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Thank you for purchasing this instrument from Intellitronix. We value our customers!

INSTALLATION GUIDE

Digital Performance Speedo/Tach Combo

Part Number: M9250



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

*** Speedometer sending unit is not included***

NOTE : LS Engines or any other computer based engine systems most use provide sensors and install new wires to new sensors.

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. If your engine is a 4 cylinder, please call Tech Support at Intellitronix, as you may need to send the gauge back to us to be reconfigured. There is no charge for this additional service

This speedometer requires a pulse-generating electronic speed sending unit or a transmission with an electronic output. If a cable drives the current speedometer in your vehicle, please order our electronic sending unit (S9013) for GM and universal applications or (S9024) for Ford transmissions.

WIRING INSTRUCTIONS

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

In order to isolate the signal wire from electrical noise, we recommend that you use a shielded cable to connect the speedometer to the sending unit. Be sure to run the cable as far away as possible from the ignition system and any power wires to electric fuel pumps, motors, blowers, etc., particularly spark plug wires. For best results, we also recommend the use of resistor-type spark plugs and spark plug wires that are in good condition.

Power – Red Connect to a switched +12 volt source (such as the ignition switch).

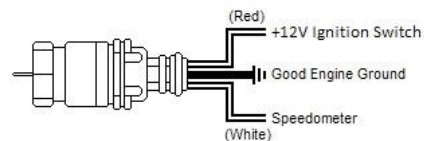
Ground – Black Connect directly to the engine block, preferably the same ground source as the sending unit. Make sure there is no grease or corrosion as this will cause erratic readings.

Dimmer – Purple Connect to the headlight switch to dim the LEDs by 50% when the headlights are on. **Do not** connect to the headlight rheostat control wire or the dimming feature will not work.

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Speedometer – White Disconnect the mechanical speedometer cable from the transmission and thread the new electronic sensor onto the transmission. This panel comes with a 3-wire sensor. If you are using this sensor, the **white** wire is the speed signal; connect this to the speed signal wire on your gauge. The **red** and **black** wires in the cable are switched power (12VDC) and ground, respectively. Twisting all Three wires together and this will provide an additional level of interference protection. The speed signal wire should **not be routed alongside the tachometer, ignition, or any other high-current or high-voltage wires**. For vehicles which have a vehicle speed signal from a transmission -- one wire goes to the speedometer, and the other to the ground -- or ECM. Tap into the VSS wire (consult a vehicle service manual or wiring diagram to determine the correct wire color) and connect it to the white speed sending wire on the digital dash. **OR**

For vehicles which have a vehicle speed signal from a transmission one wire goes to the speedometer, and the other to the ground or **Power train Control Module**. Tap into the **Vehicle Speed Sensor** wire (consult a vehicle service manual or wiring diagram to determine the correct wire color) and connect it to the white speed sending wire on the dash.



Trip/Cal Recall Button – Grey There are two long grey wires connected to the push-button on the speedometer board. Mount the recall button in a convenient location such as under the steering column so that you may easily reset your trip odometer or other speedometer functions. Alternatively, your speedometer might have only a small pushbutton which will accomplish these same settings.

Tachometer – Green Connect the wire from the tachometer to the negative terminal of the coil or a direct tach output lead from your distributor or electronic control module. If you are using an aftermarket capacitive discharge ignition system, such as an MSD, you must use the designated 'tach output' connection on the electronic box. Do not make any connections directly to the coil with this type of system.

This tachometer is initially calibrated for use with 8 cylinder engines. If you are using it with a 4 or 6 cylinder engine, you must recalibrate the tach for your specific application by pushing the Odometer button in accordance with the programming modes shown below.

Modes

By pushing the Odometer button in accordance with the chart below you can set the Speedo/Tach combo for various modes and programming functions. Default setting is Speed and Odometer

Push	Mode
Once	Tach /Speed Combo
Twice	Speed and Trip Odometer
Three	Speed and Odometer

After installing your speedometer according to the wiring instructions, with the ignition on, the speedometer will be in Speedometer only mode. The speedometer leaves our factory with an industry standard pre-set calibration of 8000 pulses per mile. You may recalibrate the gauge for your specific application. To accomplish this, locate a measured mile where you can safely start and stop your vehicle. By running the vehicle over this measured distance, the speedometer will learn the number of pulses outputted by the speedometer sensor during a specific measured distance. It will then use this acquired data to calibrate itself for accurate reading.

Instructions

This electronic speedometer/tachometer displays your speed and rpm reading. It also includes an odometer, trip meter, high speed recall, 0-60 time and ¼ mile elapsed time (ET). It can also be calibrated with the push of a button to adjust the gauge for different tire sizes, wheel sizes and gear ratios. The odometer and trip odometer can switch back and forth by gently tapping the push button. While in Trip mode, if you press and 'HOLD' the button, the trip meter will reset to zero. In odometer mode, if you press and 'HOLD' the button, the performance data will then be displayed, in addition to 'CAL' mode which will allow you to again 'TAP' to reprogram the pulses per mile stored info.

When in speedometer only mode, press in and hold Odometer button until it starts to run through the various functions. The chart below shows what each display mode is and how to utilize that function.

Display	Function
Hi Spd	Displays Highest speed reached
0-60	Displays time to go from 0 to 60 MPH
¼	Displays Time over ¼ mile distance
8 Cylinder	Sets cylinder selection
Odo	Sets odometer display
Cal	Calibrates Speedometer

While 'CAL' is being displayed, press the push the Odometer button briefly one time. This will put the speedo-meter in Program Mode. It is very important that you drive to the end of the measured mile and tap the button again. **WARNING:** If while in 'CAL' mode you do not move at all and press the button again, the microprocessor will NOT have received any data whatsoever and the unit will need to be sent back to the factory for reprogramming. At a minimum, drive some distance and you can always go back and start again if need be.

Your Intellitronix dash panel is equipped with our Digital Performance Speedometer, which has factory settings that are ***pre-set with the industry standard setting of 8,000 pulses per mile to match your vehicles factory settings***. This electronic speedometer displays speed and includes an odometer, trip meter, high speed recall, 0-60 time, and quarter-mile elapsed time. It can be calibrated with the push-button to adjust the speedometer when you have ***different tire sizes, wheel sizes, and gear ratios***.

The single push-button is used by a *quick tap* to toggle between odometer and trip meter. The microprocessor distinguishes between a *quick tap* and a *press and hold* which will reset the trip meter in trip mode or display performance data in odometer mode.

CALIBRATION

The Digital Performance Speedometer leaves the factory with a factory pre-set industry standard setting of 8,000 pulses per mile. You should ***not have to recalibrate your speedometer, unless you have changed the original tire size or the rear end gear ratio***.

Also, if using the Intellitronix GPS Sending Unit, (S9021 – not included) the speedometer does not need to be calibrated.

NOTE: DO NOT attempt to recalibrate your speedometer until after it is working properly, and you have determined that the speed is consistently incorrect. The calibration procedure will NOT correct a faulty installation or improper wiring.

WARNING: If, while in 'CAL' mode, **you do not move the vehicle but press the button again**, the microprocessor will NOT have received any data and the unit will display 'Err' and will revert to the factory settings. At a minimum, drive some distance and return to the start if necessary. If you miss stopping the display at 'CAL', simply repeat the steps.

To calibrate:

1. **Locate a measured mile or KPM where you can safely start and stop your vehicle.** By running the vehicle over this measured distance, the speedometer will learn the number of pulses outputted by the speedometer sensor during a specific measured distance. It will then use this acquired data to calibrate itself for accurate reading. There is a small recall pushbutton in the center of the panel used to calibrate and read all of the data stored in the speedometer. After installing your speedometer according to the wiring instructions, when the ignition is on it should immediately display the default screen of 0 MPH, if the vehicle is not moving.

NOTE: You will then need to drive your vehicle to the predetermined measured mile. During this trip, the speedometer should read something other than 0 MPH. If it does not change, return and locate the problem before continuing. Otherwise, proceed with the calibration.

2. Stop at the beginning of the measured mile with your vehicle running and in odometer mode (NOT trip mode), press and hold the push-button until the odometer displays 'HI- SP'. On its own, the gauge will then cycle through the recorded performance in the following order: '0 – 60', '1/4', cylinder selection 'ODO', and 'CAL'.

3. While 'CAL' is displayed, quickly *tap* the push-button once. This will put the speedometer in Program Mode. If you did not tap while 'CAL' is displayed, the pulses per mile will be displayed on the odometer and the display will go back to MPH mode. Otherwise, you will now see 'CAL' displayed along with the number '0'. This indicates that the microprocessor is now ready for calibration.
4. When you are ready, begin driving on the metered mile. You will notice that the reading will start counting up. The odometer will begin to display the incoming pulse count. Drive the vehicle through the measured mile (speed is not important, only the distance traveled).
5. At the end of the mile, stop and press the push-button again. The odometer will now display the new number of speedometer pulses that were registered over the distance. The odometer will continue to display the pulse reading for a few seconds. Once it reverts to the default mode, you have successfully calibrated your speedometer.

Trip Distance

A single *tap* of the recall button will activate the trip meter in the odometer display. A decimal point will appear which will indicate that you are in trip meter mode. *Holding* the recall button will clear out the trip distance. To return to the default odometer display, *tap* the recall button again. The decimal point will disappear, indicating that you are back in the default odometer display.

Setting the Odometer

While scrolling through 'CAL' mode you will see 'ODO' appear. This will allow you to enter the vehicle's actual mileage. Press the recall button again at this point and you will enter the odometer set up mode. Press quickly to change the number of the digit on the right. Press and hold to advance to the next digit. Do this for all 5 digits. **For Example:** To enter the mileage reading 23456 into the odometer, at the 'ODO' prompt, tap the small black button (quickly) two times, until the number 2 is displayed. Then press and hold the button until the numbers 2+0 are displayed. Tap the button 3 times until 23 is displayed. Press and hold the button until 230 is displayed, and continue in this manner until 23456 is displayed. The speedometer will advance to the home screen, five seconds after the last number is entered.

Recording and Viewing Performance Data

Follow these steps to record and recall Performance Data (high speed, ¼ mile ET, and 0-60 time):

1. Before each run, your car must be at a complete stop at the starting position. *Press and hold* the recall button as it cycles through the performance data. At the end, the odometer will reset and all performance data will be cleared. This will not affect your stored calibration value or the odometer reading.

2. Press the recall button until 'HI-SP' is displayed. The gauge will automatically cycle through the performance data.
3. Start the run, pass, session, etc., as mentioned above.
4. When finished, repeat *Step 2* to view the data gathered from the run. While stopped, you can view this data as often as you wish. However, once it finishes scrolling one time, the memory is ready to record new data and will begin recording again once the vehicle starts to move. The highest speed measured over multiple runs will be retained in memory.

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Technical Support

Monday – Friday

9am to 5 pm EST

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For return/warranty information please contact technical support

This product carries a limited Lifetime Warranty.

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