

Afterwards it is possible to work on the other parameters.

(AFR = Air Fuel Ratio = Pounds of air / pound of fuel)

Use: **Lambda** AFR

Volt vs. lambda curve points

1.95	Volt at Lambda	0.65
4.8	Volt at Lambda	1.6

Multiplier to calculate AFR from lambda

(14.57) Gasoline

Analog output value in particular conditions

Warmup output: Volt 3 or high impedance

Error output: Volt 1.5 or high impedance

“Use: Lambda/AFR” these buttons allow the user to decide whether showing Lambda values or AFR (Stoichiometric) ones. The appearance of the panel below depends on this choice; here down are the panels showing Lambda values (left) or AFR (right).

Volt vs. lambda curve points			
<input type="checkbox"/>	1.95	Volt at Lambda	0.65
<input type="checkbox"/>	4.8	Volt at Lambda	1.6

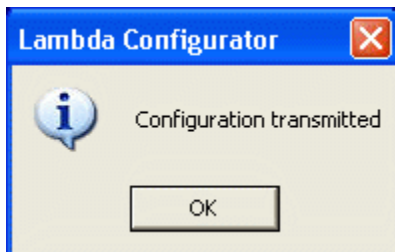
Volt vs. lambda curve points			
<input type="checkbox"/>	1.95	Volt at AFR	9.47
<input type="checkbox"/>	4.8	Volt at AFR	23.31

The coloured button placed on the left of the cases indicates the colour of this value on the central graph. In the example the value is showed in light blue.

Once decided which values to show, just fill in the cases.

When all the values have been inserted the configuration has to be transmitted to **LCU-ONE Analog** pressing “Transmit lambda configuration” button, placed in the left keyboard.

The system will show a confirmation message. In case **LCU-ONE Analog-PC** connection is not ok the system shows an error message (right figure).



3.2.3 – The keyboard

On the left of the window are some buttons:

- “Restore default lambda settings”: allows the user to restore default settings on **LCU-ONE Analog**.
- “Transmit lambda configuration”: allows the user to transmit the configuration to the device
- “Read Lambda configuration”: reads the configuration from the connected device
- “UpgradeFirmware”: allows the user to upgrade the firmware of its device.

Bottom central are these buttons:

- “Save Lambda settings”: allows the user to export Lambda configuration
- “Load lambda settings”: allows the user to import a Lambda configuration and transmit it to the device

In the lower part of the window are three buttons:

- “Select language”: allows the user to change the language
- “OK”: allows the user to save the set parameters
- “Exit”: allows the user to quit discarding changes.

3.2.4 – Informative panels

On top left of the software main window a series of panels shows the characteristics of the **LCU-ONE Analog** connected to the PC. These panels are different depending if the device is connected or not.

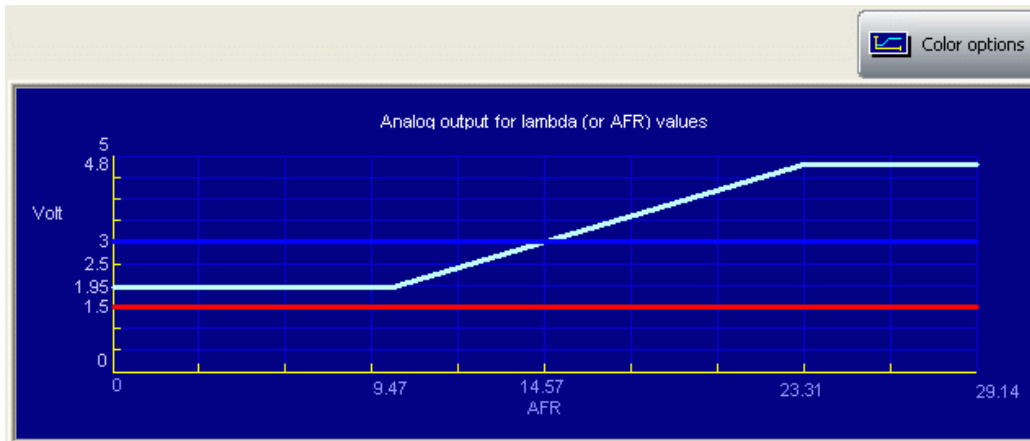
Here below you see (left) the panels with the controller connected to the Pc and (right) the same panels with the controller not connected to the PC.



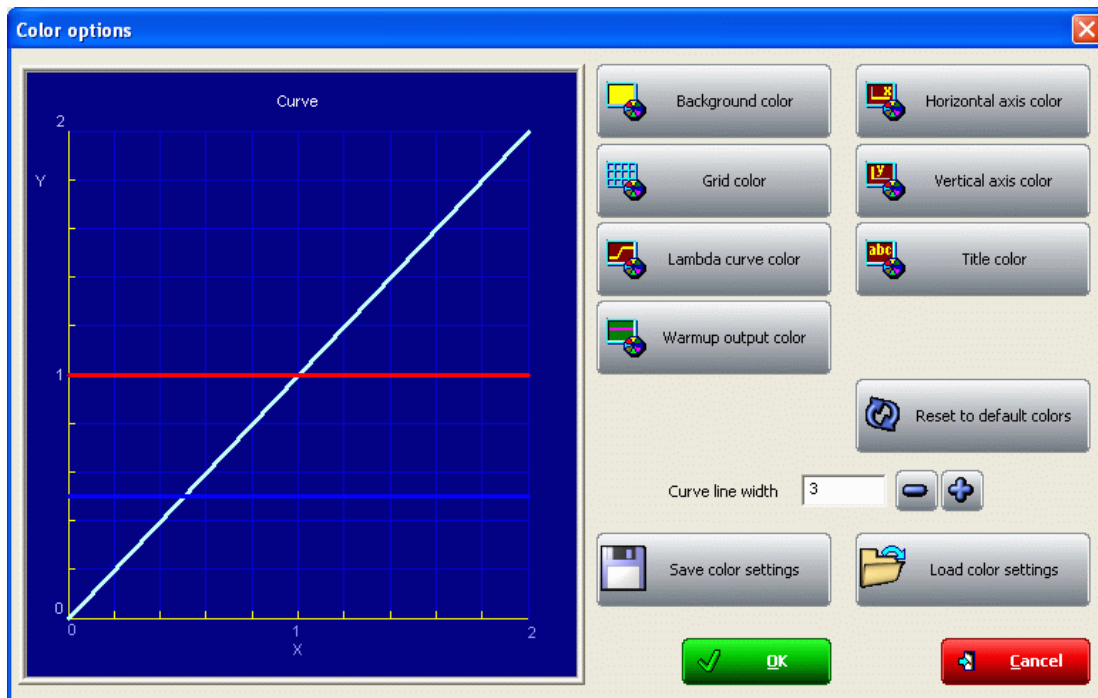
- Connected to: PC serial port
- Device type: **LCU-ONE Analog** (controller has been recognised)
- Device ID number: univocal serial number of the device
- Firmware Version: firmware version installed on the device.

If LCU-ONE Analog is not correctly connected to the Pc or if it is not connected at all, the system shows a “not connected” message and all information concerning the controller are set on N.D. (Not available)

3.2.5 – The analog output graph

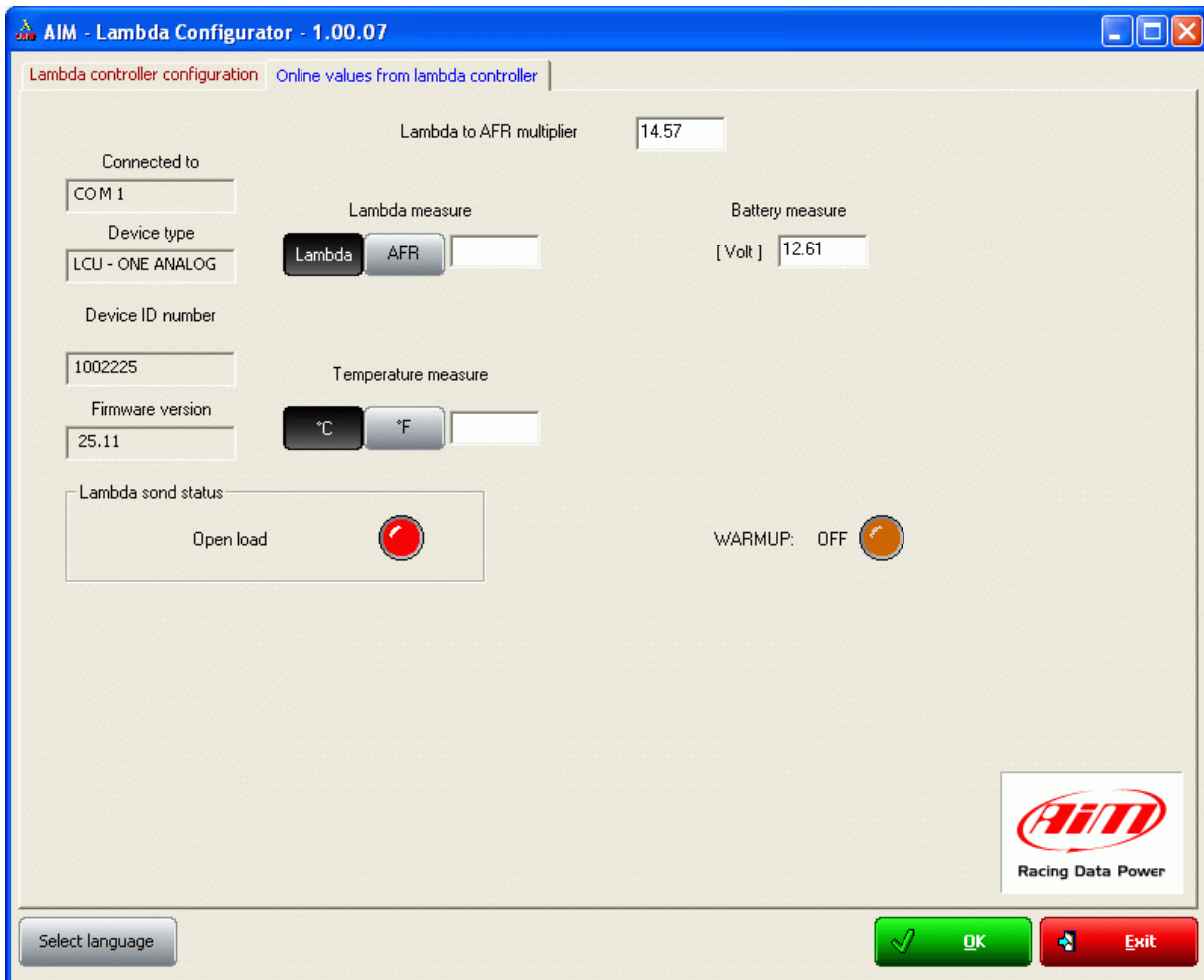


The “analog output graph” shows output tension values of the controller in correspondence of the measured Lambda values. Graph colours are customizable. Pressing “Colour options” button the window shown below appears:



Pressing each button a colour panel will appear showing all the available colours for that characteristic of the graph. Selecting the desired colour and confirming the choice graph colours will change.

Chapter 4 – Online values from Lambda controller.



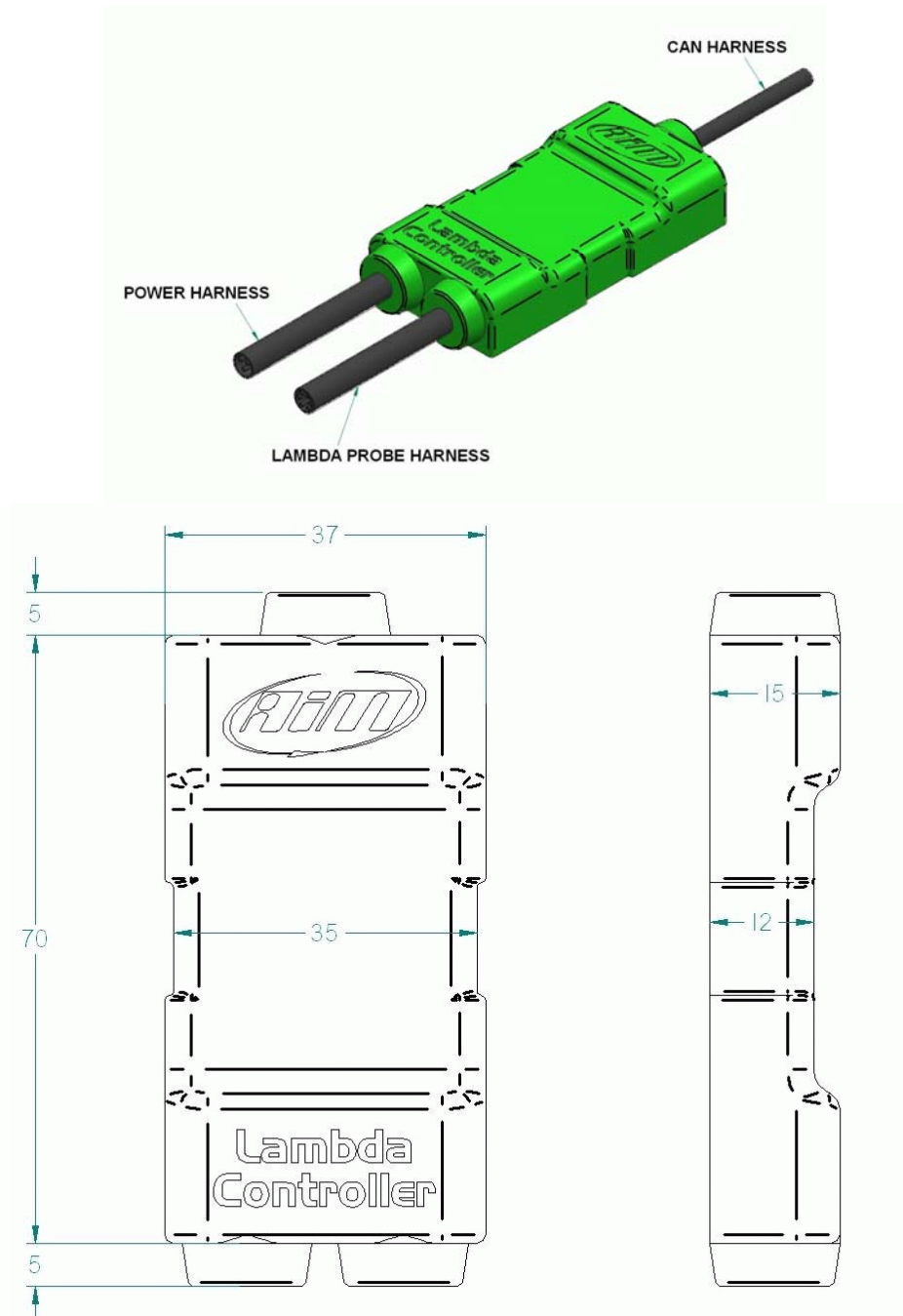
This panel shows controller status. The user is only allowed to set Lambda/AFR and temperature unit of measure for the values shown in this panel.

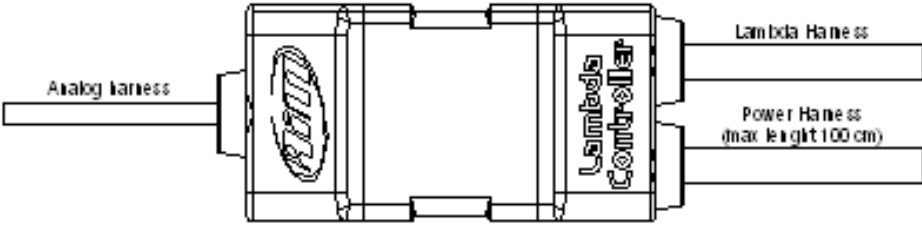

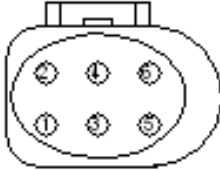

Appendix – Part Number and technical drawings

“A” – Part number of LCU-ONE Analog

Complete kit with cable for MyChron3 XGLog	X08LCU04XG
Complete kit with cable for MyChron3 Plus/Gold Auto/Moto	X08LCU04PG
Lambda Probe Bosch LSU 4.9	X05LSU490

“B” – Technical drawings



N. rev. / Rev. N.	Descrizione / Description	Data / date	Firma / Sign.	Contr. da / Out. by																																
<h2 style="margin: 0;">LCU-ONE Analog pinout</h2> 																																				
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Analog Harness</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Lambda Out</td> </tr> <tr> <td style="text-align: center;">2</td> <td>GND</td> </tr> <tr> <td style="text-align: center;">3</td> <td>RS232 RX PC</td> </tr> <tr> <td style="text-align: center;">4</td> <td>RS232 TX PC</td> </tr> </tbody> </table> </div> <div style="text-align: center;">  <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Lambda harness</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>IP+</td> </tr> <tr> <td style="text-align: center;">2</td> <td>IP-VS</td> </tr> <tr> <td style="text-align: center;">3</td> <td>H-</td> </tr> <tr> <td style="text-align: center;">4</td> <td>H+</td> </tr> <tr> <td style="text-align: center;">5</td> <td>Rcal</td> </tr> <tr> <td style="text-align: center;">6</td> <td>VS+</td> </tr> </tbody> </table> </div> <div style="text-align: center;"> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Power harness</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">red</td> <td>V battery</td> </tr> <tr> <td style="text-align: center;">black</td> <td>GND</td> </tr> <tr> <td style="text-align: center;">black</td> <td>GND</td> </tr> </tbody> </table> </div> </div>					Analog Harness		1	Lambda Out	2	GND	3	RS232 RX PC	4	RS232 TX PC	Lambda harness		1	IP+	2	IP-VS	3	H-	4	H+	5	Rcal	6	VS+	Power harness		red	V battery	black	GND	black	GND
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