

Energy and Water Solutions

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DIEL

Software Instructions for the Feed-Back System

Minimum Computer Requirements:

PC Pentium or Similar with 1GHz processor or larger

RAM Memory: 128M

OS: Windows 98 or XP (recommend)

Serial Port

RS232 – 9 PIN Male

Installation:

Download the software from our website at: www.ewsews.com/cnghow.html

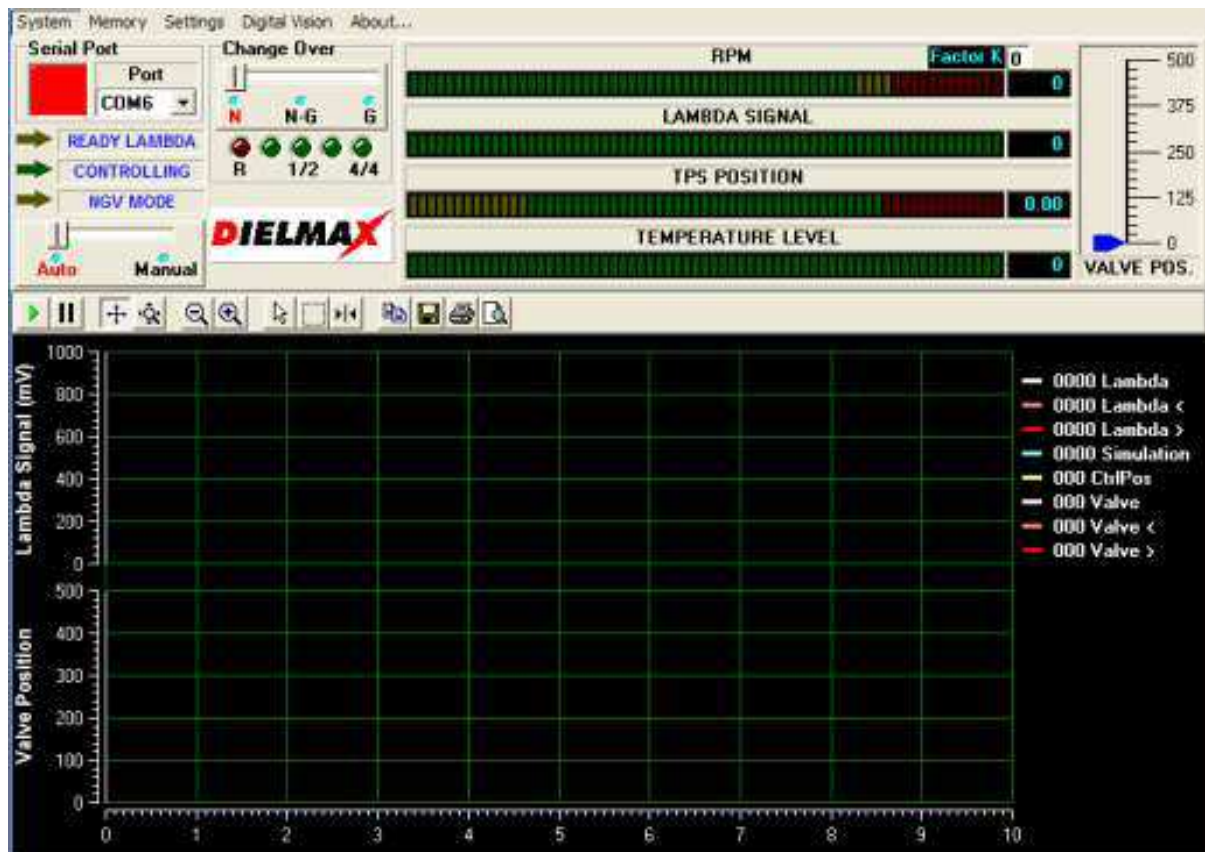
Follow the instructions that appear on screen.

PC Communication:

A computer cable will be provided with your kit, if needed. It will connect from the DIEL control module to a 9 Pin Male Serial Port.

Note: IF your computer does not have a 9 Pin serial connector, you can purchase a USB – Serial 9 Pin Male interface cable that is available from our Website at: www.ewsews.com/cngprices.html or is available at Radio Shack and other computer stores.

Visual Display Main Screen



Selection of the Communication Port

When the program begins you will have to select the communication port. When the proper communication port is selected the Red box will turn to Green and the engine parameters will be displayed when the engine is running. Also displayed will be the CNG fuel level, the Change Over Switch position, and the position of the Stepper Motor. The real-time Oxygen Sensor voltage and the Stepper Motor position are also displayed in the graph in the lower section.

Automatic & Manual Stepper Motor Position

Automatic: The stepper move according to the Lambda Oxygen Sensor voltage.

Manual: The Stepper Motor will be in a fixed position. This is the recommended position when the Lambda Sensor has a malfunction.

Note: When the Lambda Sensor is repaired the automatic position should be selected again.

Fuel Change Over Position

The fuel being used is indicated and can be changed by clicking on the desired fuel.

Factor K

This is the multiplication factor for the correct RPM scale. This value is set automatically during the programming procedure. It can get changed manually if the RPM reading is not correct. Change the value to get the proper RPM reading if needed. Take like reference the following board:

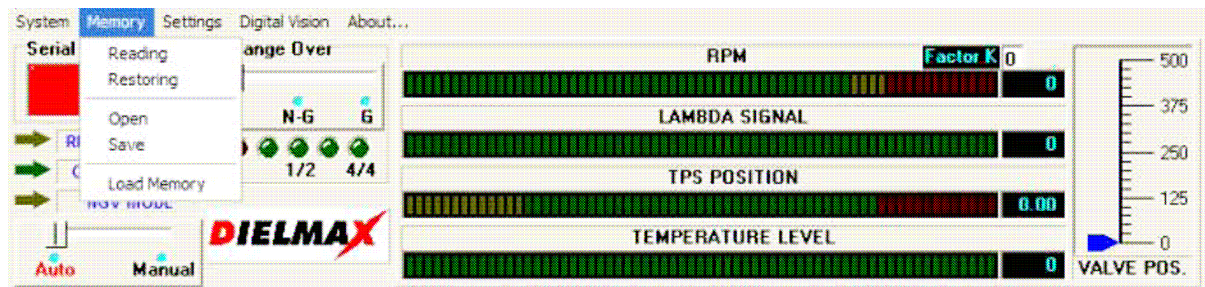
IGNITION COIL TYPE - Factor K

Simple Coil (1 negative pulse) Set to 1

Double Coil (2 negative pulses) Set to 2

Triple Coil (3 negative pulses) Set to 3

Note: The wrong value selected for the factor K will not affect the Stepper Motor operation, but will affect when the Fuel Change Over will occur and when the CUT OFF is activated.



MEMORY Menu

Reading: This selection reads the memory

Restoring: Restores the memory before beginning with modifications. This is useful if there was some errors made of some parameters during modification.

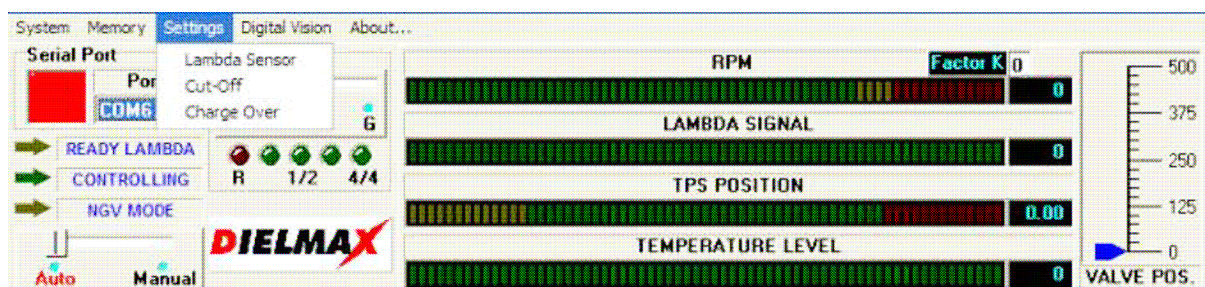
Open: Reads a saved & selected memory on the hard disk of the PC and imports it.

Save: The system saves the current configuration in a selected place on the PC.

Load Memory: The system loads the current configuration to the Control Module. In order to be able save the configuration, Switch 4 of the Control Module must be in the ON position (Programming Open).

Saving Your Configuration

1. Set Switch 4 on the Control Module to ON.
2. Start your engine.
3. Change all settings desired while the engine is running.
4. Click on MEMORY – Save - Save the configuration to your computer.
5. Click on MEMORY – Load Memory – Loads the current configuration to the Control Module.
6. Push the button on the Control Module once.
7. Set Switch 4 on the Control Module to OFF.
8. Turn off engine.

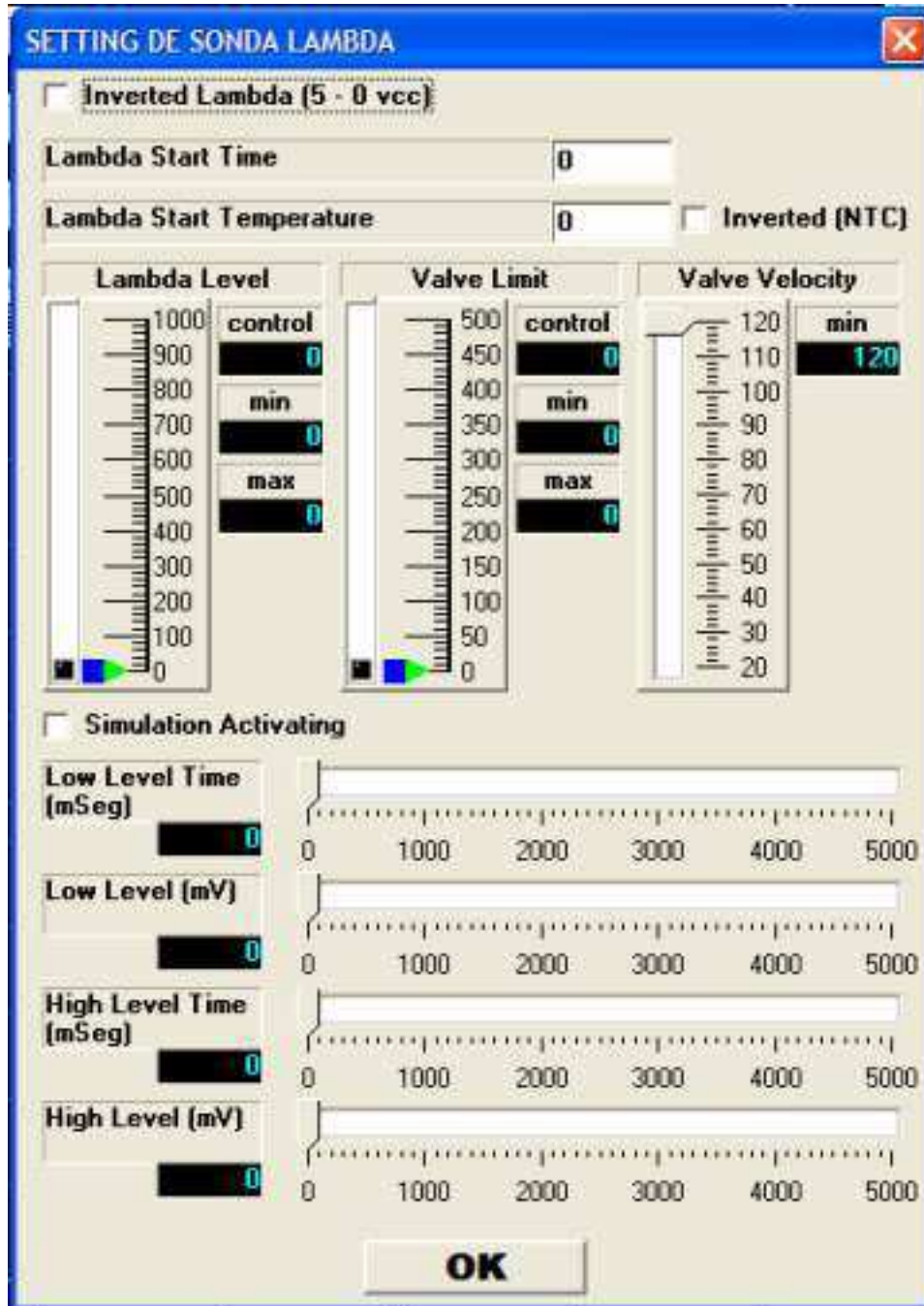


SETTINGS Menu

Lambda Sensor: Menu for visualization, modification and simulation of the Lambda Sensor parameters. Can be accessed directly with the F10 key.

Cut-Off: Menu for visualization, modification and simulation of CUT OFF parameters. Can be accessed directly with the F11 key. These setting are normally not changed.

Change Over: Menu for changing the RPM parameters when the Control Module passes from Gasoline to CNG. Can be accessed directly with the F12 key. Clicking and holding the left mouse button on the marker and sliding it toward the desired value can modify the value indicated by the marker. The default and recommended setting is 2,000 RPM.



Lambda Oxygen Sensor Settings

Inverted Lambda (5 to 0 Volts): This configuration by default is not selected, given that the majority of systems are equipped with Lambda Sensor that are variable from 0 to 1 Volt. This selection serves in systems with Variable & Inverted Lambda Sensor from 5 to 0 Volts. (Usually automotive European cars like VOLVO)

Lambda Sensor Start Time: Set to 15 to 30 seconds for vehicles with common Lambda Sensors (Not Heated). If the vehicle has Heated Lambda Sensors the value should be set to 0 (ZERO).

Lambda Sensor Start Temperature: Should be set to 0 (ZERO).

Lambda Value: These values become established automatically when the Control Module is programmed. The Green and Red values indicated are in mV and indicate the minimum and maximum values of the reading respectively. The blue marker indicates the intermediate value of control used so the Stepper Motor makes the necessary corrections. You should not change these values.

Valve Limit: The Valve limits are automatically set during programming. The values indicate the STEPS of the Stepper Motor. The Green and Red markers indicate the minimum and maximum values respectively that the Stepper Motor will go to. The blue marker indicates the Intermediate value of control where the Stepper motor goes to establish the necessary corrections. Clicking and holding the left mouse button on the desired marker and sliding it toward the desired value can modify the values indicated by the markers. The values obtained during programming should not be changed under normal circumstances.

Note: If the programming can not be completed on your engine, the values can be set correctly by noting the minimum and maximum values of the stepper motor during idle and at 2500 RPMs. Set the Green marker to the minimum value and the Red to the maximum value. The values should be saved as explained above under Saving Your Configuration.

Important Note: If during programming the Stepper Motor closes causing the engine to stall, slide the Red Marker up to near 500 while programming. Monitoring the Valve Limit while programming is recommended.

Valve Velocity: It is established automatically during programming. The value indicates the velocity of the Stepper Motor. Clicking and holding the left mouse button on the marker and sliding it toward the desired value can modify the value indicated by the marker. The value obtained during programming should not be changed under normal circumstances.

Simulation Activating: This selection should not be used, as we do not interrupt the Lambda Oxygen Signal. The signal is only monitored.

Do not call your dealer or EWS with installation questions unless you are sure there is a problem with your conversion kit. It is your responsibility to install your kit. Call a friend for help or take your car to a repair shop for help if needed.