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## **INSTALLATION GUIDE**

**Universal 5 Gauge Bargraph Dash Panel**

**Part Number: BG1001**

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

### **KIT COMPONENTS**

- ◇ One (1) LED Bargraph Circuit Board with Speedo/Tach combination gauge, plus temperature, fuel, oil pressure and voltmeter.
- ◇ One (1) Smoked Acrylic Lens
  - \* *Peel off protective covering from both sides of each lens*
- ◇ 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

### **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 block 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 - Red** 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. This connection also feeds the voltmeter.

**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; the dimming feature will not work properly.

**Turn Signals - Grey** Two 18-gauge wires, one for each signal. Each wire is labeled on the printed circuit board as 'LEFT' and 'RIGHT'. Connect each wire to its corresponding indicator circuit.





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

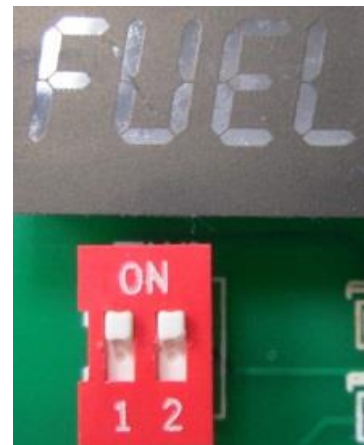
**Brake – Tan** Connect to the parking brake wire from the engine.

**Oil Pressure - Orange** Replace the existing oil pressure sending unit with the unit included. **Do not** use Teflon tape or other sealer on the new sending unit's threads to avoid inaccurate ground connections as the sending units get their ground from the threads. The oil sender gets its grounding from the threading into the engine block and it is crucial it is grounded properly. Connect to the sending unit.

**Water - Blue** Replace the existing water temperature sending unit with the unit included. The gauge is incompatible with other sending units. **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. Fuel switch settings should both be in the up position on the panel, as illustrated.

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



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

## Intellitronix Digital Bargraph Performance Speedo/Tach Combo

**Speedometer – White** Disconnect the mechanical speedometer cable from the transmission and thread the new electronic sensor onto the transmission. This unit 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 the ground and signal wires around each other 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.

*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 *Intellitronix 150DM*, 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 engines, you must recalibrate the tach for your specific application by pushing the selector button in accordance with the programming modes shown below.

## Modes

By pushing the selector button in accordance with the chart below you can set the S/T combo for various modes and programming functions.

<b>Push</b>	<b>Mode</b>
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 selector switch until it starts to run through the various functions. The chart below shows what each display mode is and how to utilize that function.

<b>Display</b>	<b>Function</b>
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 pushbutton briefly one time. This will put the

speedometer 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.

If you miss stopping the display at “CAL”, simply repeat the steps. With “CAL” displayed, the speedometer is now waiting to record the pulse count data accumulated over the measured mile. When you are ready to begin driving, press the pushbutton once. The odometer will display the incoming pulse count. Drive the vehicle through the measured mile (speed is not important). As you move, the odometer will begin showing the speedometer pulses as they are being counted.

At the end of the mile, stop and press the pushbutton again. The odometer will now display the number of speedometer pulses that were registered over the distance.

## 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 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, 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 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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