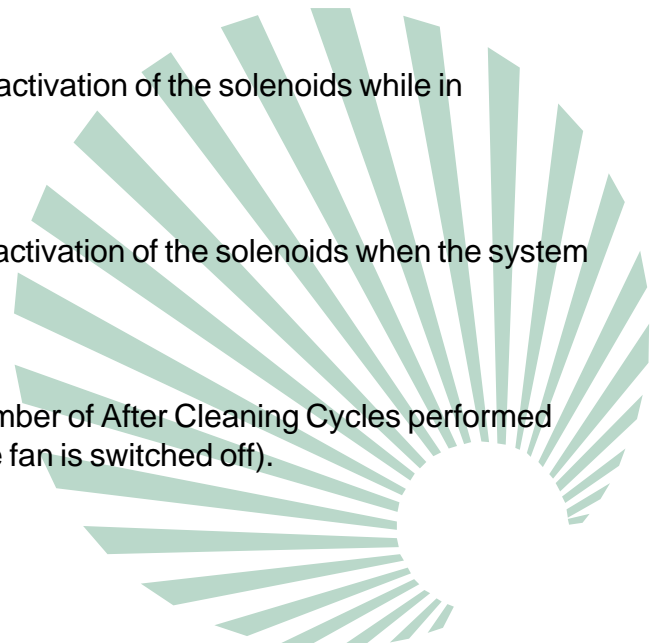
This is the time that the system pauses between activation of the solenoids while in Automatic Mode

5 Pause In After Cleaning Cycle (1 - 99 sec)

This is the time that the system pauses between activation of the solenoids when the system is performing the After Cleaning Cycle.

6 After Cleaning Cycle (1 - 99 times)

The number specified here will determine the number of After Cleaning Cycles performed when the dP of the system falls to 0.1kPa (i.e. the fan is switched off).



7 Set Delta-P Alarm (0 - 9.99 kPa)

Select the value of Delta-P which will activate the high pressure alarm. Normally you should select a value greater than the Set Delta-P (Menu item 3).

E Run

Notes:

- pressing the "Delta-P/Valves" key returns you to E (run mode) from every step in the programming menu
- during programming, after two minutes has elapsed, the unit will automatically return to E (run mode)
- the system will automatically ignore outputs which have not been connected (by using a load search). During operating cycle, the system will briefly display the outputs which are not connected.
- During the first cycle, check that all of the outlets function correctly (in the case that one or more do not operate, check the connections to the solenoid).

Pressing the "Delta-P/Valves" button displays the instantaneous differential pressure (Delta-P). Pressing it again displays the number of the active valves. Pressing it once more returns the unit to displaying the instantaneous Delta-P.



PRODUCT MAINTENANCE

- Mount in environments of -10°C to + 50°C (-14°F to +122°F)
- Do not mount directly to hot surfaces
- Do not expose directly to sunlight
- Protect from infiltrations of water and humidity
- Do not install on vibrating surfaces
- All electrical connections including the wiring associated with the valves should not be in close proximity to wiring for other applications (for example from motor cables)

