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

INSTALLATION GUIDE

6 Gauge Analog Dash with Color Changing Needles
Part Number: AP30002
Universal Series

After completing all wiring reconnect battery and power up the unit. Test all gauges before reinstalling dash, bezels, and hardware to prevent having to remove it all for any future troubleshooting.

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

KIT COMPONENTS

- One (1) Direct Replacement Dash Assembly
- One (1) Temperature Sending Unit **(S8023)** HH
  - ❖ 1/8" NPT, 10-360 Deg
  - ❖ 1/2" NPT Bushing
- One (1) Pressure Sending Unit **(S8868)**
  - ❖ 1/8" NPT, 0-100 PSI
- One (1) GM Speedometer Sending Unit **(S9013)**
  - ❖ 7/8" NPT

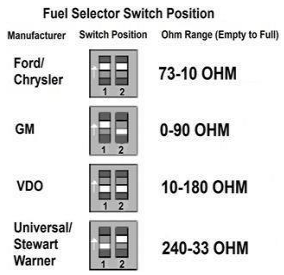
WIRING INSTRUCTIONS

FUEL GAUGE

Ensure fuel switches are in the correct position and gauge reads accurately before installing lens and placing unit back into bezel. The fuel switches are located near the fuel gauge on either the front or the rear of the circuit board.

Switch Position

Ω's	1	2
73-10	UP	UP
0-90	UP	DOWN
10-180	DOWN	DOWN
240-33	DOWN	UP



Yellow, Wire to the signal wire coming from your factory sender. If you have a three wire sender that references voltage instead of resistance you will need to replace sender.

Black/Yellow, It is recommended you run this wire to the ground on your fuel sender. Fuel senders utilize the mounting plates as their ground

❖ **Fuel Gauge Test:** If your signal is absent or incorrect use a voltmeter to test for continuity on both ends of the signal wire. Once continuity is established check ohms reading at the dash and compare to fuel level in tank (ex. 0-90 sender reads 45 ohms at half tank of gas).

Ensure your voltage adjustment is done before installing lens and placing unit back into the bezel.

Voltage gauge displays information based on the ignition wire. All models have a potentiometer to adjust voltage reading to match your exact ignition system. They resemble a small Phillips screw head near the volt gauge either on the front or the rear of the circuit board.

LS Engines or any other Computer based engine systems must use the provided sending units in conjunction with the factory sending units to maintain communication to the computer.

Use 18 AWG or larger wire to ensure sufficient grounding. Poor vehicle grounds are the primary cause for erratic or inaccurate readings on electronic gauges.

Black, Wire to the vehicle engine block ground. The engine block should have heavy ground cables connected to the battery, frame, and firewall.
Red, Wire to constant +12V battery power source (Recommended to use at minimum a 3-amp inline fuse).

The red wire is not required for all vehicles. It will not be installed in those specific models.

Pink, Wire to switched +12V power from the fuse panel or vehicle wiring harness. (Recommended to use at minimum a 3-amp inline fuse). This wire should have power when key-on and starting ignition.

TEMPERATURE GAUGE

You must use the included sender for the gauge to read accurately!
This is a two-wire sender that includes the mating connector for your wiring harness. The Intellitronix sender is bi-polar, meaning either wire can be the ground or the signal wire.

❖ **Wiring The Connector**

Push wires through the two-hole seal and crimp on the terminal pins. Push pins into the connector until it clicks and locks in place. Follow illustration above for reference.

OIL PRESSURE GAUGE

You must use the included sender for your gauge to read accurately!

Orange, Wire to the **"S"** terminal on the sending unit.
Black/Orange, Wire to the **"G"** terminal on the sending unit.

❖ **Programming Buttons**

Some models have buttons mounted on the front of the unit and others are attached to grey wires that are meant to be mounted up under the dash. Both styles operate in the same way.

TACHOMETER (default setting is 8-cylinder)

If **doing a LS engine swap, pick up the tach signal wire from the ECM/ECU and then set the tach to 4-cylinders. You may also need to order the INTELLITRONIX LS Series 1, 2 and 3 Engine Swap Adapter Kit (Part # 8014LS). The tachometer requires at a minimum a 9VDC square wave signal.**

Green Wire:

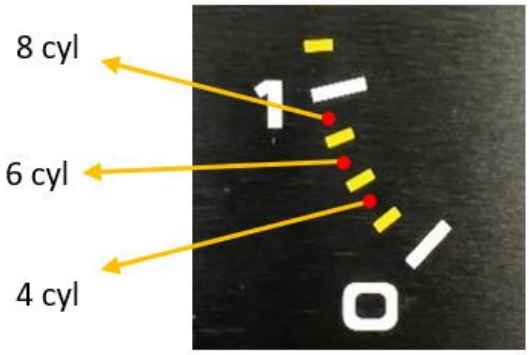
- **Ignition Coil**, Run wire to the negative (-) side of the coil or the wire that goes to the points or electronic ignition module.
- **GM HEI ignition**, Run wire to the terminal marked 'TACH' or, on some systems, a single white wire with a spade terminal.
- **After-Market Ignition and CDI Box** – Most systems offer a 12 VDC Square Wave TACH output terminal. Refer to those system instructions for setup.
- **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. Many tachometers, shift lights or RPM-activated switches will not read directly from a Magneto, so your installation may need a Magneto Signal Converter to function properly.
- **Diesel,** The tachometer will not work correctly for a diesel engine without the use of a diesel tachometer adapter (Intellitronix does not sell this part).

A vehicle's engine can generate a large amount of electromagnetic interference. To ensure that the ignition system does not interfere with dashboard functions check to ensure the following conditions are met.

- Do not run tachometer wire alongside other sender or input wires.
- Do not use solid core spark plug wires with this dashboard system.
- Do not run wires close to alternator.
- Check for cracked spark plug wires and boots.
- Use of Dielectric grease on connectors and in distributor is recommended.
- Use of grounded tin-plated copper sleeving can help to remove EMI.
- Use of ferrite tape and beads can help to remove EMI.

❖ **Programming**:

The tachometer is initially programmed for 8-cylinder engines. If you reprogram it for that cylinder selection.



1. Start with the power off. Hold in the tachometer button and power the dash on.
2. When the dash powers up and gauges completes initial sweep (the tach will not sweep) release the button.
3. The tach will enter setup mode and start alternating between 400 rpm (4 cyl), 600 rpm (6 cyl), and 800 rpm (8 cyl).
4. When the needle moves to the cylinder required tap the button once. It is now programmed for that selection and will enter normal operating mode (AP6001 Model)

Setting RPM Limit Colors (NC6001 Model Only)

5. Following steps 1-4, after tapping on the required cylinder selection, the needle will continue to increase RPMs.
6. Tap the button again where you would like to set a warning level (yellow needle). The needle will continue to move higher.
7. Tap the button once more where you would like to set your maximum RPM limit (Red Needle).
8. Needle will return to "0" RPMs at which time you can verify color changing settings.

❖ **Hi-RPM Recall**

Recalls the highest RPM that your vehicle has obtained since it was last reset. Press and hold the tachometer button to display the recall value.

SPEEDOMETER

White Wire:

Obtain your VSS signal using one of the 3 setups below that best fits your vehicle's configuration.

1. INTELLITRONIX SENDER, Disconnect the mechanical speedometer cable from the transmission and insert the new electronic sensor into the transmission. Follow this wiring for

the Intellitronix speedometer sending unit:

- **White**, Wire white wire on sender to **White** wire on dash panel.
- **Red**, Wire red wire on sender to **Red/White** wire on dash panel.
- **Black,** Wire black wire on sender to **Black/White** wire on the dash panel.

If you are not using the INTELLITRONIX sender you will not use the Red/White and Black/White wire on the dash unit.

2. Computer-based engines using a PCM/ECM need to locate the correct pin for VSS out and run to the white wire on the INTELLITRONIX unit. (Consult vehicles factory manual for correct pin #)
3. Most vehicles built after 1984 have an electronic transmission sender. The electronic VSS will usually have two wires attached to it. One connects to the Signal wire on dash (we prefer this to be high output). The other wire (low output) ground at the engine block. To find the high and low output wire color or pin location will need to be looked up by Vehicle VIN or Model and year and consult your factory Pinout Chart.

Not every two wire VSS will work in this situation. If this is the case, there are two attachments you can purchase to resolve this issue.

- ❖ Speed Interface Signal Box (Intellitronix does not carry this part)
- ❖ GPS Speed Sender (part # S9020)

When using an LS engine swap, you will need to pick up the Speedometer signal wire from the PCM Pin 50 on the red connector. (This pin may Differ. Refer to your vehicle's pinout chart for accuracy).

❖ **Trip Distance**

Tap the speedometer programming button once to display trip meter. A decimal point appears indicating trip mode. Holding in the programming button will reset the meter to zero. Tap programming button again returning to odometer.

❖ **Programming and Calibration**

1. Hold in programming button until you see "HI-SP" and release (This can only be done when showing the odometer display).
2. The first three items to display are the last recorded performance information. It resets every time you cycle power on the dash panel.
   - **"HI-SP",** Displays highest speed reached.
   - **"0-60"**, Displays time recorded to reach 60 MPH.
   - **"1/4",** Displays time recorded to reach a quarter mile.
   - **"ODO",** Allows you to enter vehicles current odometer reading.

When "ODO" Displays tap the program button to enter the value of the farthest left digit in your current odometer reading. Then hold the program button to advance to the next digit. You enter them in order from left to right. When finished on the last digit wait for it to go past "CAL" (This will be completed in a separate step). and back to MPH screen. The data is now recorded.

For Example: To enter the mileage reading 23456. Press 2 times and hold, press 3 times and hold, press 4 times and hold, press 5 times and hold, press 6 times and hold.

Read the next step completely to understand it before you begin. .

3. **"CAL",** Default Setting is 8,000 ppm (pulses per mile). Follow steps below to calibrate to the exact PPM for your vehicle.
   1. Choose a safe starting point to drive a designated mile or kilometer. This can be done using a mile marker or GPS on a phone or electronic device.
   2. Enter programming mode as explained above and wait for the screen to reach **"CAL"** mode.
   3. Tap the programming button again when the default 8,000 ppm shows. You will now see "0."
   4. Start driving until you reach the one (1) mile or kilometer point and then tap the programming button again. You will now see **"CAP".**
   5. Wait until it returns to MPH/KPH screen (data is now recorded).

If the Speedometer did not receive any data during this process the display will show "Err" (error). Recheck all connections and ensure the sender, or computer is putting out the correct signal. The speedometer operates on at a minimum 3 VDC square wave.

The remaining instructions apply to gauges and lights that are optional on various models. Check your board's product description if you are unsure if these apply to you.

DIMMER AND INDICATOR LIGHTS

Purple, Wire to the +12V side of the parking lights. This will dim the dash lighting 50% when your headlights turn on.

Do not connect to the headlight rheostat control wire, or the dimming feature will not work properly and may cause damage to the unit.

- **Tan,** Wire to the ground side of parking brake indicator light switch (Optional). If your vehicle uses a one wire switch setup you may need to convert to a two-wire switch for it to work properly.
- **Brown,** Wire to +12V side of the high beam headlight circuit.
- **Green/Yellow,** Wire to the ground side of the Check Engine Light circuit (Optional).
- **Grey/White,** Wire to the existing right turn signal circuit.
- **Grey/Black**, Wire to the existing left turn signal circuit.
- **Brown/Yellow,** Wire to Tailgate Open circuit.

CLOCK

1. Quickly press both Tach and Speedo calibration buttons at the same time to enter setting mode.
2. To set the hours push button on the speedo to set hours.
3. To set the minute push button on the Tach to set minutes.
4. Quickly press both Tach and Speedo calibration buttons at the same time to enter setting mode.

ADDITIONAL PRODUCTS FOR THIS VEHICLE

- GPS Speedometer sending Unit > Part # S9020
- Automatic Headlight Switch > Part # HL10001
- Quick connect Wire Harness > Part # QCWH20
- RGB LED Flexible Lighting > Part # RGBFS
- CDI Ignition Box > Part # 150DL