



## Commander 950 Wide-Band Oxygen Sensor Gauge PN 534-200

Fits 3<sup>rd</sup> Generation Oxygen Sensor Controllers

**NOTE:** This gauge is only for 3<sup>rd</sup> Generation controllers. See information below for more details.

### Making sure you have a 3<sup>rd</sup> Generation Controller:

3<sup>rd</sup> Generation controllers started being produced in mid-2006. It has a 3 wire weather pack connector for the C950 connection, a black 2 wire connector for the gauge, an orange 2 wire connector for a communications connection (not used at this time), and the 8 pin connector for the O2 sensor. Previous versions do NOT have the 2 wire orange connector. See picture of controller.



### Connecting the Gauge:

The gauge has 4 wires. They are to be connected as follows:

**White** – Connect to 12 volt switched ignition power.

**Black** – Connect to good chassis ground

**Pink** – Night Dimmer – Connect to low current 12 volt supply that is active when the lights are turned on. This will dim the display when the lights are turned on. This is optional.

**White/Green** – This connects directly to the wide-band controller. The gauge has one wire with a 2 pin connector. Connect it to the mating 2 pin connector on the wide-band controller (2 black wires - **see arrow**).

### Gauge Settings:

The gauge comes pre-programmed with base settings. You can plug it in, and use it as-received. However, the gauge can be configured for different brightnesses, and different LED set points and strategies. The information below shows how to change these settings if desired. It is best to try it as programmed out of the box.

### Changing the Gauge Configurations:

If configuration changes are desired, perform the following steps. You must scroll through all of them from beginning to end each time you want to change some or all of the settings.

1. There are 5 main parameters that can be adjusted. The daytime brightness, the nighttime brightness, the bar/dot mode of the LED's, the stoichiometric fuel value, and the LED ranges for different A/F ratio points (which are several settings).
2. Push and hold both buttons on the gauge. After a few seconds, "Pro" will appear on the gauge and go directly to "1 9" with the 9 flashing (**Figure 1**).
  - The **right button** is always used to change/increment the value of the specific setting.
  - The **left button** is used to either move through each digit if there are multiple digits to change, or move to the next setting.
3. **SETTING 1** – This is the first setting and will appear as **Figure 1** with a "1 9" This indicates setting 1 with a value of 9. This setting is used for the intensity of the LED lights on the gauge with NO headlights on (0 = dim and 9 = bright). If you wish to leave this value alone, push the left button. If you wish to change this value, push the right button until it changes to the desired value. Once changed push the left button to move to the next setting.



Figure 1

4. **SETTING 2** – This setting is used for the intensity of the LED lights on the gauge with the headlights on (0 = dim and 9 = bright). This is defaulted to a value of 3 as shown in **Figure 2**.



**Figure 2**

5. **SETTING 3** – This setting (**Figure 3**) is used for the LED Bar Mode (BLUE – GREEN – YELLOW – RED). You can choose from 8 options - **0** = Dot mode, **1** = Standard Bar, **2** = Split Bar Type #1, **3** = Split Bar Type #2, **4** = Split Bar Type #3, **5** = Reverse Bar, **6** = Wide Dot, **7** = Bar/Junction Mode #1, **8** = Bar/Junction Mode #2.

Note that for an A/F ratio gauge, the “Split Bar” type is not typically used. Choices 0, 1, 5, 6, 7, or 8 are typically used. Choice “0” is the default setting.



**Figure 3**

6. **SETTING 4** - This is used to set the “stoichiometric” value of the fuel being used. It has a default setting of 14.70 meaning an air/fuel ratio of “14.7:1”. This is the typical value used for gasoline. If you are using E85 or Alcohol, you may want to change this. Unless you know what you are doing, leave this alone.

**Note:** You will need to push the left button multiple times to scroll through this setting. You will first scroll past the first numbers (the tens and ones position) (**Figure 4**), then move to the next screen (**Figure 5**) which shows the decimal places. Scroll through this until you get to the next screen which will show “011.” with a blue LED lighted up in the lower left corner (**Figure 6**).



**Figure 4**



**Figure 5**

7. **SETTING 5** – The remaining settings are used to define the numerical A/F ratio value range for each LED color segment. Five values need to be assigned.

The LED color bar on this gauge sweeps from blue to green to yellow to red. The first value to set is the minimum value in the first blue segment. This is defaulted to 11.0. You can tell you are setting this value by seeing the left most lower blue LED lit up. (**Figure 6**). You will first set the tens and ones values (two numbers to the left of the decimal point, **Figure 6**), then the values to the right of the decimal point (tenths and hundredths, **Figure 7**).



Figure 6



Figure 7

The next position to set is the minimum value for the green LED range. You can tell you are on this setting by seeing the Green LED lit (**Figure 8**). This is defaulted to 12.0. Set it the same way you set the blue segment above.



Figure 8



Figure 9

The next position to set is the minimum value for the yellow LED range. You can tell you are on this setting by seeing the Yellow LED lit (**Figure 10**). This is defaulted to 13.0. Set it the same way you set the blue segment above.



Figure 10



Figure 11

The next position to set is the minimum value for the red LED range. You can tell you are on this setting by seeing the Yellow LED lit (Figure 12). This is defaulted to 14.0. Set it the same way you set the blue segment above.



Figure 12



Figure 13

The next position to set is the maximum value for the red LED range. You can tell you are on this setting by seeing the Yellow LED lit (Figure 14). This is defaulted to 15.0. Set it the same way you set the blue segment above.



Figure 14



Figure 15



Figure 16

8. After entering the 5<sup>th</sup> setting, the gauge should read "END". If for some reason the gauge is not functioning properly, the gauge will read "ERR".

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