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### **INSTALLATION GUIDE**

#### **LED Mini-Tachometer w/RPM Switch**

**Part Number: M9002**

**\* Always disconnect the battery *before* attempting any electrical work on your vehicle.\***

### **WIRING INSTRUCTIONS**

***Note: Automotive circuit connectors are the preferred method of connecting wires. However, you may solder if you prefer.***

**Ground - Black** This is the main ground for the display system. A wire should be run from this board to the vehicle's main engine ground. Use 18 AWG or larger wire to ensure sufficient grounding. Proper vehicle grounding is extremely important for any gauges (or electronics) to operate correctly. The engine block should have heavy ground cables to the battery, frame, and firewall. Failure to properly ground the engine block, senders, or digital dash can cause incorrect or erratic operation.

**Power - Pink** Connect the power terminal to accessory +12V power from the fuse panel or vehicle wiring harness. This terminal should have power when the key is on or in accessory position. Use 18 AWG wire to ensure the system receives a sufficient power feed.

***Note: If doing an LS engine swap, pick up the tach signal wire from the ECM/ECU and then set the tach switch to 4-cylinders. You may also need to order the Intellitronix LS Engine Swap Adapter Kit – for Series 1, 2 and 3 engines. The part number is 8014LS. If you are getting the tach signal from the ECU, the resistor in the adapter kit will help pull a stronger signal for the tachometer.***

**Tachometer – Green** This wire will connect to the negative side of your ignition coil, or, if you are using a high energy CD ignition system, connect to the tach output of your system.

If your vehicle has a **separate ignition coil**, connect the green wire to the **negative (-)** side of the coil – the wire that goes to the points or electronic ignition module.

If your vehicle has a **GM HEI ignition**, connect to the terminal marked 'TACH', or, on some systems, a single white wire with a spade terminal.

If your vehicle has an **after-market ignition** – some systems will connect to the TACH output terminal.

If your vehicle has a **computer controlled ignition** system, consult the service manual for the wire color and location.

If your vehicle has a **magneto** system, connect the tach signal wire to the negative side of the coil. **Do not** connect the tach terminal to the positive (+ or high voltage) side of the ignition coil.

## OPERATION

This device has two settings for *Normally Open* (the *Blue* wire will provide ground AFTER the switch reaches the set RPM), and for *Normally Closed* (the *Blue* wire will provide ground UNTIL the switch reaches the set RPM).

This unit comes with a factory setting for a 8-cylinder engine and activation at 5000 RPM *Normally Open*. The display will stay in Settings Mode until it receives a signal from the ignition system. To program the unit after starting the engine, shut the engine off and turn on only the ignition.

When in Settings Mode, use push buttons on the device face to change the RPM switch setting in increments of 100 RPM at a time, up to 9900 RPM. The left button increases, while the right button decreases. Once you are at the desired setting, the LED display will stay on the RPM setting for a few seconds, then switch to NO and NC settings. Use the left button to choose. Finally, wait a few seconds and the device will move on to the final selection, number of cylinders. The device is programmed for use with 4, 6, and 8-cylinder engines. Use the left button to make your selection. When you are satisfied with your settings, start the engine and your device will begin to operate automatically.

**Switch - Grey** Connect to the ground of the device to which you want your RPM switch to activate. This device has two settings for *Normally Open* (the *Gray* wire will provide power AFTER the switch reaches the set RPM), and for *Normally Closed* (the *Gray* wire will provide power UNTIL the switch reaches the set RPM).

**Note:** If the device to which the gray wire is attached draws more than 3 amps, a relay must be used to drive that device or damage to the unit will occur.

## OPERATION

The unit comes preset from the factory for an 8-cylinder engine, activation at 5000 RPM, and is set to *Normally Open (NO)*. The display will stay in a continuous program mode loop until it receives incoming tachometer signals. To change the factory settings, turn the ignition on, but don't engage the starter: you can change the setting only prior to the unit receiving a tach signal from the ignition system. Once your engine is started, the unit can not be programmed until the engine is shut off and only the ignition is powered on.

When the unit is turned on without a signal from the engine, the unit will display the setting for the RPM in 100 RPM increments. If you wish to change the RPM setting you must press the left button while the RPM is being displayed. This will let the microprocessor know that you wish to change the setting. Continue to press the left button and the digital display will increase in 100 RPM increments up to 9900 RPM. If you wish to decrease the PM setting press the right button. After finishing, the readout will continue to display your setting for a couple of seconds before continuing to the *NO* and *NC* selection. To toggle this setting, simply press the left button.

Finally, to change the number of cylinders, wait for the *NO* and *NC* selection to finish, then the number of cylinders will be displayed, either *8CYL*, *6CYL*, or *4CYL*. Again, use the left button to make your selection. If at any time during the programming the unit receives a tach pulse from the coil, the unit will instantly switch back to Tach/RPM switch mode. Therefore, once you have made your settings, you may start the engine to save the selections. The unit will continue to loop in program mode until the engine is started.

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Technical Support

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CHECK OUT THE **SUPPORT** PAGE AT

[www.intellitronix.com](http://www.intellitronix.com)

FOR QUICK ANSWERS (**Q&A**) TO YOUR QUESTIONS



**This product carries a limited Lifetime Warranty.**

**This warranty is limited to replacement or repair of the unit at the discretion of Intellitronix.**

## **RETURN POLICY PROCEDURES**

### **Return Policy Instructions**

1. Download the Intellitronix Return/Repair Form and fill in the information on the form about the product.
2. Place the product being returned in the original packaging that it came in and include a copy of the completed Intellitronix Return/Repair Form.
3. All packages must be accompanied with an RMA Number.

Please call Technical Support at +1 440-359-7200 to receive an RMA Number.

4. Mail the product being returned with the completed Return/Repair Form and a copy of the original sales invoice.

### **Request for Product Refund**

1. All returns for a refund must have a completed Intellitronix Return/Repair Form included in the package with the returned product.
2. If the return is for a product that is not defective a 20% restocking fee will be charged. The product must be in the same pristine condition that it was sent to you.
3. Proof of purchase is required. Please include a copy of the original sales order with the returned product.
4. All product must be returned undamaged and in working order in the original packaging including plexiglass, sending units, mounting hardware, or you will be subject to additional charges for product and accessories not returned.
5. All refunds will be reviewed by the Accounting Office.