



**Lifetime Guarantee**



**Thank you for purchasing this dash panel from Intellitronix. We value our customers!**

## **INSTALLATION GUIDE**

**Chevelle Assembled Analog Panel**

**Part Number: AP5001**

**Year Series: 1968**



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

### **KIT COMPONENTS**

- ◇ Two (2) Assembled Analog Circuit Board
- ◇ One (1) Temperature Sending Unit (**S8013**)  
\* 1/8" NPT, 0-255 Deg., 1/2" NPT Bushing
- ◇ One (1) Pressure Sending Unit (**S8434**)  
\* 1/8" NPT 0-100 PSI Oil Pressure.
- ◇ One (1) Universal Speedometer Sensor (**S9013**)  
\* 7/8" NPT Industry Standard threads
- ◇ One (1) Mounting Kit  
\* 4—6/20 Black Oxidized 1" Phillips Head / --4—#6 x 1/4" Spacers

### **DASHBOARD REMOVAL AND INSTALLATION**

Remove the factory gauges from the instrument cluster and insert the digital dash panels. Remove the protective paper coating from both sides of the acrylic lens. When installing new gauge panels into the dash, remove the existing OE gauges and back panel. Reuse the original back panel screws to attach the new panels to the original dash bezel. There are nuts and screws on each side of the panels, which are used to adjust the spacing between the front and back plate so the front gauge bezel fits tightly against the factory bezel.

# WIRING INSTRUCTIONS

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

*Battery* **Red** Connect the +12 Volt terminal to constant +12V power from the battery.

*Ground* – **Black**--**This is the main ground for the display system. A wire should be run from this board to the vehicle engine block for the best 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.

*Ignition* - **Pink** Connect the power terminal to accessory +12V power from the fuse panel. 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.

*Dimmer* – **Purple** Connect to the parking lights to dim the LEDs 50% when the headlights are on. However, \* **DO NOT** \* connect to the headlight rheostat control wire, or the dimming feature will not work properly.

*Turn Signals* – **Grey**--Two 18-gauge wires, one for each signal. Connect each wire to its corresponding indicator circuit. When looking from front of cluster RIGHT Grey wire is for right turn and LEFT Grey wire is for left turn

*High-Beam* – **Brown** Connect the brown wire on the speedometer panel to your high beam headlight.

*Oil Pressure* – **Orange** This gauge is incompatible with other sending units, so you must replace the existing oil pressure sending unit with the included sender. **Do not** use Teflon tape or other sealer on the new sending unit's threads to avoid inaccurate readings. Connect the orange wire to the sending unit.

*Water* – **Blue** This gauge is incompatible with other sending units, so you must replace the existing water temperature sending unit with the included sender. **Do not** use Teflon tape or other sealer on the new sending unit's threads to avoid inaccurate readings. Connect the blue wire to the sending unit.

*Fuel* - **Yellow** The fuel gauge sending unit is not normally supplied because the display system can use the existing fuel level sending unit in the tank in most cases. If your wiring harness already has a single wire routed through the vehicle for the fuel sender then it may be used. If using a wire from an external harness, make sure that the wire does not have power. Fuel senders reference their ground from the sender mounting plate. Connect the yellow wire to the factory sending unit.

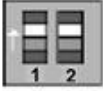
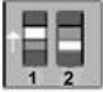
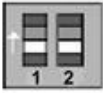
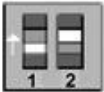
**Note:** The default setting for this dash is the GM industry standard of 0-90Ω

**Both** switches in the **up** position for Ford/Chrysler

For GM - #1 toggle is up, # 2 toggle is down.

**Both** switches in the **down** position for VDO

For Universal/Stewart Warner - #1 toggle is down,  
# 2 toggle is up.

Fuel Selector Switch Position		
Manufacturer	Switch Position	Ohm Range (Empty to Full)
Ford/ Chrysler		73-10 OHM
GM		0-90 OHM
VDO		10-180 OHM
Universal/ Stewart Warner		240-33 OHM

### FUEL GAUGE TEST

**The most common problem with our Fuel Gauge not working is the circuit is not complete. The easiest way to test this is to use a volt meter and test for continuity on wires going to fuel sender. With wire disconnected from Fuel Gauge check for continuity to ground. Without this the Gauge will not work.**

*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.

There are two recall buttons on this dash: one at the bottom of the speedometer, the other at the bottom of the tachometer. This tachometer is initially calibrated for use with 8-cylinder engines. If you are using it with a 4- or 6-cylinder engines, you must recalibrate it for your specific application by pushing the tach recall button in accordance with the programming modes shown below.

To set the cylinder selection: With the ignition off, hold in the right button and power the dash on then release button.

The tach will then enter a setup mode where the needle will move (between the zero and one on the face of the instrument) to indicate 400 (4 cylinder), 600 (6 cylinder) or 800 (8 Cylinder) continuously. When the needle gets to the desired setting, tap the right button once more. It is now set and will enter normal operating mode. To see the high RPM/tach setting, hold down the right button. It will reset after five seconds.

## NOTES

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..

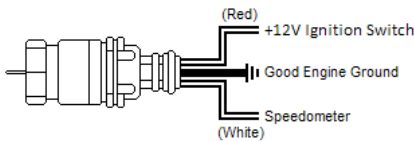
**Note: If doing an LS engine swap, pick up the tach signal wire from the ECM/ECU and then set the tach switch to 4-cylinders. You may also need to order the Intellitronix LS Engine Swap Adapter Kit – for Series 1, 2 and 3 engines. The part number is 8014LS. If you are getting the tach signal from the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

To ensure that the ignition system does not interfere with any other dashboard functions, do not run the tachometer wire alongside any other sender or input wires. **Do not** use solid core spark plug wires with this dashboard system. Solid core ignition wires cause a large amount of electromagnetic and radio frequency interference which can disrupt the system's operation.

**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 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.

**Note:** If your vehicle is equipped with an electronic transmission, your electronic vehicle sender will have two wires. High Side wire goes to white wire on speedo and Low Side wire goes to engine ground where Gauges are grounded.

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.



## DIGITAL PERFORMANCE SPEEDOMETER

Your Intellitronix dash panel is equipped with our Digital Performance Speedometer. 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 for 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

**Note:** If using the Intellitronix GPS Sending Unit (not included), the speedometer does not need to be calibrated.

The speedometer leaves the factory with an industry standard pre-set setting of 8,000 pulses per mile. Chances are that you may not need to recalibrate your speedometer, unless you have changed the original tire size or the rear end gear ratio.

**IMPORTANT NOTE:** Do not attempt to recalibrate your speedometer until after it is working properly and you have determined that the speed is incorrect. The calibration procedure will NOT correct a faulty installation or improper wiring. If you attempt to recalibrate your speedometer without making sure the speedometer is receiving pulses from the sending unit, the speedometer will display 'Err' and default back to the factory settings.

## To calibrate:

1. **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. There is a small recall push-button 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.

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', '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 **CAP** and then 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.

**Warning: If, while in 'CAL' mode, you do not move the vehicle and 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.**

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 Odometer

While scrolling through 'CAL' mode you will see 'ODO' appear. This will allow you to enter the vehicle's actual mileage. Press the trip 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 **20** 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,  $\frac{1}{4}$  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 push-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 push-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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