



# **MAXIMIZER**

## **SOLO**

# **Installation & Setup Instructions**

### **Key Features:**

- A customizable 5-point nitrous flow ramp.
- Programmable Throttle Position Sensor trigger max 16V (0V to 16V) or (16V to 0V).
- Throttle Position Sensor minimum of 0.5V prevents activation on loss of TPS voltage.
- Ramp based on time with optional RPM window limits.
- Optional first activation time delay.
- Optional ramp reset after low throttle or outside RPM window limits.
- Automatic ramp reset after three seconds of low throttle or outside RPM window limits.

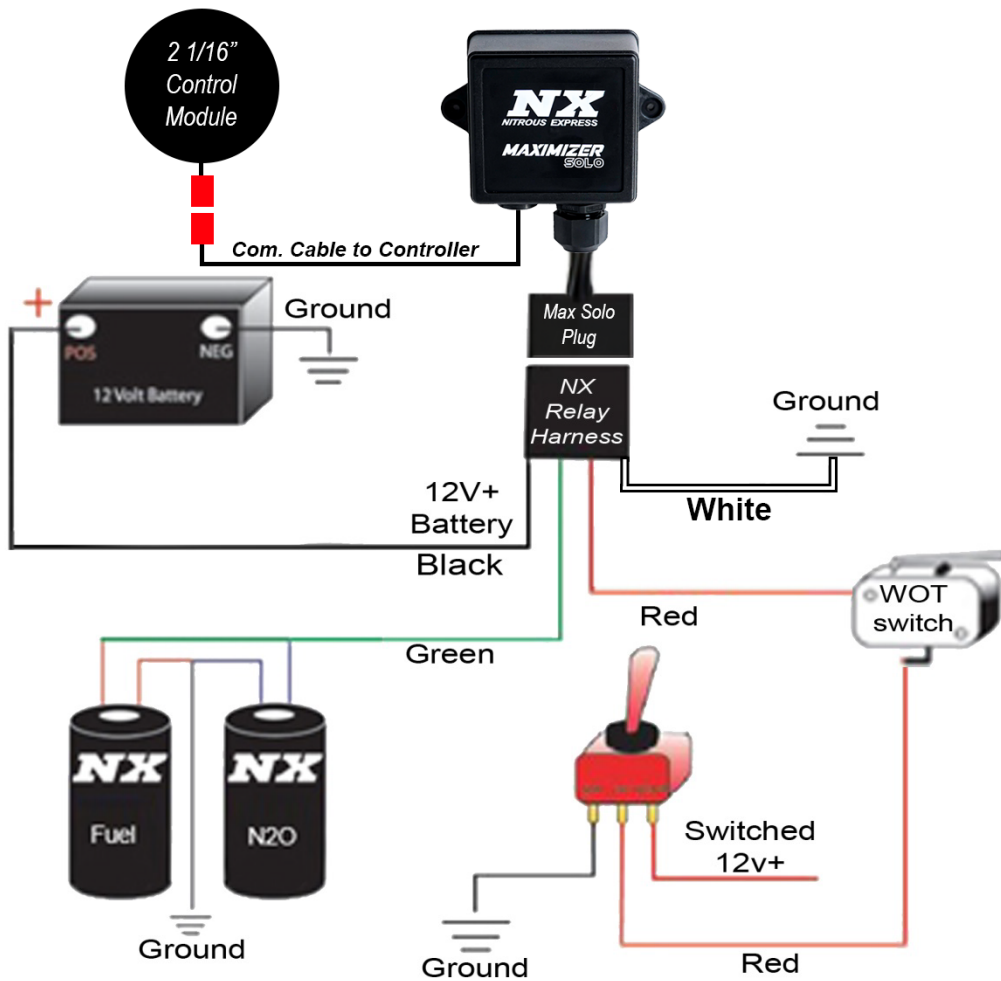
### **Product Specifications & Wiring:**

- Housing is 2 1/16" diameter 1.5" deep.
- **Green** wire is RPM input. 5V to 18V square or sine wave.
- **Orange** wire is Throttle Position Sensor input up to 16 volts.
- **Red** wire is +12V power.
- **Black** wire is ground.
- One pluggable communication cable from control module to solenoid driver module. Solenoid control signal of 18Hz pulse width modulation sent to Driver Module.

### **Solenoid Driver Module:**

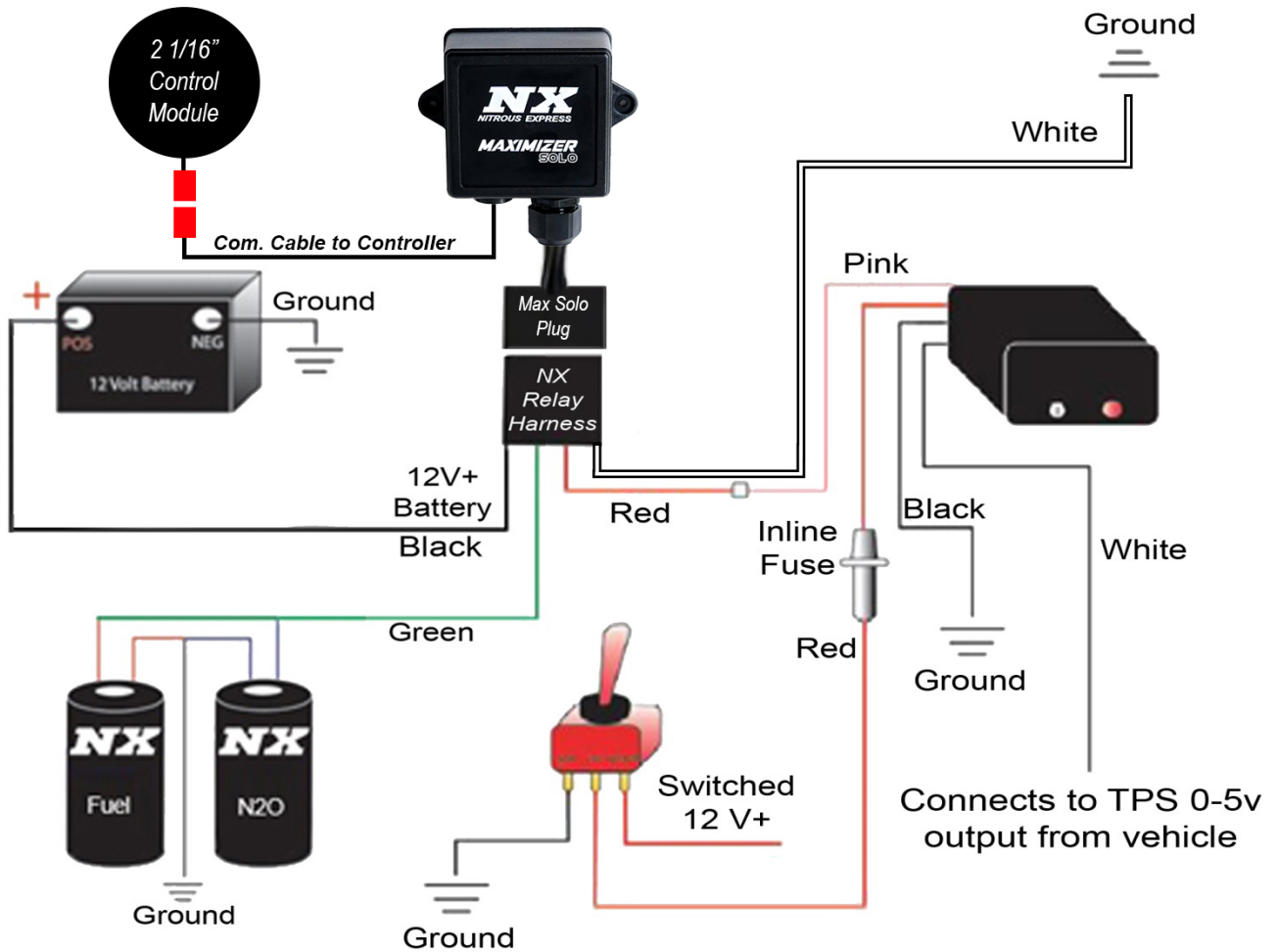
- Housing size 2.5" x 2.5" x 1.5".
- One two-wire cable for communication to Control Module.
- One four-wire cable terminated by a relay plug. Replaces nitrous relay.
- Receives PWM flow control pulses from controller. For the system to be armed, there must be 12VDC and ground on the white and red wires (either polarity) on the relay plug. This closes the safety relay and enables control pulses from the controller to run the power transistor.

## Wiring diagram for Mechanical Wide Open Throttle switch



**WARNING: Cancer and  
Reproductive Harm-**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## Wiring diagram for Electronic TPS Wide Open Throttle switch



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Reproductive Harm-**  
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## OPERATION:

### ACTIVE SCREEN

On powerup the ACTIVE SCREEN displays the current rpm and the nitrous ramp graph.

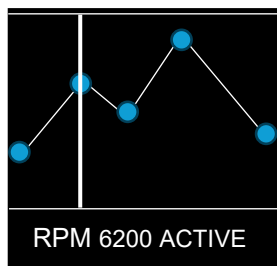
#### ***Nitrous Flows When:***

1. Throttle past the trigger point. Screen shows the word ACTIVE.
2. AND RPM inside the RPM range (optional setting).
3. AND Time to pass the first activation delay (optional setting).
4. AND Time passes to a ramp point with a non-zero setting.

#### ***Nitrous Stops When:***

1. Throttle lower than trigger point. Screen removes the word ACTIVE.
2. OR RPM outside RPM range, if range is set.
3. OR Present ramp point was set to zero percentage flow.

When a point on the graph is active, a white vertical bar appears through it. On low throttle, nitrous flow stops, the ramp timer is paused, the word ACTIVE is removed. If "RESET N" the white bar stays in place for 3 seconds, showing where the next high throttle will go. If RPM range is set, RPM outside that range will stop nitrous flow and pause the timer.



The screen may indicate nitrous flowing, but an external arming switch must be on for nitrous to actually flow. The driver box will ignore the controller if the arming switch is off. Holding the middle button (menu) down for a couple of seconds displays the main menu and resets the first activation timer.

### MENUS SCREEN

At the ACTIVE SCREEN, holding down the middle button labeled "menu", will cause the main menu to display, with the three buttons labeled up, down and enter:

```
> EXIT MENUS
  SET TIMES
  SET DISPLAY
  SET OTHER
  DRAW RAMP
  ▲ ▼ ENTER
```

Up/down buttons moves the ">" to a sub-menu. Pressing ENTER enters that sub-menu. When the ">" is at a setting label, pressing ENTER moves it closer, selecting it. Now the up/down buttons can change the setting value. Pressing ENTER again moves the ">" away and now the up/down buttons can move to other settings. ENTER on the EXIT MENUS goes to the ACTIVE screen. Holding a button down will auto-repeat.

## Set Times Menu

```
> EXIT SET T-  
ResetContin  
SET DELAY  
RAMP TIME  
▲ ▼ ENTER
```

**ResetContin sub-menu** sets the option to always reset ramp on low throttle.

```
EXIT RESET  
>RESET_YN Y
```

**1ST DELAY** is the first activation delay. Nitrous flow is delayed on first activation. Default is zero.

**RAMP\_TIME** sets the max seconds for the time based ramp.

**Set Display Menu** Selects a text color. Defaults to white.

## Set Other Menu

```
> EXIT OTHER  
SET THROTTLE  
SET CYLINDER  
RPM RANGE  
▲ ▼ ENTER
```

### Set throttle sub-menu settings:

```
> EXIT THROTTLE  
HIGH 4.5  
LOW 0.6  
TRIG 4.3  
▲ ▼ ENTER
```

Select HIGH and press the throttle all the way. The voltage will update. Press enter when finished. Select LOW with no throttle. Press enter and then select TRIG. Press the up/down arrows. Trigger will default to 90% of HIGH, but you can change that with the up/down arrows.

When HIGH throttle is a lower voltage than LOW throttle, TRIG will have a minimum of 0.5V to prevent false triggering if TPS voltage is lost.

**Set Cylinder** setting can be from 1 to 16. Depending on your ignition system, you may have to select a different cylinder setting to get a proper RPM reading. The ACTIVE screen will display the RPM.

**RPM RANGE** menu sets LOW and HIGH RPM for optional valid RPM range. If set, no nitrous flows outside this range. If RESET is set to "N" the time ramp will be paused until the RPM is back inside the range. If three seconds elapse, it will automatically reset. If RESET is set to "Y" it will reset the ramp if throttle is low or outside RPM range.

### **Draw Ramp Menu**

This displays the nitrous flow ramp graphically. The left and middle buttons move the current ramp percentage point (in RED) up or down. Holding a button down will auto-repeat. The right ENTER button goes to the next point. The left number shows the time ramp start at zero, the right number shows the time ramp end and the middle number shows the current point percentage nitrous flow. The right ENTER button, after the last point, will exit the Draw Ramp graph and return to the main menu.

Draw Ramp

