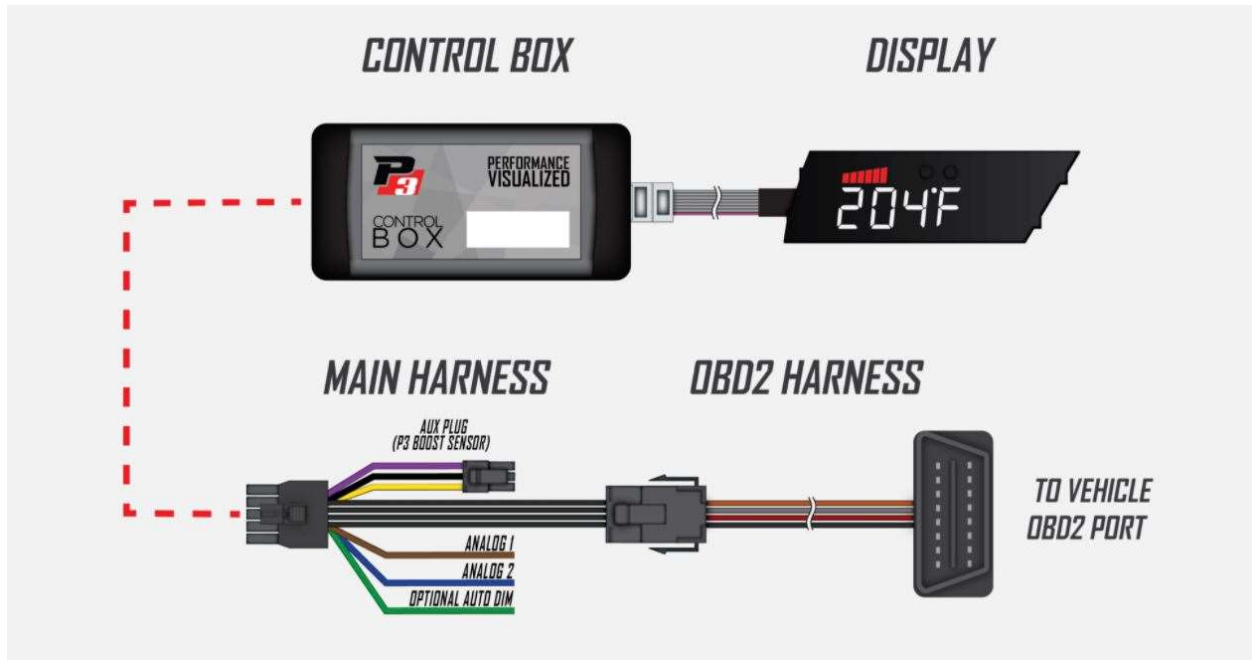


# P3 Gauges Full Configuration Guide

## P3 V3 General Setup



Only the OBD2 connection is required for gauge function, all other wires are optional. We suggest connecting the gauge to your OBD2 port and starting your engine to check functionality before installation.

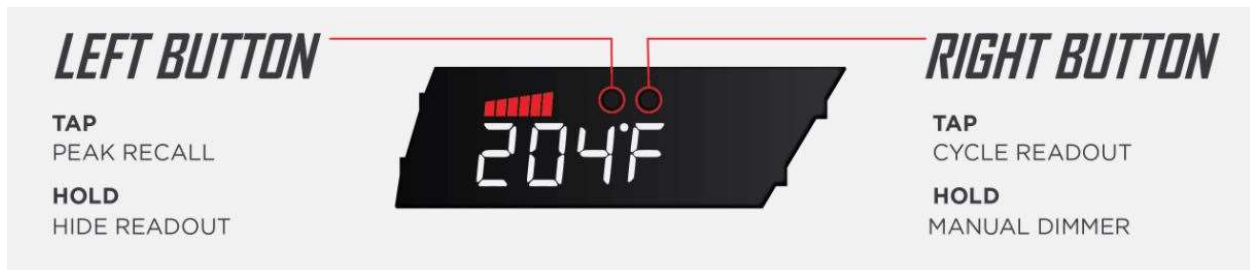
### MAIN HARNESS

- BROWN** = Analog input 1
- BLUE** = Analog input 2
- GREEN** = Display dimmer wire
- YELLOW BLACK PURPLE** = Analog boost sensor (ABS) connection

### OBD2 HARNESS

- BLACK** = ground
- RED** = 12 volt power
- GRAY** = CAN high
- ORANGE** = CAN low

## P3 V3 Operation Details



### Available Readouts

**\*all readouts are not available on all models - see product page for your vehicle to verify available readouts\***

**boost:** Boost/Vacuum. Can be read from MAP sensor through the OBD2 port or by add-on analog boost sensor. Can also be read by wire tapping T-MAP sensor on some BMWs. Boost is shown in PSI and vacuum is shown in inHg. Can also be configured to read boost/vacuum in BAR.

**Coolant:** Coolant temp. Unlike the needle on your dash, this will show you your exact coolant temp. Can be read in either Celsius or Fahrenheit.

**AFr:** Air/Fuel Ratio. Shows you how rich or lean your engine is running. Measured in XX.XX parts air to 1 part fuel.

**IAT:** Intake air temperature. This is the reading of the temperature of the air entering the engine. Can be read in either Celsius or Fahrenheit.

**IAT2:** Post-cooler / heat exchanger. This is the reading of the temperature of the air entering the engine. Can be read in either Celsius or Fahrenheit.

**OIL:** Engine oil temperature. This is the temperature of the oil in your engine. Can be read in either Celsius or Fahrenheit.

**CAC-Air:** Charge air cooler temperature. This is the temperature of the air in your charge air cooler. Can be read in either Celsius or Fahrenheit.

**Igntn:** Ignition timing. This shows the time at which the spark plug is fired in relation to the position of the piston. Measured in degrees before or after TDC (Top Dead Center)

**tRAnS:** Transmission fluid temperature. This is the temperature of the fluid in your automatic transmission. Can be read in either Celsius or Fahrenheit.

**OIL-PRES:** Engine oil pressure. This is the pressure of the oil in your engine. Measured in PSI.

Egt: Exhaust Gas Temperature. This is the temperature of the exhaust gas as it exits your engine. Can be read in either Celsius or Fahrenheit.

throttle: Throttle position. This is the measurement of how far the throttle plate is opened. Can be measured in either percentage or degrees open depending on your vehicle.

rp-Shift: Engine speed/RPM. Also has a programmable shift light that can be set in the configuration menu. Measured in rotations per minute.

Speed: Unadjusted vehicle speed taken from ECU. This reading is not adjusted like your speedometer is. A small percentage is added to the speed shown on the cluster (in addition to the unadjusted speed) by the manufacturer for legal reasons. May vary from speed shown on cluster. Can be measured in either MPH or Km/h.

batt: Battery Voltage. This can be used to monitor battery and alternator performance. Measured in volts.

0-60: 0-60 acceleration timer. Starts automatically as soon as vehicle speed leaves 0.0 MPH and stops automatically as soon as vehicle speed reaches 60 MPH. Time will display until vehicle comes to a stop. Measured in seconds. (Reads 0-100 when configured to Km/H)

0-100: 0-100 acceleration timer. Starts automatically as soon as vehicle leaves 0.0 MPH and stops automatically as soon as the vehicle reaches 100 MPH. Time will display until vehicle comes to a stop. Measured in seconds. (Reads 0-160 when configured to Km/H)

60-130: 60-130 acceleration timer. Starts automatically as soon as vehicle speed goes above 60.0 MPH and stops automatically as soon as the vehicle speed reaches 130 MPH. Time will display until vehicle comes to a stop. Measured in seconds. (Reads 100-210 when configured to Km/H)

60-0: 60-0 braking timer. Starts automatically as soon as vehicle speed drops below 60.0 MPH and stops automatically as soon as the vehicle speed reaches 0 MPH. Time will display until vehicle begins moving again. Measured in seconds. (Reads 100-0 when gauge is configured to Km/H)

100-0: 100-0 braking timer. Starts automatically as soon as vehicle speed drops below 100.0 MPH and stops automatically as soon as the vehicle speed reaches 0 MPH. Time will display until vehicle begins moving again. Measured in seconds. (Reads 160-0 when configured to Km/H)

## **How To Remove a Readout**

### TO REMOVE AN UNWANTED READOUT

- 1- While gauge is running in gauge mode, TAP the right button to cycle to the readout you would like to remove.
- 2- HOLD the left button until you see "- - -" (while holding the left button you will see the bar graph scroll back and forth across the screen)

The reading is now removed until you restore it. (see instructions below)

## **How To Restore Removed Readouts**

### TO RESTORE A REMOVED SETTING

- 1- HOLD both buttons until "ConF" appears and then release.
- 2- TAP the right button until you see "cc.x" ("x" being a placeholder for several different options) You can find the correct cc setting for your car in the configuration chart above.
- 3- TAP the left button to cycle through the cc options and stop once you get to the correct setting for your vehicle. (perform this step even if the cc setting is already correctly set for your vehicle)
- 4- Once you are back to your correct cc setting HOLD the right button until the screen turns off. (this saves/exits the menu)
- 5- Start your engine (if not already running) and the gauge will turn on. (It will take a little longer than usual on the first startup after completing these steps)

This process forces the gauge to "re-scan" the ECU and pull all the readings that it can. All your readings should be restored at this point.

## **PEAK RECALL:**

The gauge offers peak recall of the PEAK VALUE on the selected mode, since the last recall, or since the vehicle was started. In addition to this, for 2008+ model year cars the gauge also stores peaks for EgT, Air, Coolant in the background, so that you can switch to that mode later, after a lap for example, and recall your peak temperatures. A quick tap of the left button will show your peak value.

## **Code Reading / Code Clearing**

CODE READING: Code reading is performed automatically on startup. You can also read codes on the fly by following the steps below -

1- HOLD both buttons until "ConF" appears and then release. (screen will then change to "d.t.c.")

2- TAP the left button (code(s) will then be displayed one at a time)

CODE CLEARING: To clear codes you will need to follow the steps listed below -

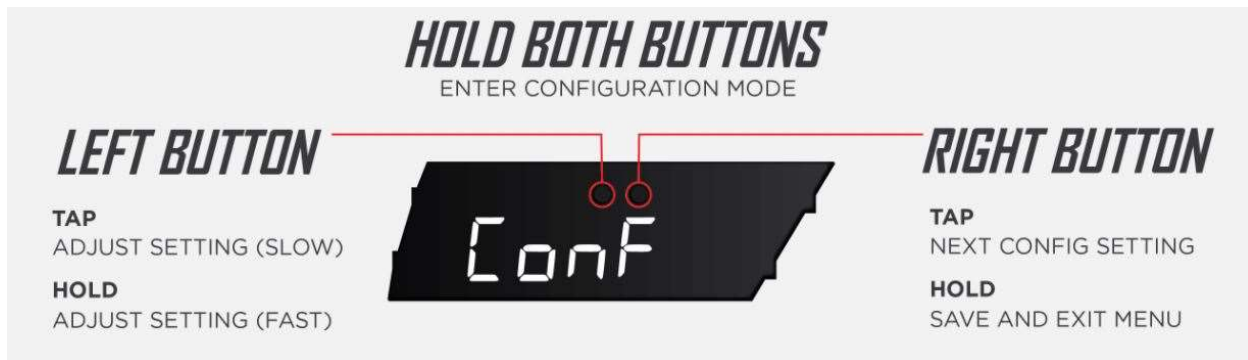
1- Make sure your vehicle is KOEO (key on, engine off)

2- HOLD both buttons until you see "ConF" appear (display will then automatically switch to "d.t.c.")

3- HOLD the left button until "CLrd" is displayed. (display will show "HoLd" while holding the button and then switch to "CLrd" once clearing is completed)

(In some situations a code clear may be completed while the engine is running but KOEO is recommended)

## Configuring your P3 V3



### Configurable Parameters

#### Read / Clear Diagnostic Trouble Codes

d.t.c. = TAP left button to read DTCs / HOLD left button until "CLrd" is shown to clear DTCs

#### Boost Setting

bSt.A = Analog boost using P3 analog boost sensor (plugged into P3 V3 main harness)

bSt.b = Analog boost from tapping output wire of MAP sensor with analog input 2 (see "Analog Inputs" section for details)

bSt.c = OBD2 boost from charge pipe MAP sensor (Audi 3.0t, VW EA888, diesel)

bSt.d = OBD2 boost from vehicle MAP sensor

bSt.E = BMW E chassis digital boost from charge pipe MAP sensor

bSt.F = BMW F chassis digital boost from charge pipe MAP sensor

bSt.0 = Digital boost for Audi/VW FSI

bSt.1 = Digital boost for Audi/VW TSI/TF SI

bSt.2 = Future use

bSt.3 = Future use

bSt.4 = Alternate digital boost for BMW N54

bSt.5 = OBD2 diesel boost

bSt.6 = OBD2 rescaled MAP reading for 6th gen Camaro (all models)

bSt.7 = Future use

bSt.8 = Alternate digital boost for BMW N63

bSt.9 = Future Use

### **Analog Input 1 (brown wire on P3 V3 main harness)**

A1.n = Analog input disabled

A1.Y = Opens sub-menu for manually configuring sensor input values (see "Analog Inputs" section for details)

A1.EC = Pre-configured setting for P3 ESVA Ethanol content output (brown wire on P3 ESVA)

A1.Ft = Pre-configured setting for P3 ESVA Fuel temp output (blue wire on P3 ESVA)

A1.LC = Pre-configured setting for LC-2 wideband o2 output (yellow wire on LC-2 wideband)

A1.PS = Pre-configured setting for P3 Pressure Sensor (green wire on P3 Pressure Sensor)

### **Analog Input 2 (blue wire on P3 V3 main harness)**

A2.n = Analog input disabled

A2.Y = Opens sub-menu for manually configuring sensor input values (see "Analog Inputs" section for details)

A2.EC = Pre-configured setting for P3 ESVA Ethanol content output (brown wire on P3 ESVA)

A2.Ft = Pre-configured setting for P3 ESVA Fuel temp output (blue wire on P3 ESVA)

A2.LC = Pre-configured setting for LC-2 wideband o2 output (yellow wire on LC-2 wideband)

A2.PS = Pre-configured setting for P3 Pressure Sensor (green wire on P3 Pressure Sensor)

### **Boost Units Setting**

b.PSI = Boost read in PSI

b.bAr = Boost read in BAR

### **Boost Pressure Resolution**

Pr0.1 = Boost shown down to 1/10th units

Pr0.5 = Boost rounded down to nearest 1/2 unit

Pr 0 = Boost rounded down to nearest whole unit

### **Shift Light Setting**

SL.80 = Shift light set to 8000 RPM. Can be set from "SL.30" to "SL.90" (3000 RPM to 9000 RPM)

### **Temperature Units Setting**

dEg.F = Temperature shown in Fahrenheit

dEg.C = Temperature shown in Celsius

### **Speed Units Setting**

SP.E.Y = Speed shown in MPH

SP.E.n = Speed shown in KMH

### **Speed Calibration Setting**

SC. 0 = 0% change to raw speed in ECU. Can be set from "SC.-9" to "SC.20" (-9% to +20%)

### **Display Dimmer Setting**

d. On = Default, display will be in "bright" mode each time vehicle is started

d.On.A = Auto-dim, if more than 5 volts is sensed on green dimmer wire the display will dim. If less than 5 volts is sensed on the green dimmer wire the display will be in "bright" mode.

d.On.P = Persistent, display will stay in "bright" mode until the user manually changes to "dim" mode and vice versa

### **Power Control Option**

pCo.A = Automatic, the gauge will turn on and off with engine

pCo.b = Button, the gauge will not turn on after engine is started until the left button is pressed for 1 second (pressing right button for 1 second will show battery voltage)

pCo.S = Switched, the gauge will be on as long as it is connected to power

### **OBD2 / Analog Mode Setting**

Obd2 = The gauge will communicate over the vehicle network to pull data from the ECU

AnLg = The gauge will only use the OBD2 port for power and ground. It will not communicate on the network and will only be able to read battery voltage and the 3 analog inputs



## **Car Configuration (internal settings for vehicle communication)**

cc. A = See Configuration Chart for your model

cc. Y = See Configuration Chart for your model

cc. E = See Configuration Chart for your model

cc. F = See Configuration Chart for your model

cc. H = See Configuration Chart for your model

cc. L = See Configuration Chart for your model

## **Low Priority Mode (for use with other OBD2 devices)**

LP.n = Low Priority Mode OFF

LP.Y = Low Priority Mode ON

## **Air Fuel Ratio/Lambda**

AFr.A = Air/Fuel Ratio

AFr.L = Lambda

## **Calibrate Analog Boost Sensor (engine must be turned off)**

CAL.b = Tap left button and display will show "OpEn Air SnSr" (to verify your engine is off) it will then show "tAP.1". Tap the left button and then display will flash back and forth and then shut off. Your analog sensor is now zeroed out at atmospheric pressure

## **Factory Reset**

F.SET = Hold the left button until dots appear at the bottom of the screen to reset to factory default settings

## P3 V3 Analog Inputs

### 3 Analog Inputs

**Yellow Purple** Black - Dedicated port for P3 analog boost sensor

**Brown** - Analog input 1 (the output wire of any 0-5 volt linear output sensor can be connected here)

**Blue** - Analog input 2 (the output wire of any 0-5 volt linear output sensor can be connected here)

### **Setting Up an Analog Input using pre-configured scaling**

**\*directions shown for analog 1, directions are same for analog 2**

1- Enter the configuration menu of your gauge by holding both buttons until you see "ConF"

2- Tap the right button until you see "A1.n" for Analog 1(**brown wire**)

3- Tap the left button to change it from "A1.n" to "A1.Y"

4- Tap the right button to select a pre-configured scaling setup ("EC"=ethanol content from ESVA / "Ft"=fuel temp from ESVA / "LC"=Air/Fuel ratio from LC-2 wideband kit/ "PS"=Pressure reading from P3 Pressure Sensor)

5- Hold the right button until the screen turns off to save/exit the menu

### **Setting Up an Analog Input using manual sensor scaling**

**\*directions shown for analog 1, directions are same for analog 2**

1- Enter the configuration menu of your gauge by holding both buttons until you see "ConF"

2- Tap the right button until you see "A1.n" for Analog 1(**brown wire**)

3- Tap the left button to change it from "A1.n" to "A1.Y"

4- Tap the right button until you see "A1.dp" (this is the decimal point setting)

5- Wait for the screen to cycle to "9999" and then tap the left button to place the decimal point

6- Tap the right button to move on to "A1.Lo" (this is the minimum sensor value)

7- Tap/hold the left button to set your minimum sensor value

9- Tap the right button to move on to "A1.HI" (this is the maximum sensor value)

10- Tap/hold the left button to set your maximum sensor value

11- Tap the right button to move on to "A1.bL" (this is the lowest value for bargraph illumination)

12- Tap/hold the left button to set your lowest bargraph value (no bars illuminated)

13- Tap the right button to move on to "A1.bH" (this is the highest value for bargraph illumination)

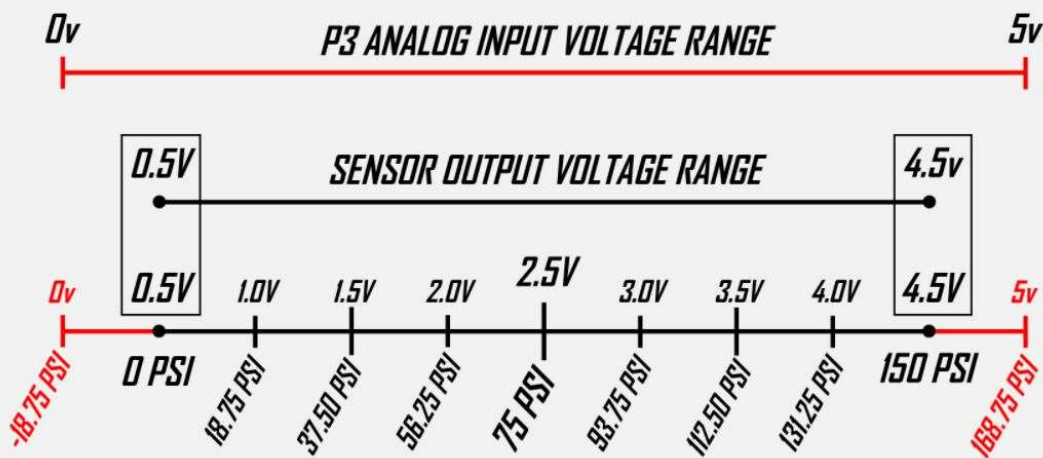
14- Tap/hold the left button to set your highest bargraph value (all bars illuminated)

15- Hold the right button until the screen turns off to save and exit the menu

5 Volt Power Source: If your sensor requires a 5v power source, you can use the purple wire on the gauge harness as your power source.

## HOW TO USE A .5V - 4.5V SENSOR WITH YOUR P3 GAUGE

**P3 GAUGE ANALOG INPUT - 0V - 5V (MIN-MAX VALUE)**  
**OIL PRESSURE SENSOR - .5V - 4.5V (0-150 PSI)**



**.5V = 0 PSI / 4.5V 150 PSI**  
IS THE SAME AS  
**0V = -19\* PSI / 5V = 169\* PSI**

## **PROGRAMMING YOUR GAUGE**

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**A1.LO = -19\***

**A1.HI = 168\***

**\*ROUNDED TO WHOLE NUMBERS**

## P3 V3 Troubleshooting Checklist

### 1 - Start your engine

- Your gauge is designed to turn on and off with your engine automatically. Start your engine, your gauge should power up within a few seconds of startup.

### 2 - Check your connections

- OBD2 port connection
- OBD2 harness to Main harness connection
- Main harness to Control box connection
- Control box to display connection

### 3 - Check your configuration settings

- With your engine off HOLD both buttons until you see "ConF" then release (the gauge will then switch to the "d.t.c." setting)
- TAP the RIGHT button once and write down what the gauge displays (it should be your boost setting - "bSt.x")
- TAP the RIGHT button again and write down the next setting
- Repeat steps 2-3 until you have written down all the settings
- Compare your settings with the settings listed for your vehicle in the configuration chart
- Adjust your settings, if necessary, by TAPPING the LEFT button once you are on the setting that needs changed
- HOLD the RIGHT button until the screen turns off to save/exit the configuration menu
- Start your engine to retest functionality
- If your gauge still does not function properly, include the list of settings you wrote down in your support request - we will need this list in order to assist you

### 4 - OBD2 Fuse

- If you have verified your connections and still cannot enter configuration mode check your OBD2 fuse (reference your vehicle's owner manual for fuse identification)