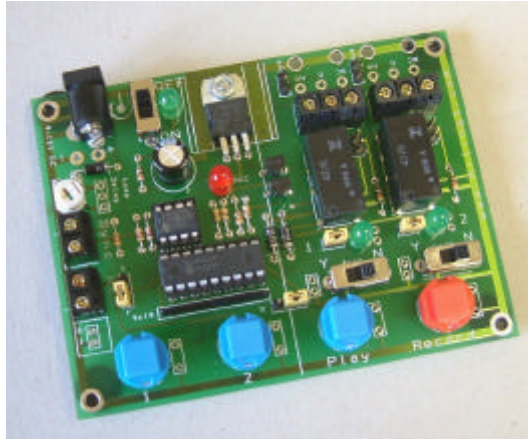


# Wizard-9 Controller

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Blue Point Engineering



The **Wizard 9 Card** will record and playback up to 25 minutes of action for up to 2 digital outputs. The card also incorporates features such as looping action with variable delay between loops, auto start-up on power up and a connection interface for a PIR, remote switch or pressure pad to initiate playback.

## Wizard 9Card

2 Digital channels- either 0/5V @ 100mA outputs or changeover relay rated 30V @ 2Amps .  
Potentiometer to determine the time delay between play loops during automatic loop play- adjustable between 0 and 65 seconds.

Digital 1, Digital 2 on-off, NEXT, PLAY and RECORD buttons

Record enable/disable jumper

AUTO-PLAY and LOOP-PLAY switches

Sync output for multicard operation

REMote start option- for interfacing to pressure pads/PIRs etc

REM polarity select jumper- start on either +5v or 0V condition.

## Digital 1/ Digital 2 Keys

Pressing either the Digital 1 or Digital 2 keys will action the appropriate relay output- action is momentary.

## PLAY-key

Replays a set of recorded moves.

Press and release the Play button to begin playback. Playback automatically stops at the last recorded position.

A switch may be connected to the REMOTE connector and this will function in the same way as the PLAY-key.

### **RECORD-Enable link**

If the jumper is set at the "E" nabled position, recording will be permitted. Remove to "D" isable recordings

### **RECORD-key**

The RECORD-key has no effect unless enabled by using the RECORD-Enable link.

Press and release the RECORD key to commence recording. Press and release the RECORD key to stop recording.

If the RECORD key is held down during power up, all memory will be erased (takes approximately 20 seconds and red led flashes to indicate erasing)

Recording examples:

#### **New recording:**

Erase any previous recording as above.

Press and release the Record Button- the Red led will light.

Activate the two digital outputs as required in real time.

These actions will be stored as you change them.

Press and release the Record Button to stop the recording.

The red led will extinguish.

#### **Appending to an existing recording:**

Play the existing recording – when the existing recording ends, the last data and time of recording are read and stored.

Press and release the Record Button- the Red led will light.

Activate the two digital outputs as required in real time.

These actions will be stored as you change them.

Press and release the Record Button to stop the recording.

The red led will extinguish.

The recorded moves will have been appended to the original recording

### **LOOP-Play-switch**

To make the **Wizard 13 Card** play the recorded moves repeatedly, move the switch to 'Y'. The moves will start to play when the PLAY-key is pressed. There will be a pause at the end of playing (determined by the position of the loop delay control) after which the moves will start again.

To record moves, the LOOP switch must be set to 'N'.

### **AUTO-Play-switch**

If switched to 'Y' then the moves will be replayed automatically on power-on or Reset.

To record moves this switch must be set to 'N'.

### **Pause between play loops**

When the **Wizard 13 Card** is set to looping play, the length of the pause between repeated playings may be set by the loop-delay control.

Turn the loop-delay control anti-clockwise for the minimum delay (0 seconds) and clockwise for the maximum delay (approx 65 seconds).

### **Sync Output**

The Sync output enables multiple cards to be linked together. The card produces a positive going pulse of duration 50msecs every time a record or playback session is selected. This pulse can be used to trigger additional cards by connecting the SYNC output to the REM terminal of other cards.

### **REMote Input**

Connection point for external pressure pad/switch/PIR etc to begin the playback action. To begin playback when the **Rem** terminals are shorted together, set the **Rem-polarity** jumper between the centre and L positions. To start playback when a shorting link between the **REM** terminals is removed, set the **Rem-polarity** jumper to between the centre and H positions.

### **Maximum Recording time**

The eeprom which stores the servo moves will store approximately 25 minutes of digital actions.

### **Digital Outputs**

Pressing the Digital button will set high the appropriate digital output.

The jumper nearest the green output status led may be used to select the required digital output:

With the jumper in place, the output will control the on-board relay. This is a change over relay rated at 30V @2A. The switch contacts are brought to the 3-way terminal block by the relay.

With the jumper removed, the relay is not activated and the output (0/4.5V at up to 100mA) may be taken from the 2-way jumper pins marked +/- by the side of the appropriate relay.

Inserting a jumper across the **Bus** pins will connect the relay common pin to the on-board 5V supply. If using this facility, ensure connected loads do not exceed 250mA

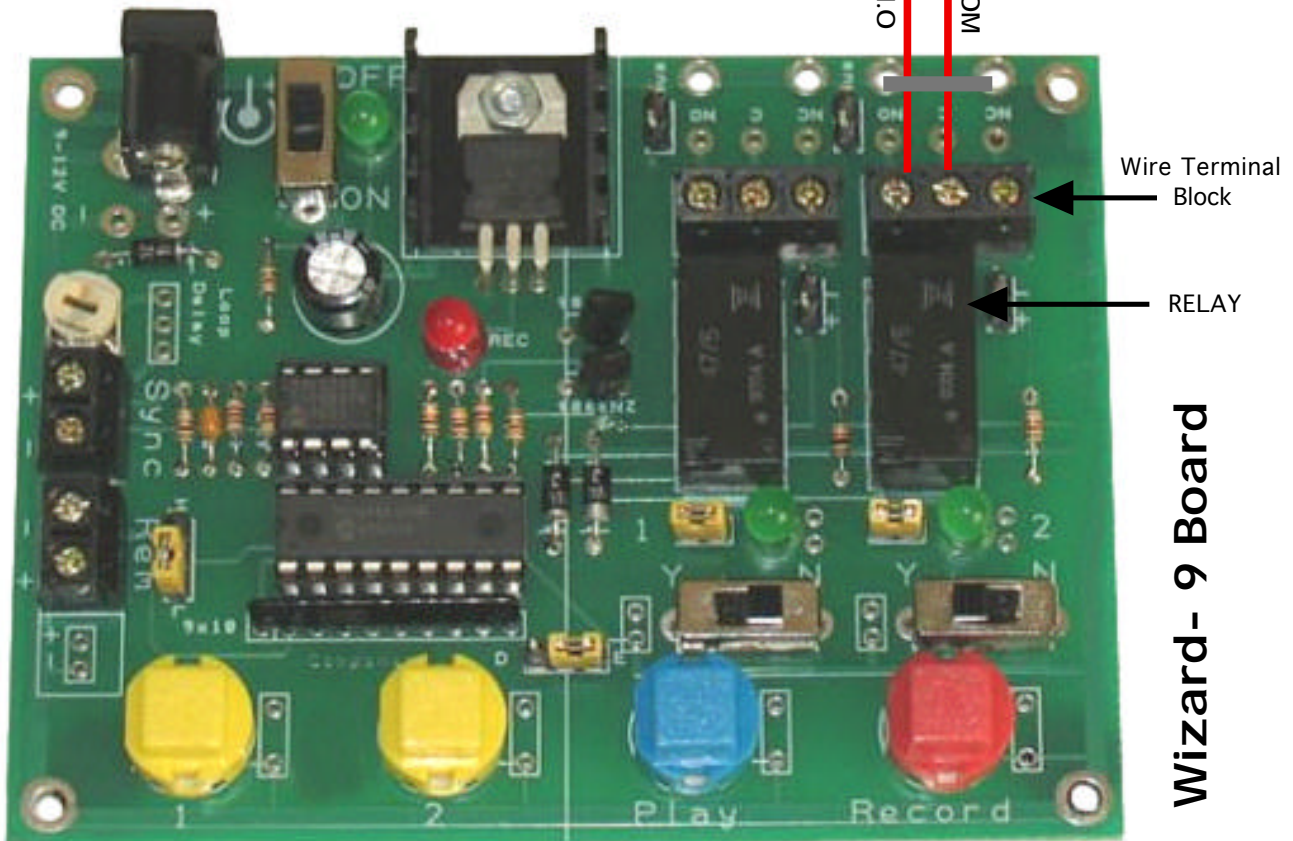
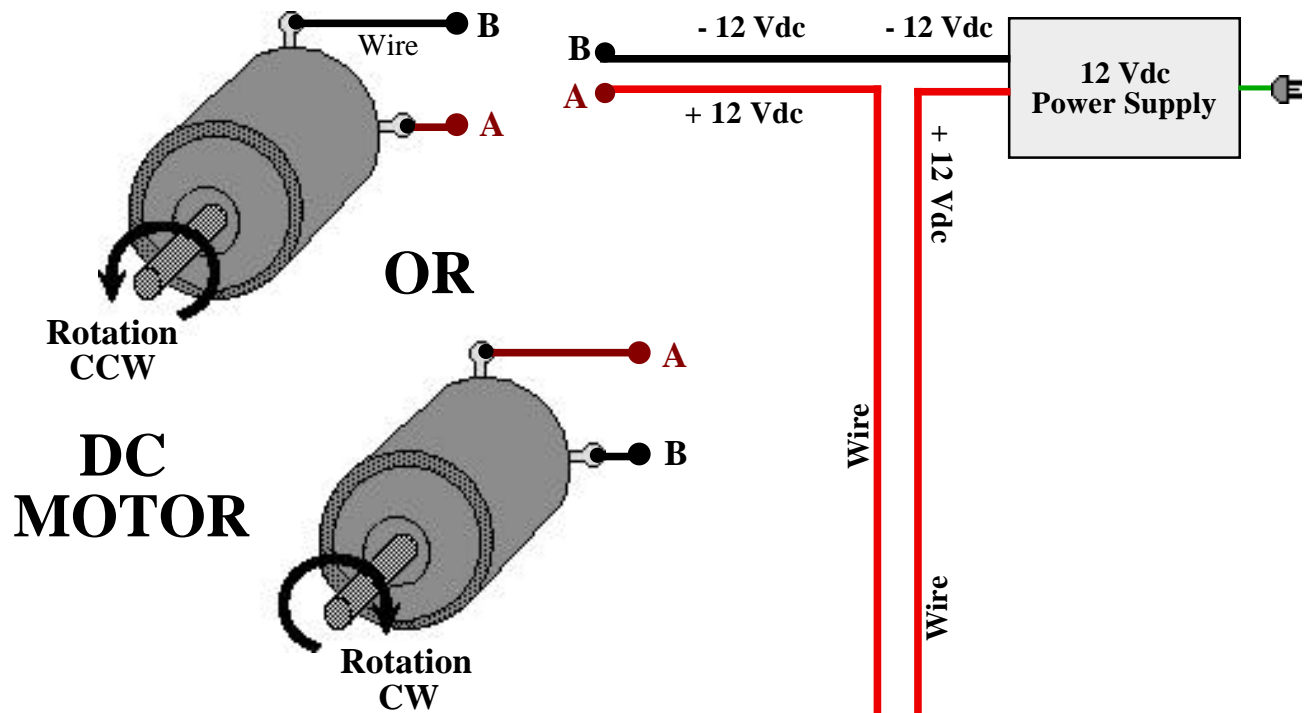
### **Power Supply**

The **Wizard 9 Card** will work with power supplies between 9 and 12 v DC the connection is a 2.1mm socket, centre positive.

### **Board Size: 100x75mm**

Wizard - 9 Controller Board  
Relays to Motor Control Setup

# Single Rotation



Wizard - 9 Controller Board  
Relays to Motor Rotation Control Setup

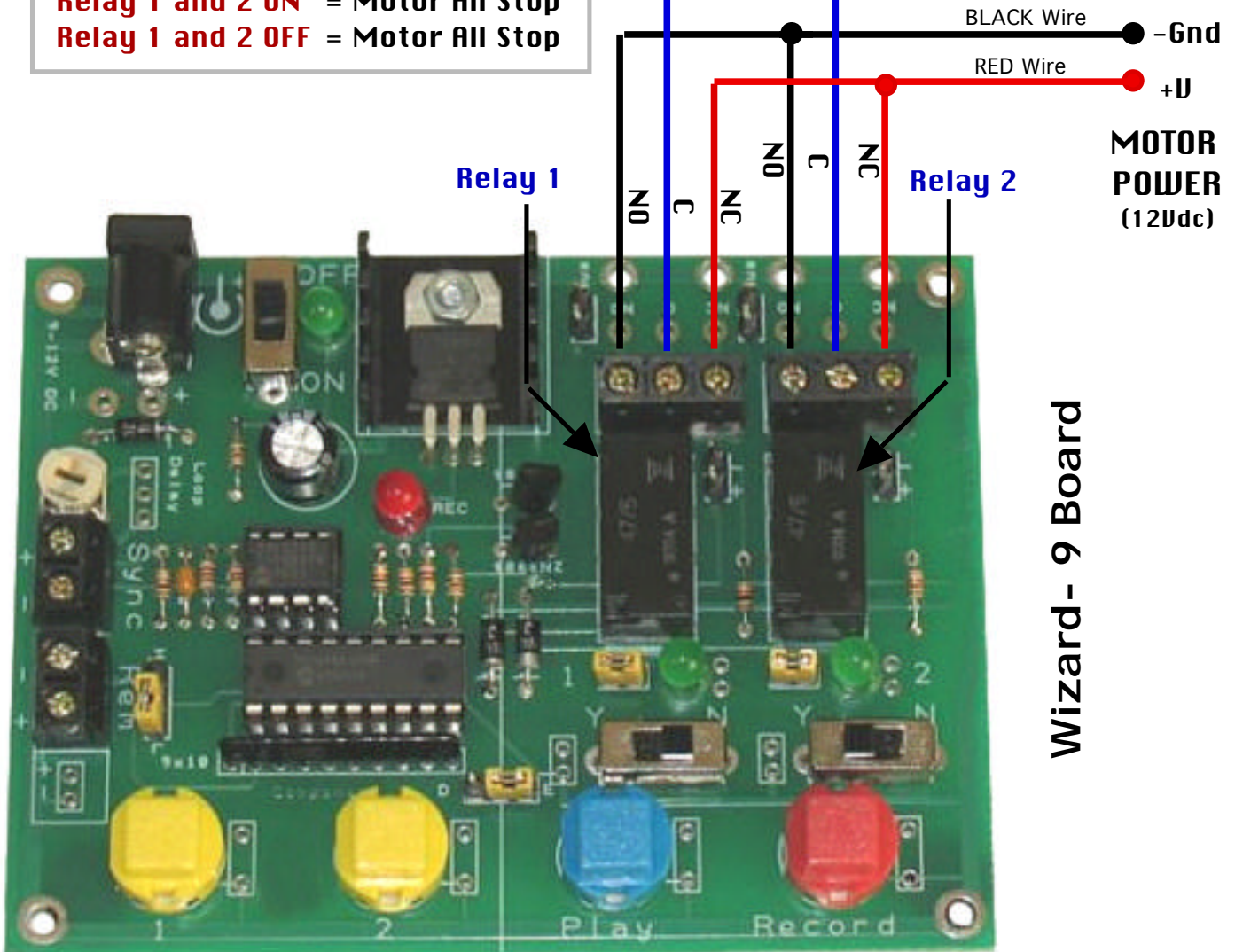
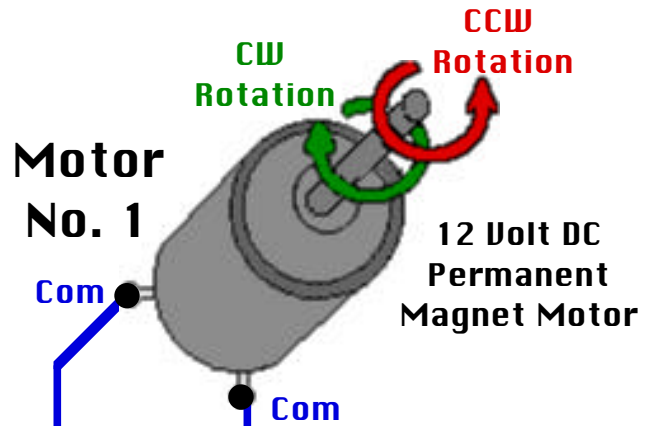
# Duo Rotation

## Motor Logic

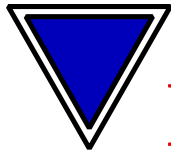
**Relay 1 ON** = Motor CCW Rotation  
**Relay 2 OFF**

**Relay 1 OFF** = Motor CW Rotation  
**Relay 2 ON**

**Relay 1 and 2 ON** = Motor All Stop  
**Relay 1 and 2 OFF** = Motor All Stop



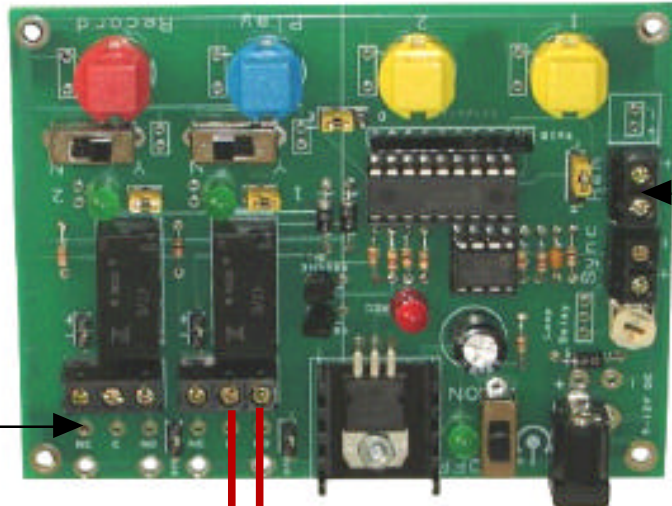




## Controlling Devices by Wizard-9 Relays

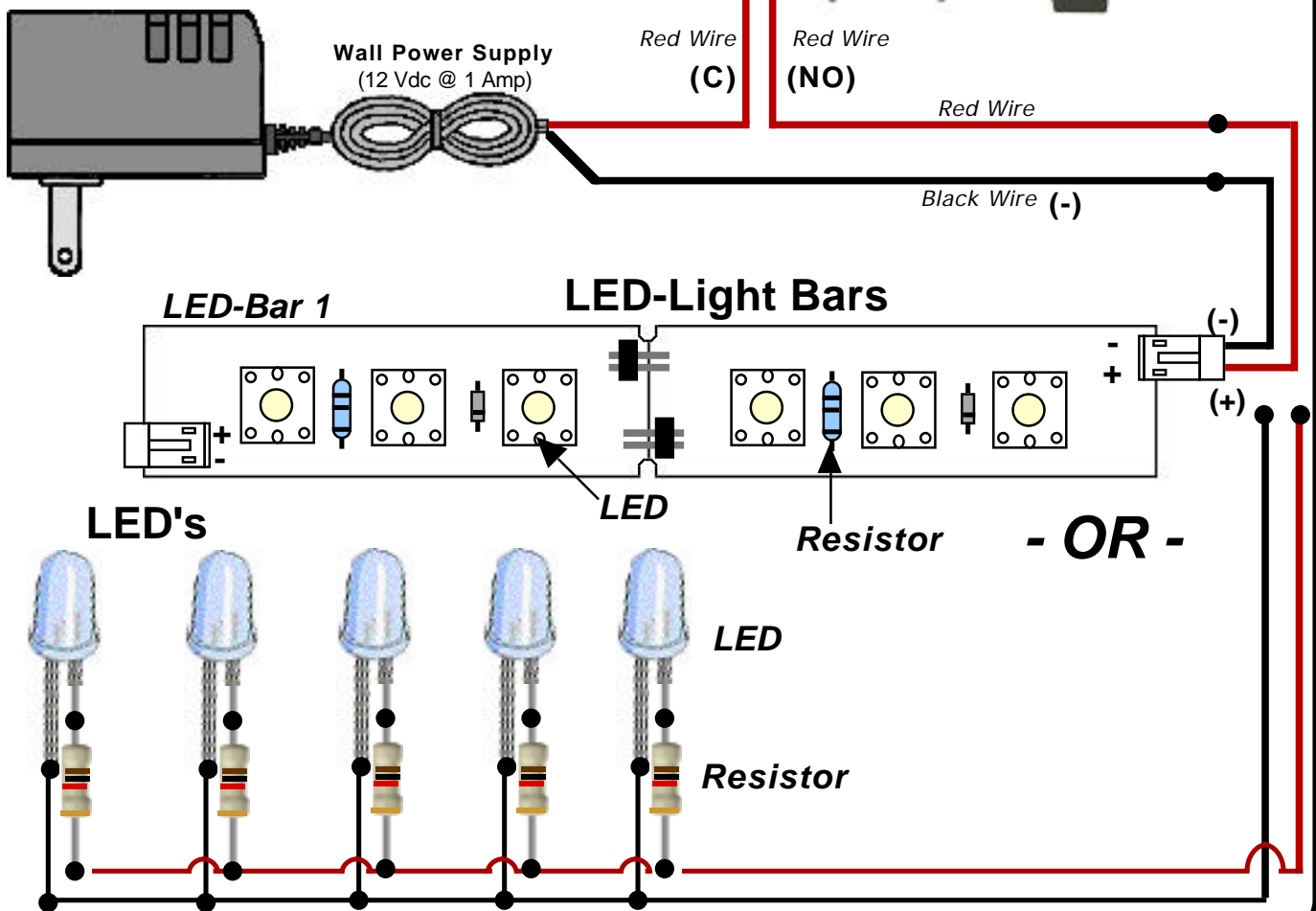
### Relay to LED Bar, and Single LED's

Wizard-9 Controller Board



Relay Output

Trigger

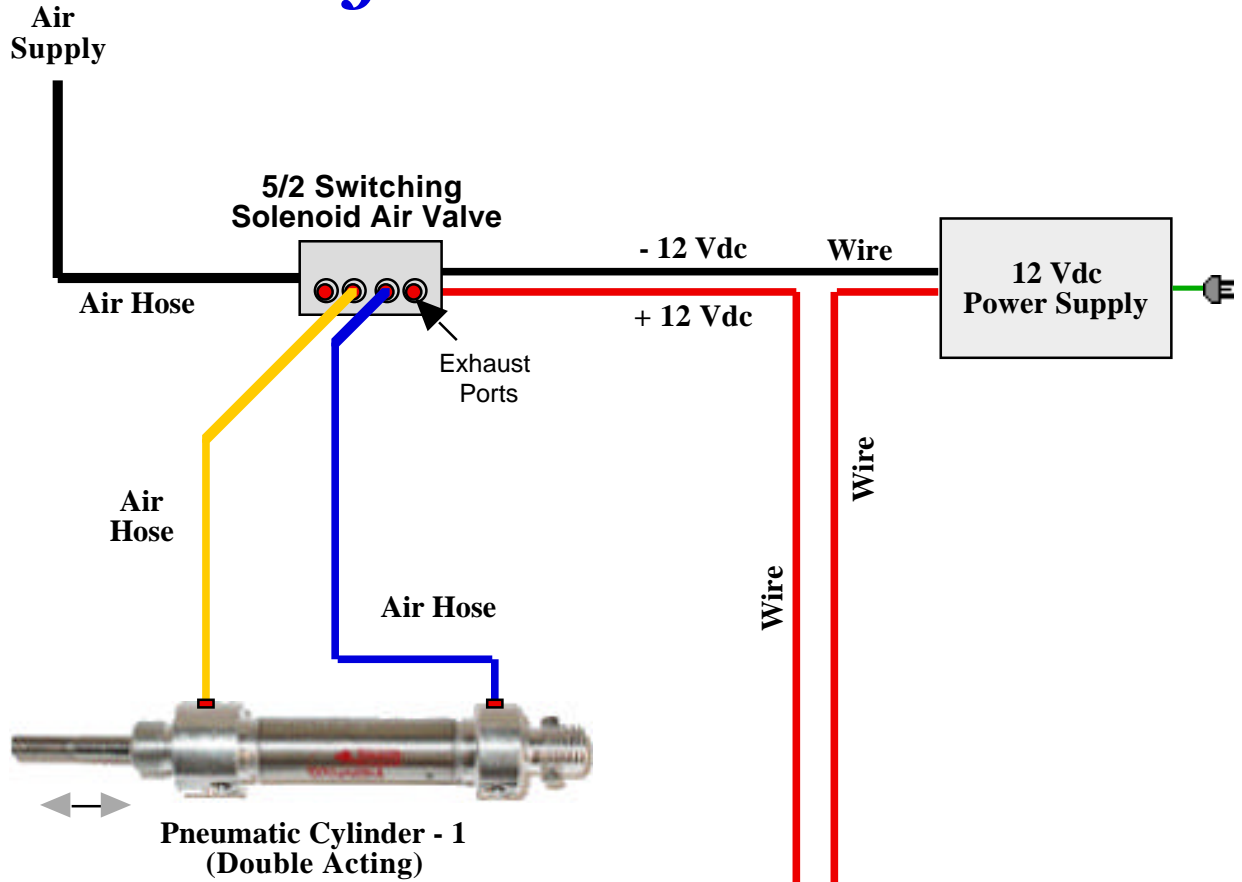


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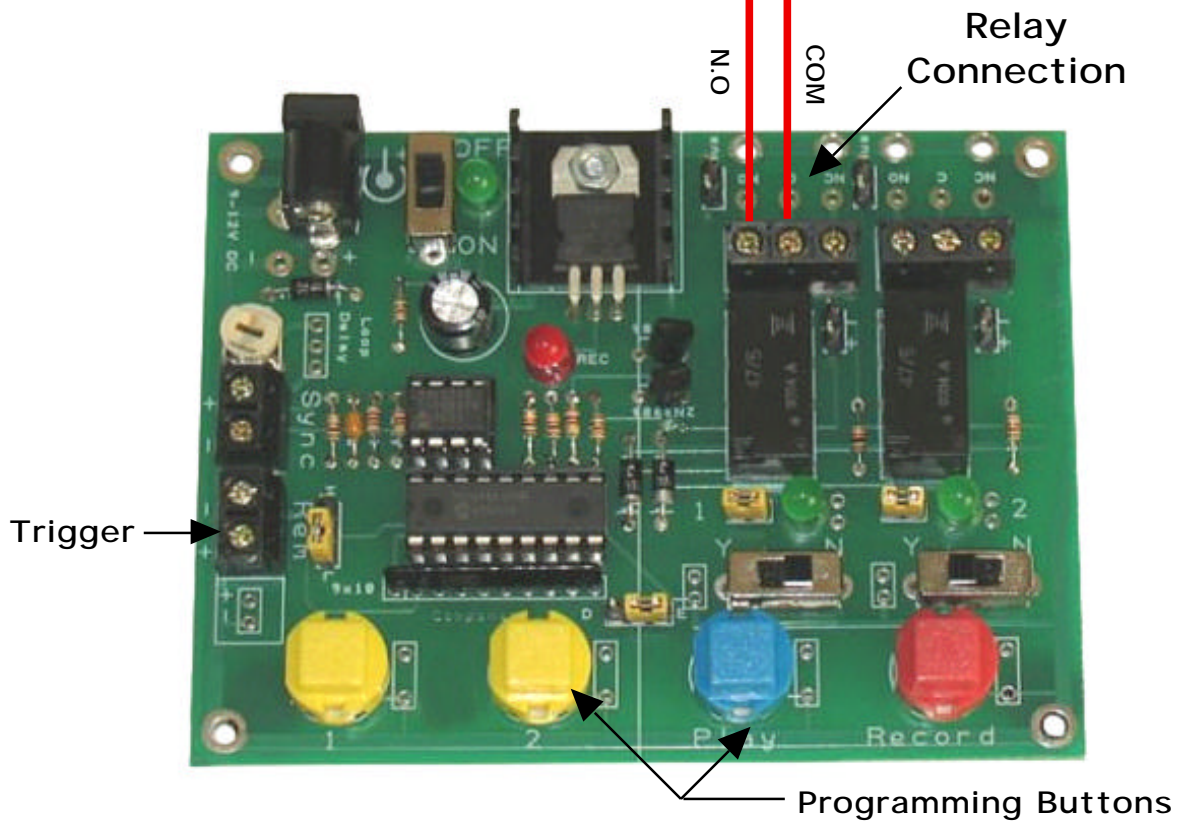
Blue Point Engineering LLC.

Phone (303) 651-3794  
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# Relay to Pneumatic Valve



Wizard-9 Controller Board

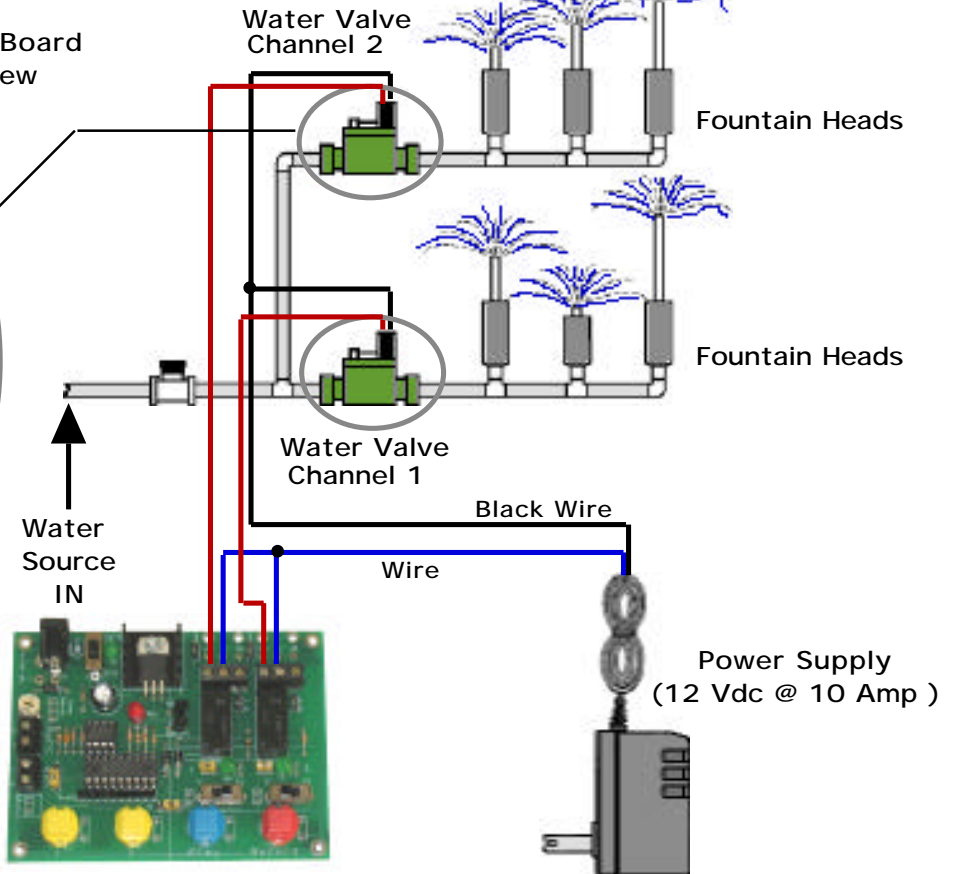


# Relay Controlled Water Valve - Effect

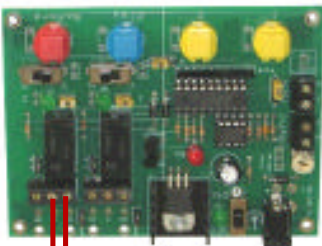
Wizard - 9 Controller Board  
Water Valve Overview



Wizard - 9  
Controller Board

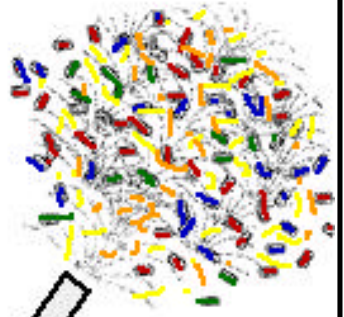
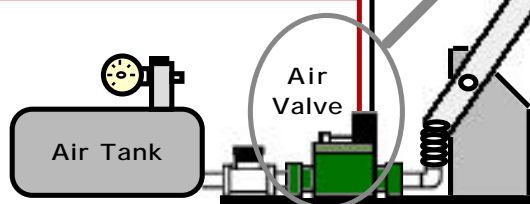
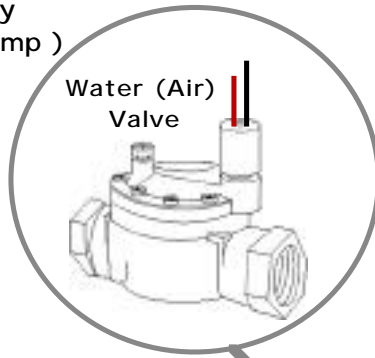


Wizard - 9 Controller Board  
Air Valve Overview



Wizard - 9  
Controller Board

Power Supply  
(12 Vdc @ 10 Amp)



Confetti  
Cannon

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