

# Universal PMBus™ GUI User's Manual



## DOCUMENT REVISION HISTORY

REV	DATE	SOFTWARE DESCRIPTION	S/W REV.	REMARKS
01	06242008	Universal PMBus GUI User's Manual	00.01.00 Beta	First Issue
02	02062009	Universal PMBus GUI User's Manual	00.08.00 Beta	For Universal PMBus GUI version 00.008Beta
03	02142009	Universal PMBus GUI User's Manual	00.09.00	For Universal PMBus GUI version 00.09.00 Beta
04	11272009	Universal PMBus GUI User's Manual	00.11.00	For Universal PMBus GUI version 00.11.00 Beta
05	12292009	Universal PMBus GUI User's Manual	00.12.00	For Universal PMBus GUI version 00.12.00 Beta
06	09092010	Universal PMBus GUI User's Manual	00.17.00	For Universal PMBus GUI version 00.17.00 Beta



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## GENERAL INFORMATION

This GUI Software is designed to make PSU accessible to the user using PMBus protocol. It is intended to provide information gathered from the PSU and interactive controls to the basic capabilities of Emerson Power Supply Product which complies in PMBus Protocol. This Software must be installed to PC before the user can make use all of the function of this program. This program can support AC-DC and DC-DC power supplies series. Please refer to the system requirement before starting the installation.

## SYSTEM REQUIREMENT:

### Minimum Hardware Requirements:

- Intel/AMD Dual Core Processor 1.6GHz
- 1GB RAM (add more RAM if more than 64MB is shared for the video)
- ENP USB-to-I2C Adapter

### Software Requirements:

- Windows XP
- Dot Net Framework Version 3.5 installed to run the GUI.

## INSTALLATION

**Note:** Make sure that other applications are closed before starting the installation.

### Installation Procedure

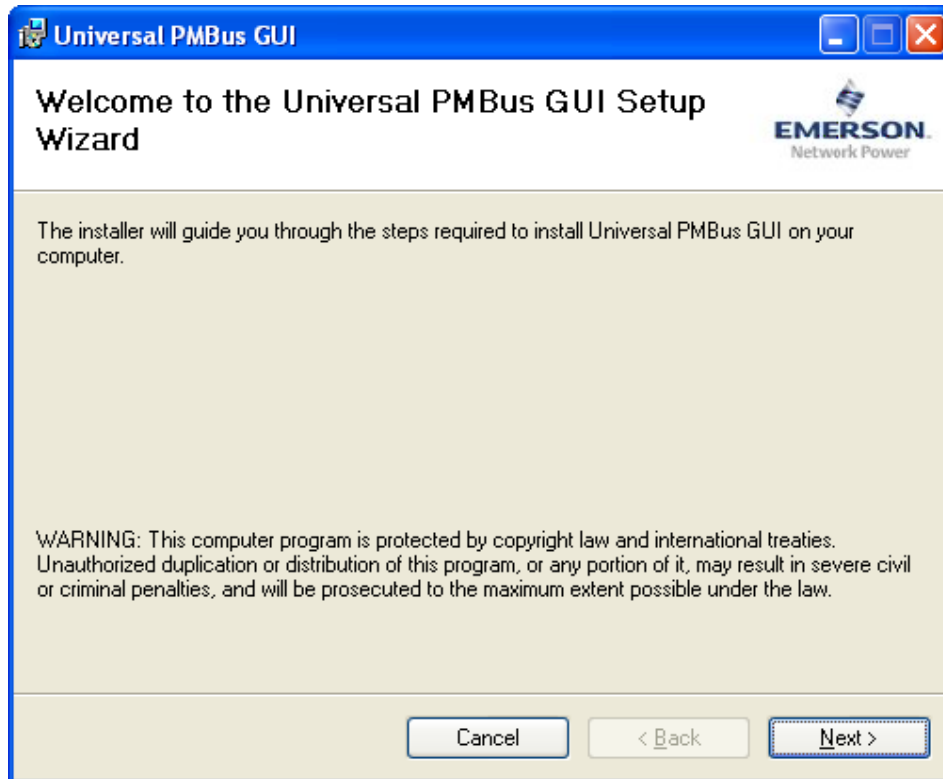
Run the installer CD, a pop up window for installation will come out. Select Install software to begin installation.



Once CD is inserted, this installer window panel will appear.

- 1) Once Install Software was selected, a pop up window wizard will appear to guide you through the installation process.

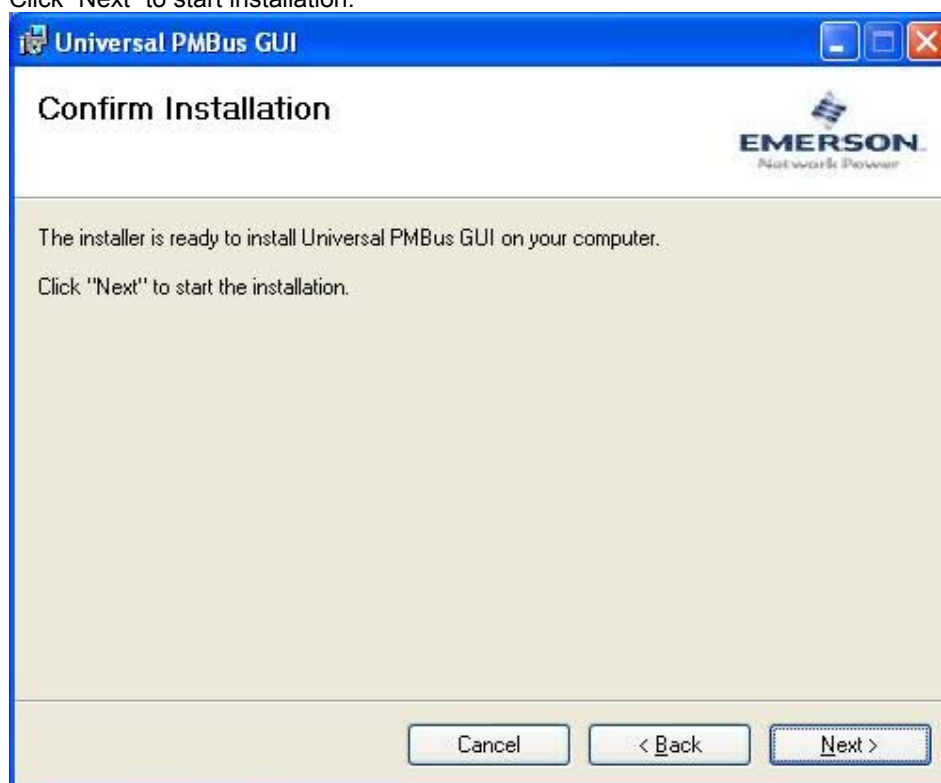
Figure below is the welcome window for software installation. Just click “**NEXT**” to begin installation.

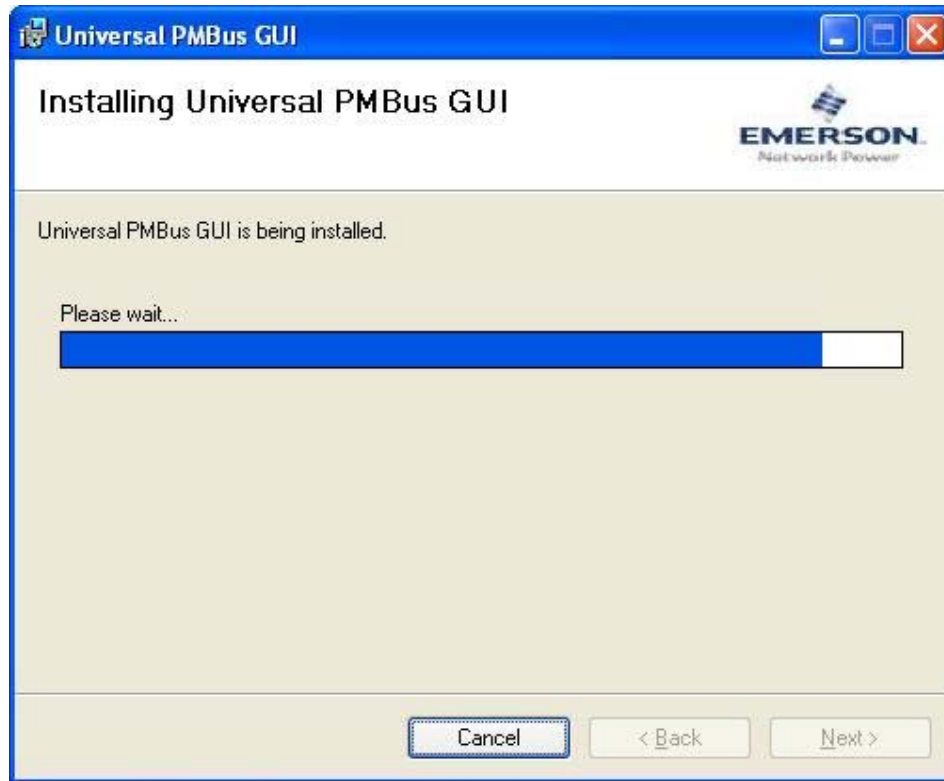


**Note:**

If you do not have the **Dot Net Framework Version 3.5** installed, the installation process will prompt you to first install Dot Net Framework Version 3.5. If not, click the “**Install .Net Framework 3.5**” in installer menu window. Once framework installed, proceed the installation of the GUI by selecting the “**Install Software GUI**” in installer menu window.

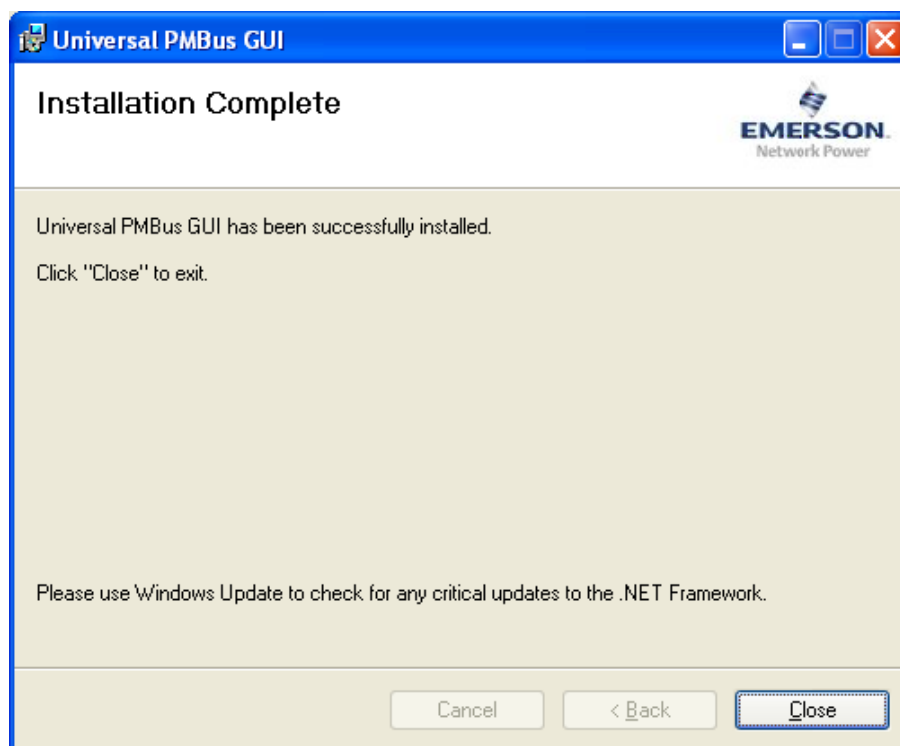
- 2) This window serves as a confirmation window that installation for GUI is now ready. Click "Next" to start installation.





- 3) GUI driver and reference file will be installed to your PC. Wait until installation completed.
- 4) Once installation completed successfully, a pop up wizard will appear that installation completed. See figure below.





Now, you can already start using the Universal PMBus GUI.

## GETTING STARTED

### GENERAL SETUP

To provide proper communication between the Universal PMBus GUI software and power supply, both PSU must be loaded with correct firmware version compatible with the GUI. The PSU must also be calibrated to make use of all the function correctly and to get correct data from actual PSU.

### PSU COMPATIBILITY

PSU Case with PMBus Protocol Compatibility

### HARDWARE SETUP

1. Plug Standard USB adapter to your PC using compatible USB cable.
2. Wait until you PC detect it as new Hardware (It only happens when first time use in USB port).
3. If USB adapter is detected by your PC, plug the connecting cable from USB adapter to I2C port of the PSU Case.

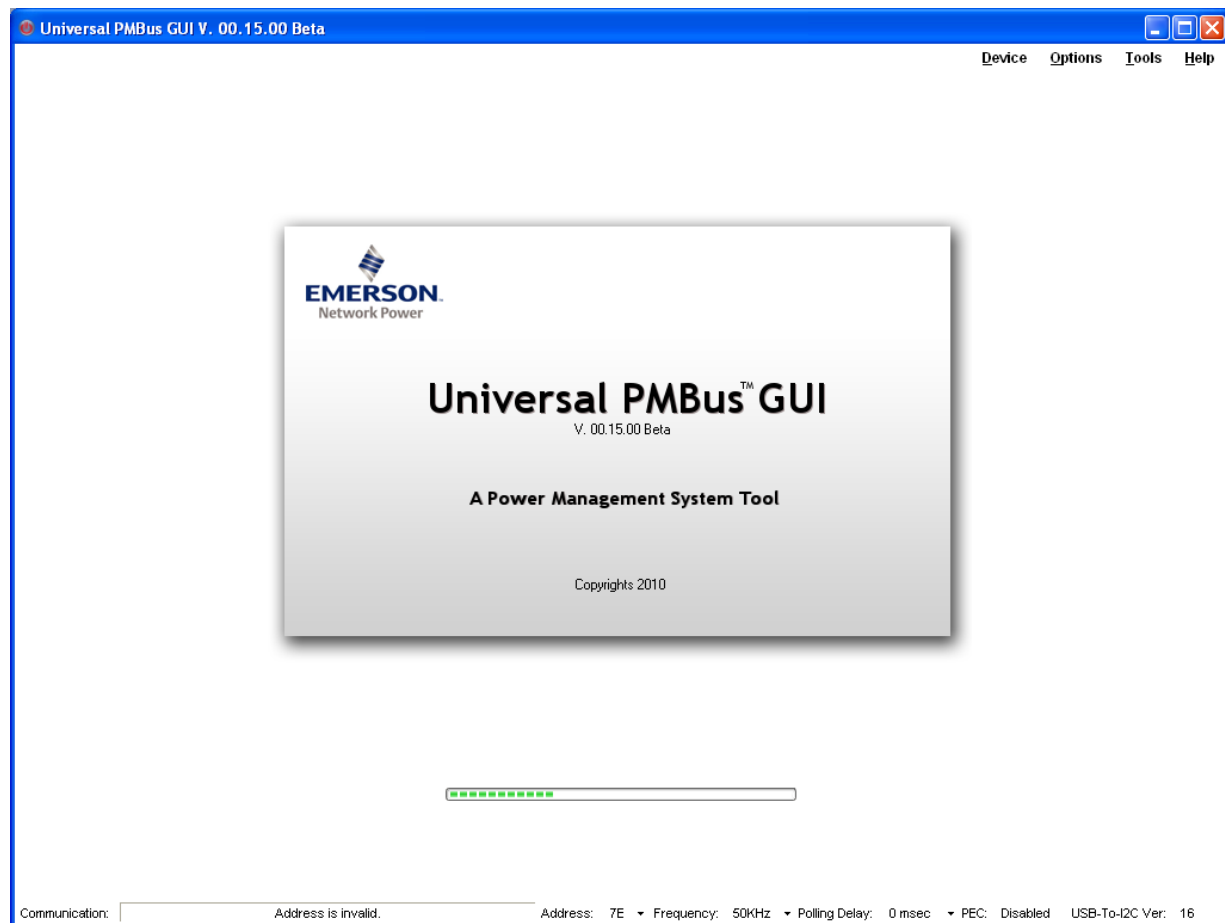
Note: Make sure that the Power Supply already power up to have proper communication with Universal PMBus GUI Software.

## LAUNCHING THE UNIVERSAL PMBUS GUI

Connect the hot PSU device to the I2C-to-USB adapter, then I2C-to-USB adapter to the PC.

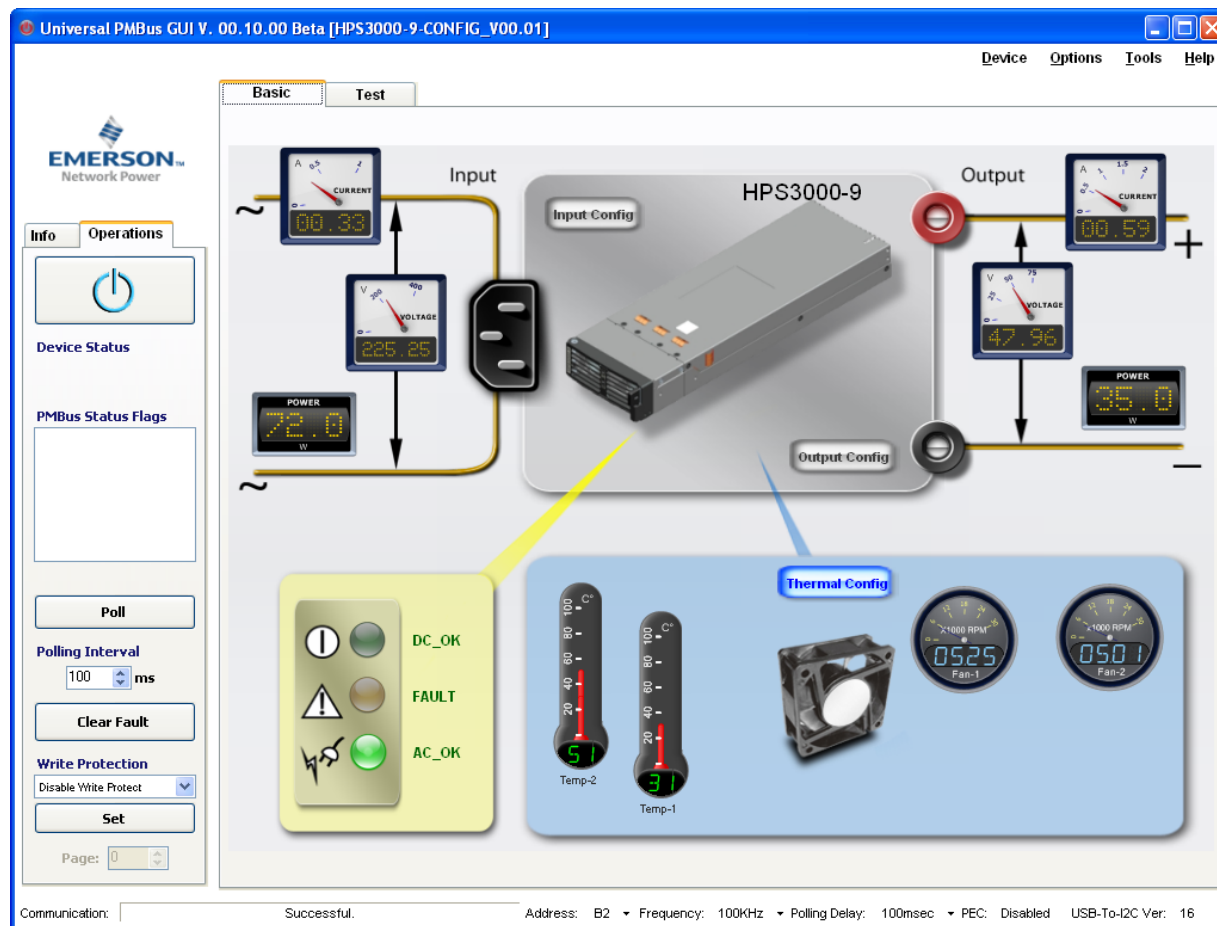


On the Start Menu Program or in your desktop, double-click the **Universal PMBus GUI** (red power) icon. A window will appear as seen below shows that the GUI is currently detecting the connected device.



**Note:** Make sure that power supply and USB to I2C adapter are connected, this is to avoid pro long process of detection then prompt the user above the invalid address.

Once the GUI has automatically detected the device the window will appear as seen below:



As an example this window shows that the HPS3000-9 unit has been detected.

## GUI DETAILS

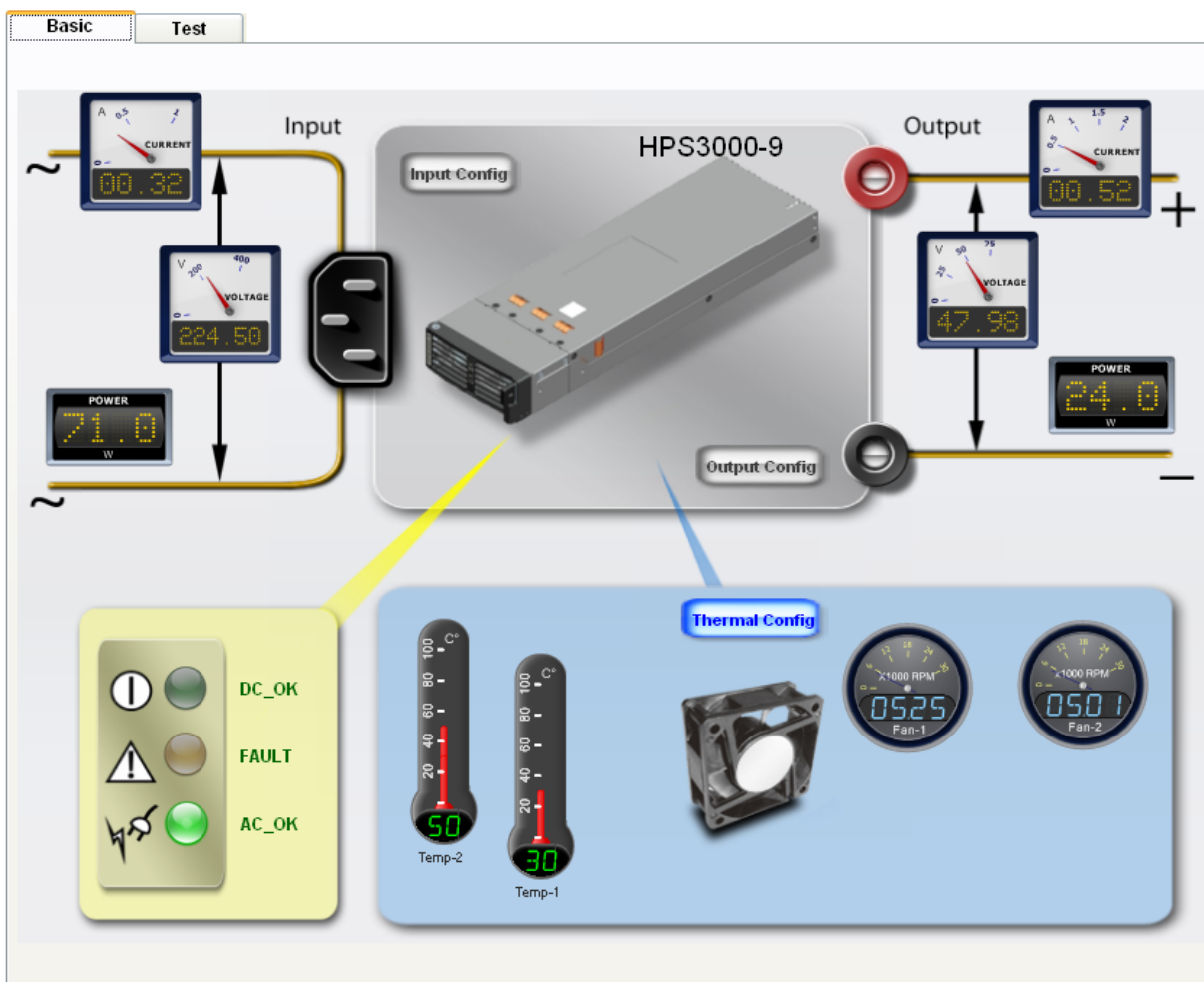
The GUI Consist of the following Panel

### A. Main Menu

- **Device** menu for making, editing, importing and exporting device configuration.
- **Options** Menu - Offline Mode and Detect Device (currently disabled)
- **Tools** Menu for Managed User (currently disabled)
- **Help** Menu - contains the **About** menu item to display the about dialog.

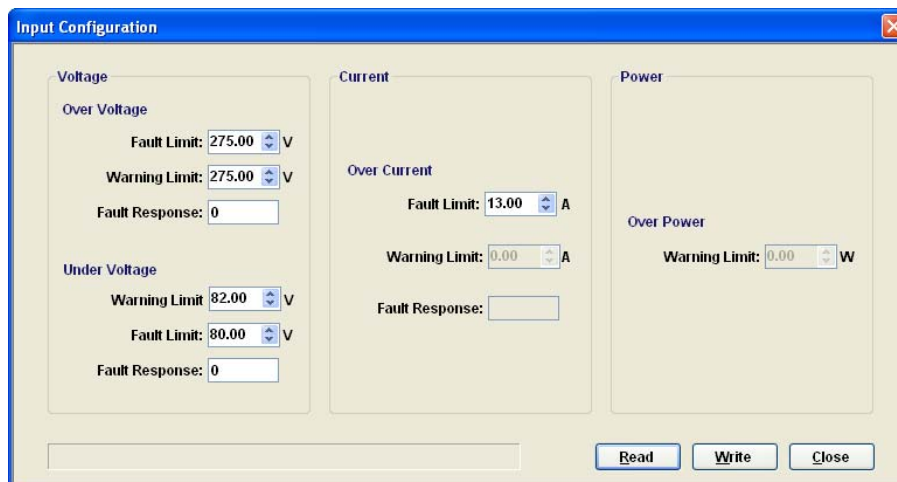
### B. Main Panels

**Basic Tab** contains the basic readable input, output, and thermal parameters of the power supply device.



This view contains graphical gauges indicating input and output parameters of the power supply (e.g. input and output voltage, current and power). It also shows the temperature reading and fan speed depending on how many temp sensors and fans are installed in the PSU. There is also an LED indicator emulation to provide easy indication of the PSU status.

**Input Configuration** – appears when the Input “Config” button is clicked on the Basic panel. Here you can set the input limits of the power supply.

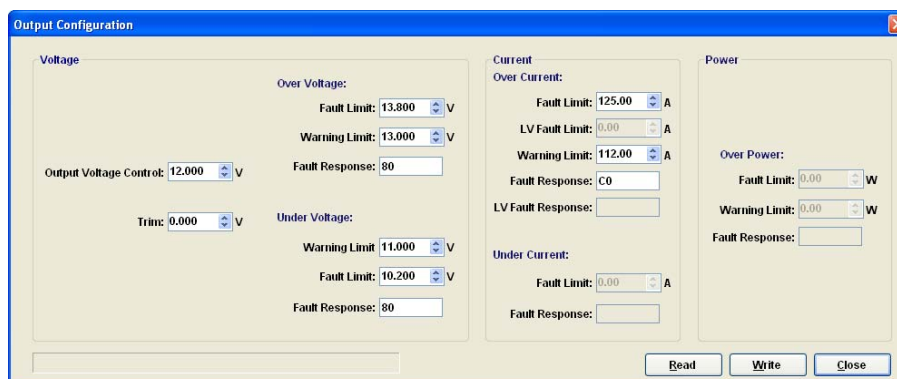


The **Input Configuration** dialog box is divided into three main sections: Voltage, Current, and Power. Each section contains specific limit and response settings.

Section	Parameter	Value	Unit
Voltage	Over Voltage Fault Limit	275.00	V
	Over Voltage Warning Limit	275.00	V
	Over Voltage Fault Response	0	
	Under Voltage Warning Limit	82.00	V
	Under Voltage Fault Limit	80.00	V
	Under Voltage Fault Response	0	
Current	Over Current Fault Limit	13.00	A
	Over Current Warning Limit	0.00	A
	Over Current Fault Response		
	Under Current Fault Limit		A
Power	Over Power Warning Limit	0.00	W
	Over Power Fault Response		

At the bottom right, there are three buttons: **Read**, **Write**, and **Close**.

**Output Configuration** - appears when the Output “Config” button is clicked on the Basic folder. Here you can set the output control and limits and of the power supply.

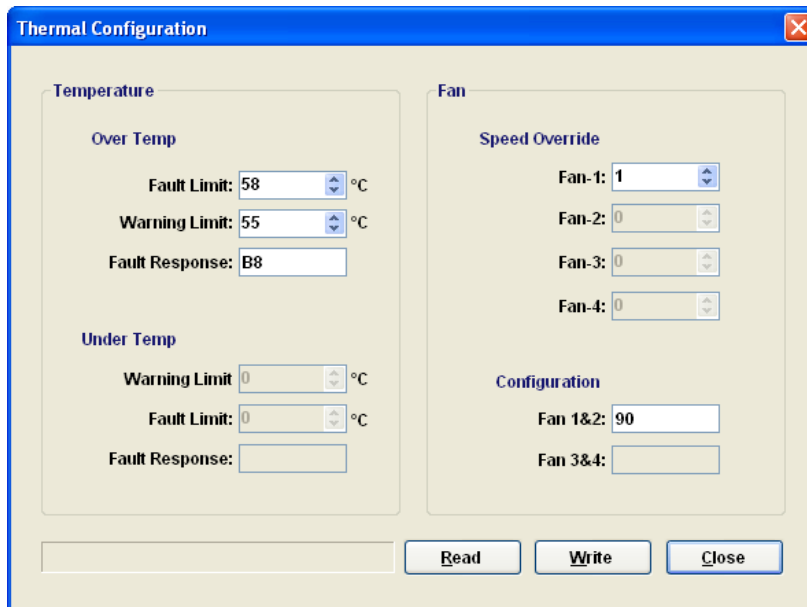


The **Output Configuration** dialog box is divided into three main sections: Voltage, Current, and Power. Each section contains specific limit and response settings.

Section	Parameter	Value	Unit
Voltage	Over Voltage Fault Limit	13.800	V
	Over Voltage Warning Limit	13.000	V
	Over Voltage Fault Response	80	
	Output Voltage Control	12.000	V
	Trunc	0.000	V
	Under Voltage Warning Limit	11.000	V
	Under Voltage Fault Limit	10.200	V
	Under Voltage Fault Response	80	
	Under Voltage Fault Response		
	Under Voltage Fault Response		
Current	Over Current Fault Limit	125.00	A
	Over Current LV Fault Limit	0.00	A
	Over Current Warning Limit	112.00	A
	Over Current Fault Response	C0	
	Over Current LV Fault Response		
	Under Current Fault Limit	0.00	A
	Under Current Fault Response		
	Under Current Fault Response		
Power	Over Power Fault Limit	0.00	W
	Over Power Warning Limit	0.00	W
	Over Power Fault Response		
	Over Power Fault Response		

At the bottom right, there are three buttons: **Read**, **Write**, and **Close**.

**Thermal Configuration** – appears when the Thermal “Config” button is clicked on the Basic folder. Here you can set the thermal limits and fan configurations of the power supply.



The Thermal Configuration dialog box is divided into two main sections: Temperature and Fan.

**Temperature Section:**

- Over Temp:**
  - Fault Limit: 58 °C
  - Warning Limit: 55 °C
  - Fault Response: B8
- Under Temp:**
  - Warning Limit: 0 °C
  - Fault Limit: 0 °C
  - Fault Response: (empty)

**Fan Section:**

- Speed Override:**
  - Fan-1: 1
  - Fan-2: 0
  - Fan-3: 0
  - Fan-4: 0
- Configuration:**
  - Fan 1&2: 90
  - Fan 3&4: (empty)

At the bottom of the dialog box, there are three buttons: Read, Write, and Close.

Here you can set commands and execute them once or continuously. This also allows you to connect to multiple devices because the **Address** column is changeable per command on the **Sequence List** view. You can also arrange the command sequence, save and load it for future use. The output data on the **Output** view, acquired to the power supply device can also be exported to a text file. The **Command Guide** shows corresponding PMBus command information by clicking a row on the **Sequence List** view.

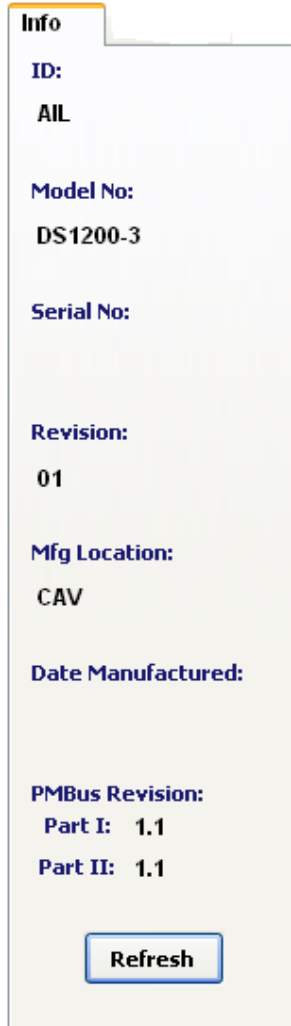
[illegible]

A sequence list can be created by clicking the **“Add”** button. A list of supported commands by the PSU will appear and can be selected to be added to the sequence list. Each command in the sequence list can be edited according to your preference by highlighting the command and clicking **“Edit”**. Commands may be removed from the list by using the **“Remove”** and **“Clear All”** button. The sequence list may be saved to a sequence list file by using the **“Save”** button, which can be reused and reloaded by using the **“Load”** button.



## C. Favorites Panel

**Info Tab** displays the manufacturing information of the power supply device.



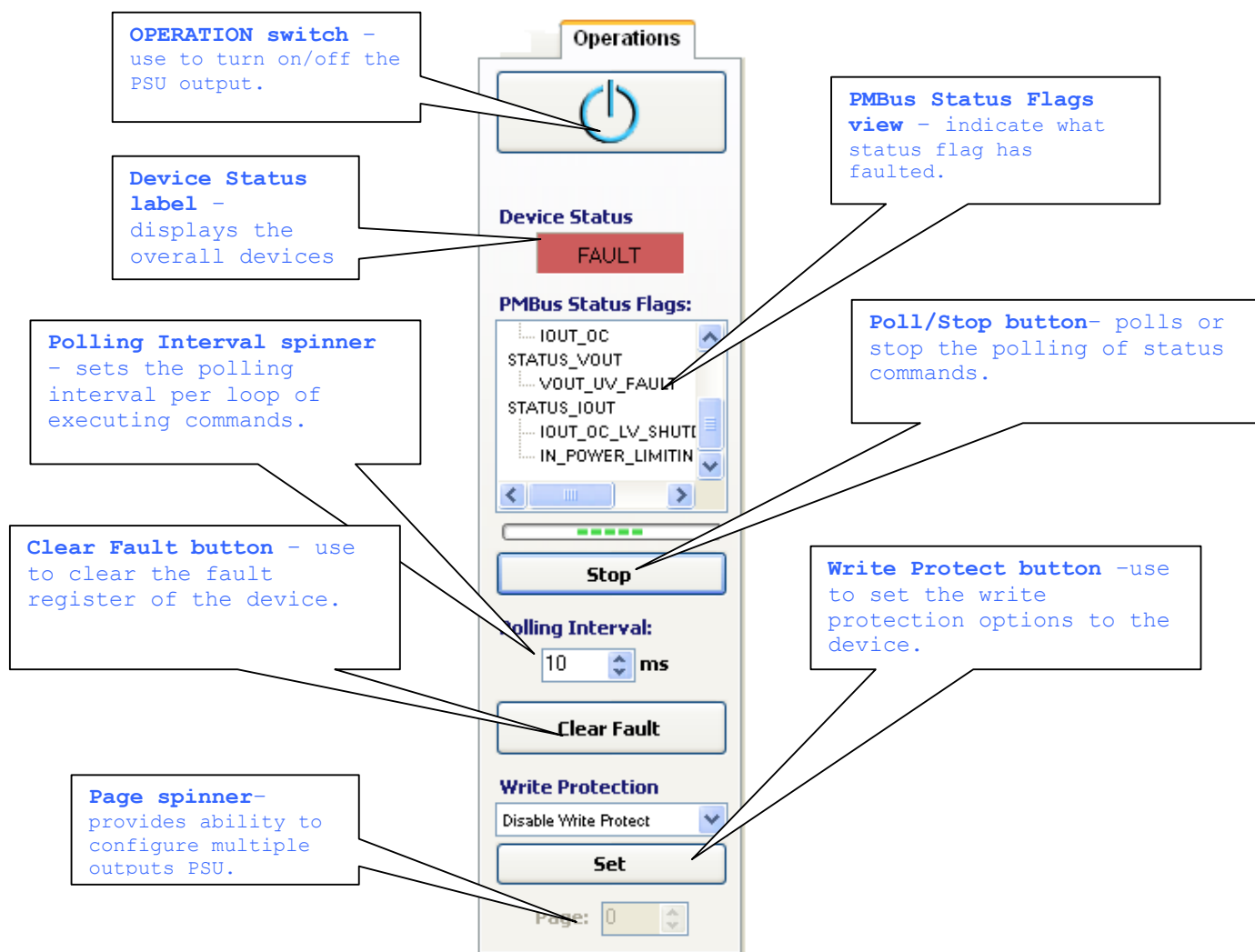
The screenshot shows a vertical panel with a tab labeled "Info" at the top. The panel contains the following information:

<b>ID:</b>	AIL
<b>Model No:</b>	DS1200-3
<b>Serial No:</b>	
<b>Revision:</b>	01
<b>Mfg Location:</b>	CAV
<b>Date Manufactured:</b>	
<b>PMBus Revision:</b>	
<b>Part I:</b>	1.1
<b>Part II:</b>	1.1

At the bottom of the panel is a button labeled "Refresh".

Note: Only supported command codes by the PSU will be displayed in this panel.

## Operations Tab



## D. Main Status

Communication: Successful Address: B2 Frequency: 100kHz Polling Delay: 100msec PEC: Disabled USB-to-I2C Ver: 16

**Communication** - displays the current USB-to-I2C communication status.

**Address** – displays the current devices address. The device address be changed by clicking its value and choosing or entering a new value. The address indicated is only applicable for the Basic Panel and Favorites Panel.

**Frequency** - displays the current USB-to-frequency.

**Polling Delay** – displays the polling delay of the execution loop.

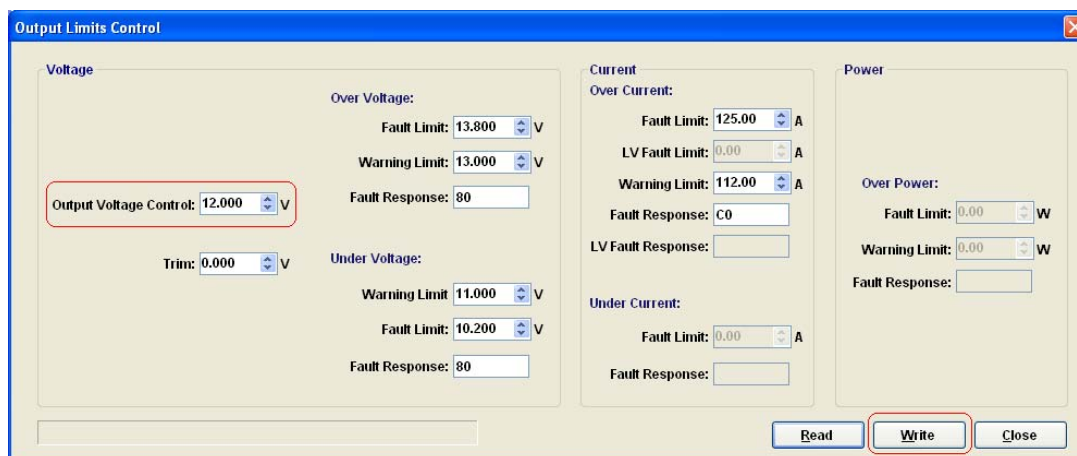
**PEC** – indicated whether the device is PEC enabled or disabled.

**USB-to-I2C Ver** – displays the USB-toI2C version.

## USING THE BASIC PANEL

### A. ADJUSTING POWER SUPPLY PARAMETERS

- 1) For example to adjust the output voltage of the power supply device, click the **Output “Config”** button. The Output Configuration dialog window will appear on the screen, as seen below, with the current Output settings of the power supply device.



- 2) If the VOUT\_COMMAND is supported by your device then the “**Output Voltage Control**” is enabled. Change its value with your desired value, and click the “Write” button. The GUI will then write to the power supply device and automatically returns the value written if it is a valid value for the device.
- 3) You may do the same steps for the other basic power supply parameters.

## B. CHANGING THE ADDRESS

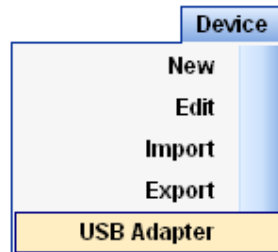
If you have a multi-device connection, you can view other devices' parameter on the Basic Panel.

- 1) Click the Address value in the Status. A list of the addresses will appear on the top of it plus a text field
- 2) Select from the list or you can enter the desired address if it is not in the list.



## C. CHANGING USB ADAPTER

To change the adapter selected, go to menu then select USB Adapter.



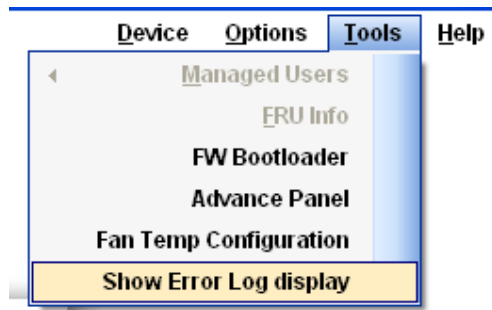
Standard Adapters are the USB adapter that uses HID driver. Communication using this adapter was slow.



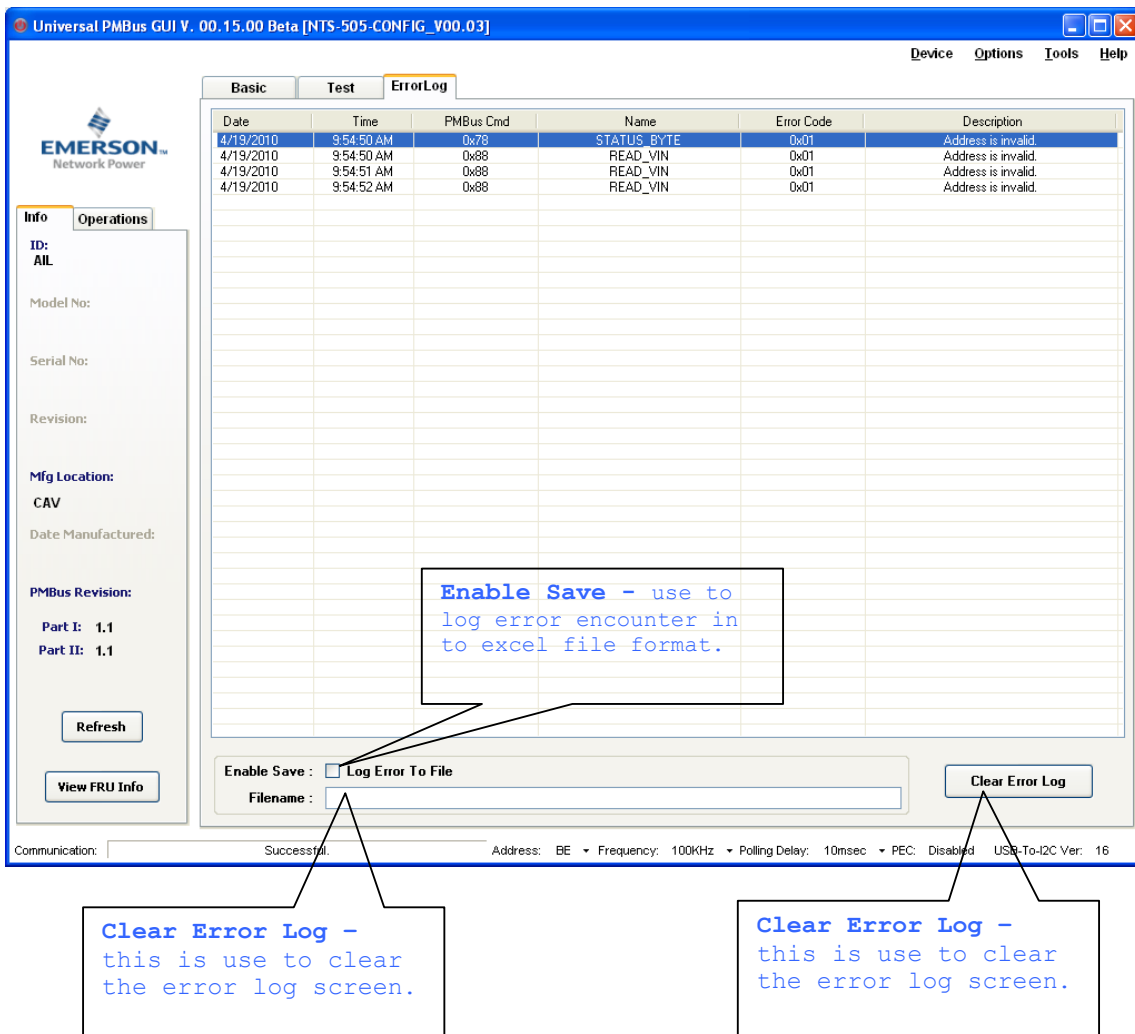
## D. SHOW ERROR LOG DISPLAY

Error log display was also base on basic panel real time display. Once basic panel encounter communication error it will log the error it encounter in Error Panel Display.

To enable the panel, go to Tool Menu then select “Show Error Log Display”.



Once “Show Error Log Display” was selected, “ErrorLog” tab will be added in Universal PMBus Panel.



**Universal PMBus GUI V. 00.15.00 Beta [NTS-505-CONFIG\_V00.03]**

Device Options Tools Help

Basic Test **ErrorLog**

Date	Time	PMBus Cmd	Name	Error Code	Description
4/19/2010	9:54:50 AM	0x78	STATUS_BYTE	0x01	Address is invalid.
4/19/2010	9:54:50 AM	0x88	READ_VIN	0x01	Address is invalid.
4/19/2010	9:54:51 AM	0x88	READ_VIN	0x01	Address is invalid.
4/19/2010	9:54:52 AM	0x88	READ_VIN	0x01	Address is invalid.

**Info Operations**

ID: AIL

Model No:

Serial No:

Revision:

Mfg Location: CAV

Date Manufactured:

PMBus Revision:

Part I: 1.1

Part II: 1.1

Refresh

View FRU Info

Enable Save - use to log error encounter in to excel file format.

Enable Save : ☐ Log Error To File

Filename :

Clear Error Log

Clear Error Log - this is use to clear the error log screen.

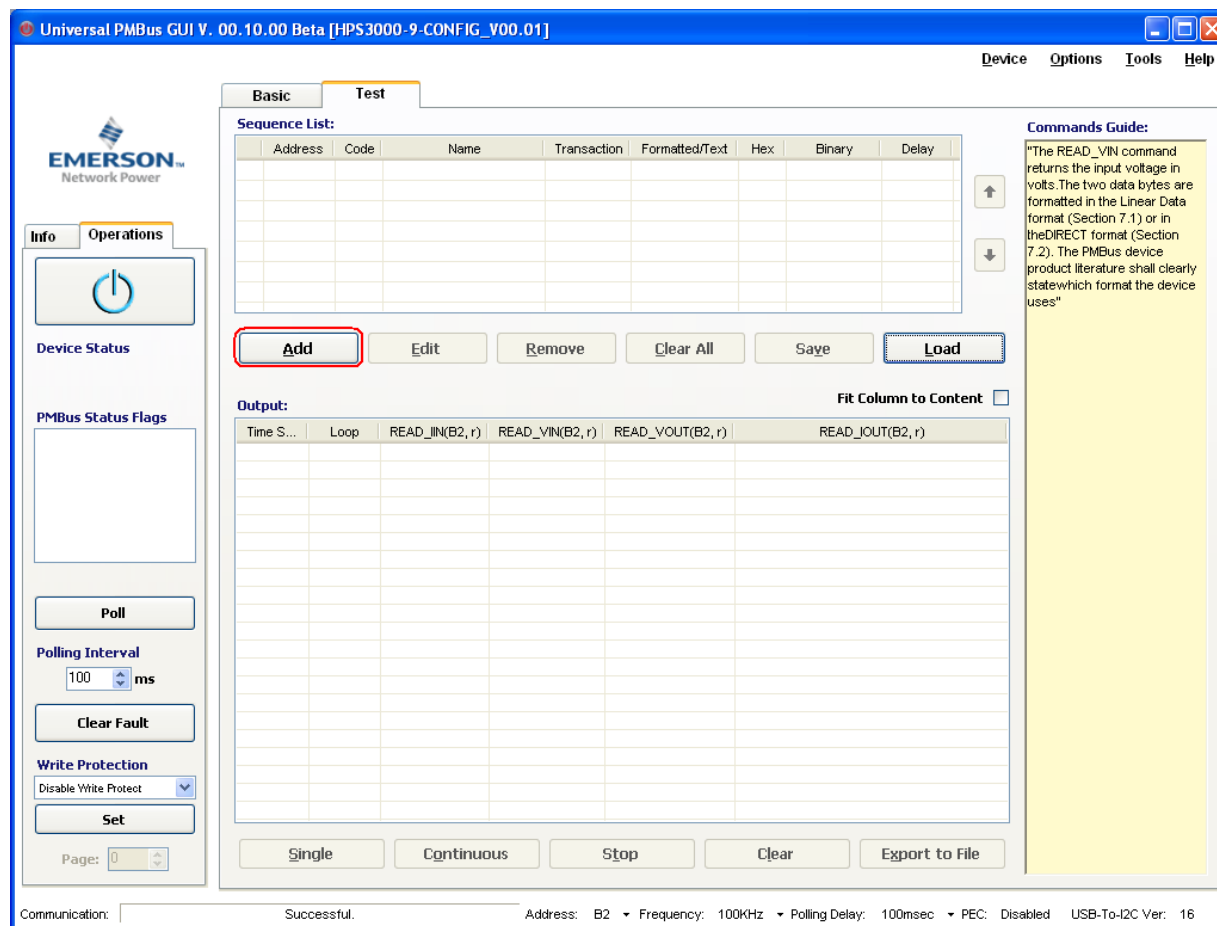
Clear Error Log - this is use to clear the error log screen.

Communication: Successful Address: BE Frequency: 100KHz Polling Delay: 10msec PEC: Disabled USB-To-I2C Ver: 16

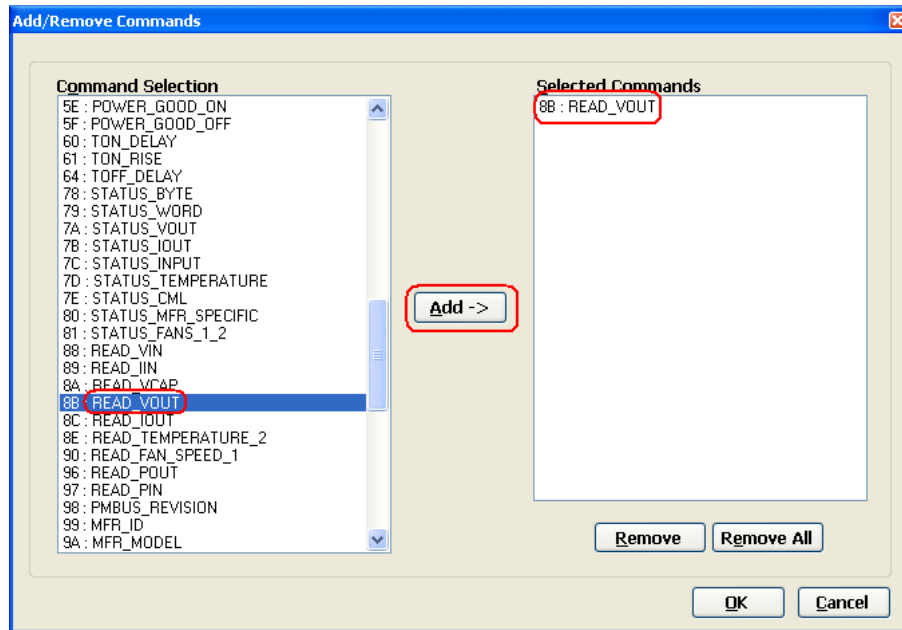
## USING THE TEST PANEL

### A. ADDING A COMMAND ON THE SEQUENCE LIST VIEW

- 1) To add a command on the Sequence List view click the Add button on the Test Panel



2) And the dialog window will appear as seen below.

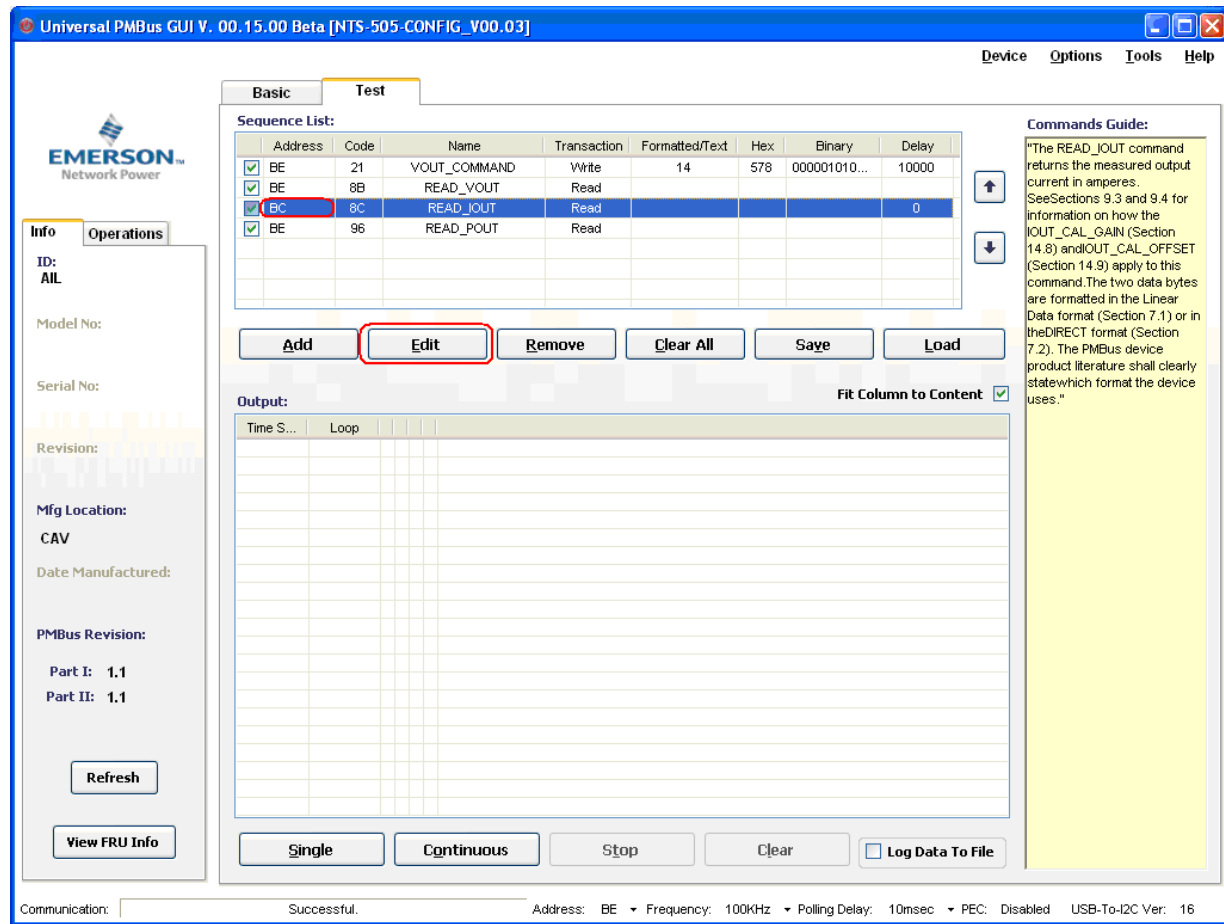


- 3) Select the desired command/s in the **Command Selection** list and press the **Add->** button. The command/s you selected will appear on the **Selected Commands** list.
- 4) You can remove command/s from the **Selected Commands** list by clicking the **Remove** button or by clicking the **Remove All** to remove them all.
- 5) To add it to the **Sequence List** view in the **Test Panel**, click the **OK** button.



## B. EDITING A COMMAND FROM THE SEQUENCE LIST VIEW

- 1) Click the Edit button from the Test Panel.



The screenshot shows the Universal PMBus GUI V. 00.15.00 Beta [NTS-505-CONFIG\_V00.03]. The interface is divided into several sections:

- Basic Tab:** Contains fields for ID (ALL), Model No., Serial No., Revision, Mfg Location (CAV), Date Manufactured, PMBus Revision (Part I: 1.1, Part II: 1.1), and a Refresh button.
- Test Tab:**
  - Sequence List:** A table with columns: Address, Code, Name, Transaction, Formatted/Text, Hex, Binary, Delay. The table contains four entries:

Address	Code	Name	Transaction	Formatted/Text	Hex	Binary	Delay
BE	21	VOUT_COMMAND	Write	14	578	000001010...	10000
BE	8B	READ_VOUT	Read				
BE	8C	READ_IOUT	Read				0
BE	96	READ_POUT	Read				
  - Buttons:** Add, Edit (highlighted with a red box), Remove, Clear All, Save, Load.
  - Output:** A large table with columns Time S... and Loop. A checkbox "Fit Column to Content" is checked.
  - Buttons:** Single, Continuous, Stop, Clear, Log Data To File.
- Commands Guide:** A text box on the right side of the Test tab providing information about the READ\_IOUT command.

At the bottom of the window, a status bar shows: Communication: Successful. Address: BE Frequency: 100kHz Polling Delay: 10msec PEC: Disabled USB-To-I2C Ver: 16

- 2) The dialog will appear as seen below. Change the **Address** value, say from **7E** to **7C**. Then press the OK button.

**Edit Command Data**

Address: 7E

Command Name: READ\_VOUT

Code: 8B

Transaction: Read

Formatted/Text:

Hex Value: 0

Binary Value:

Polling Delay: 0

OK Cancel

**Edit Command Data**

Address: 7C

Command Name: READ\_VOUT

Code: 8B

Transaction: Read

Formatted/Text:

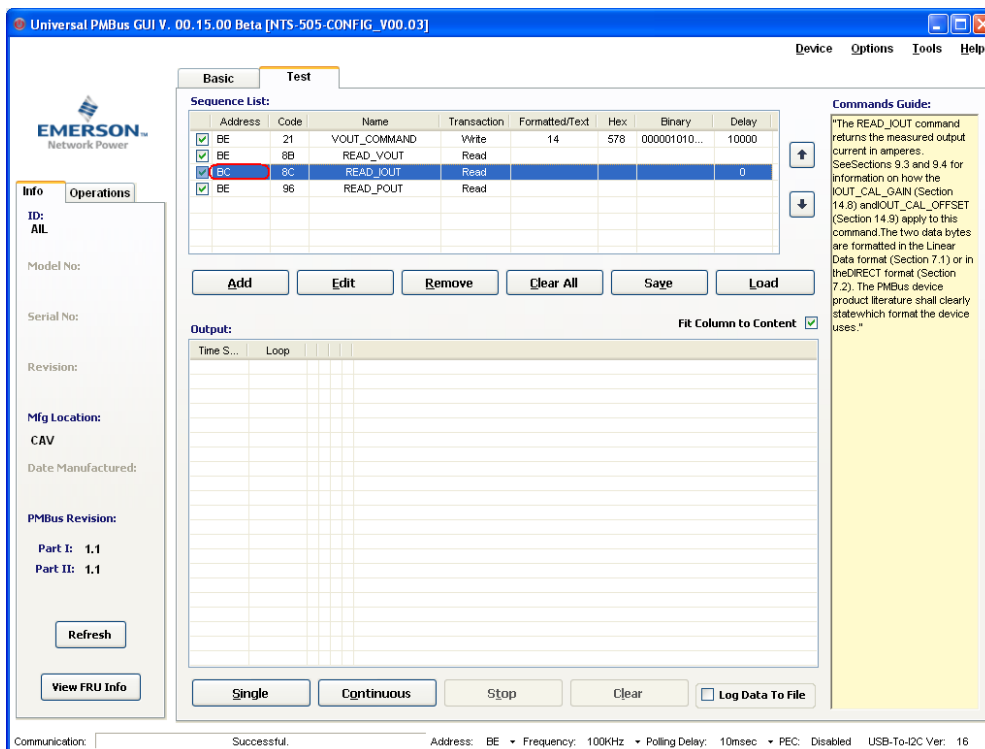
Hex Value: 0

Binary Value:

Polling Delay: 0

OK Cancel

- 3) The address of the command is now changed to 7C as seen below.



Universal PMBus GUI V. 00.15.00 Beta [NTS-505-CONFIG\_V00.03]

Device Options Tools Help

Basic Test

Sequence List:

Address	Code	Name	Transaction	Formatted/Text	Hex	Binary	Delay
<input checked="" type="checkbox"/>	BE	21	VOUT_COMMAND	Write	14	578	000001010...
<input checked="" type="checkbox"/>	BE	8B	READ_VOUT	Read			
<input checked="" type="checkbox"/>	BC	8C	READ_IOUT	Read			0
<input checked="" type="checkbox"/>	BE	96	READ_POUT	Read			

Add Edit Remove Clear All Save Load

Output:

Time S... Loop

Fit Column to Content ☒

Single Continuous Stop Clear Log Data To File

Commands Guide:

"The READ\_IOUT command returns the measured output current in amperes. See Sections 9.3 and 9.4 for information on how the IOUT\_CAL\_GAIN (Section 14.8) and IOUT\_CAL\_OFFSET (Section 14.9) apply to this command. The two data bytes are formatted in the Linear Data format (Section 7.1) or in the DIRECT format (Section 7.2). The PMBus device product literature shall clearly state which format the device uses."

Info Operations

ID: AIL

Model No:

Serial No:

Revision:

Mfg Location: CAV

Date Manufactured:

PMBus Revision:

Part I: 1.1

Part II: 1.1

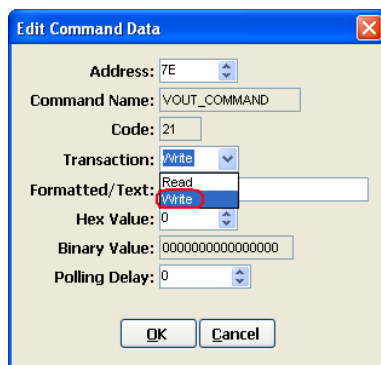
Refresh

View FRU Info

Communication: Successful Address: BE Frequency: 100KHz Polling Delay: 10msec PEC: Disabled USB-To-2C Ver: 16

### C. WRITING DATA TO THE DEVICE IN THE SEQUENCE LIST VIEW

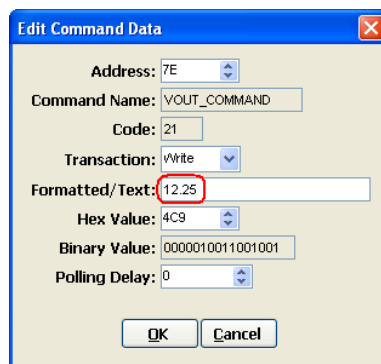
- 1) The commands in the **Sequence List** view are read transactions by default. We can make a command a write transaction. For example we want to make the VOUT\_COMMAND write a 12.25 to the power supply device to change its output voltage to 12.25V, we need to click the **Edit** button. On the **Edit Command Data** dialog window change the transaction from **Read** to **Write**.



The dialog box 'Edit Command Data' has the following fields and values:

- Address: 7E
- Command Name: VOUT\_COMMAND
- Code: 21
- Transaction: Write
- Formatted/Text: Read
- Hex Value: 0
- Binary Value: 0000000000000000
- Polling Delay: 0

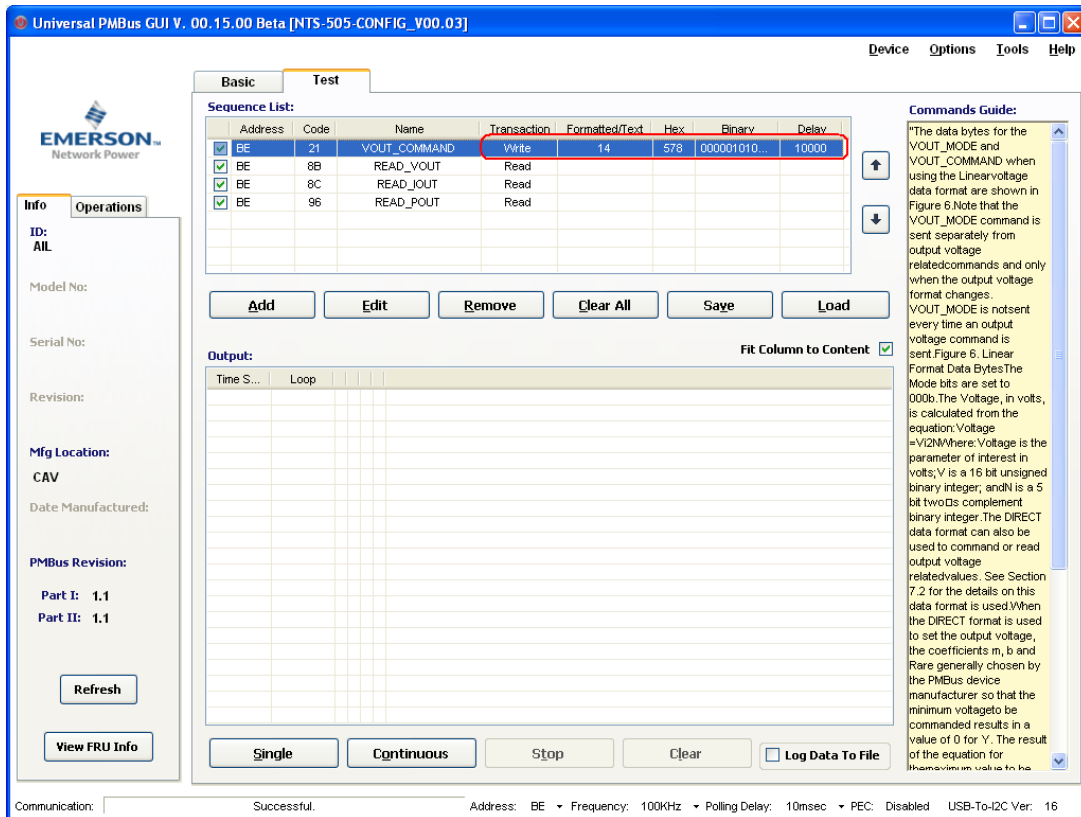
- 2) Then change or type the **Formatted/Text** field value to **12.25** then click the **OK** button.



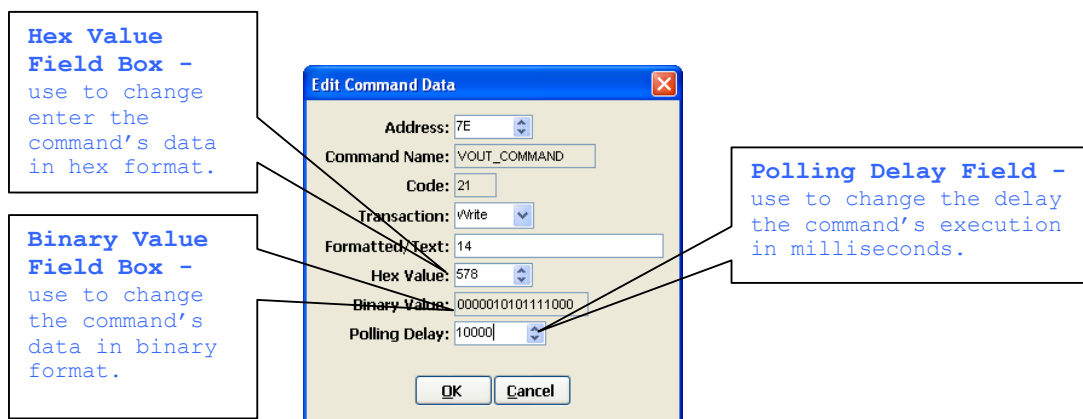
The dialog box 'Edit Command Data' has the following fields and values after the update:

- Address: 7E
- Command Name: VOUT\_COMMAND
- Code: 21
- Transaction: Write
- Formatted/Text: 12.25
- Hex Value: 4C9
- Binary Value: 0000010011001001
- Polling Delay: 0

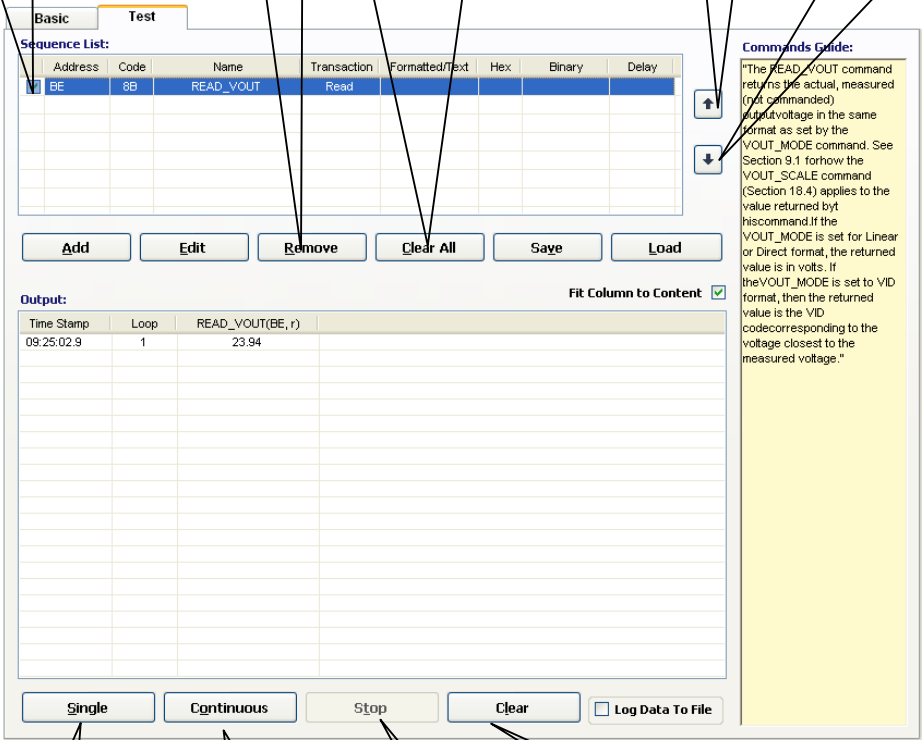
- 3) The command is now a write transaction and it will write 12.25 to the power supply device when a the **Single** or **Continuous** button is clicked.



## D. OTHER EDIT COMMAND DATA DIALOG CONTROL PARAMETERS



# E. CONTROLS FOR DISABLING, REMOVING AND ARRANGING THE COMMANDS ON THE TEST PANEL



**Check Box** - use to enable and disable commands during execution without removing from the Sequence List.

**Remove Button** - removes a command from the Sequence List.

**Up-Arrow Button** - moves the selected command one row up.

**Down-Arrow Button** - moves the selected command one row down.

**Clear All Button** - removes all command a command from the Sequence List and clears the Output view.

**Single Button** - use to execute the commands on the Sequence List once.

**Continuous Button** - use to execute the commands on the Sequence List continuously.

**Stop Button** - use to stop the continuous execution.

**Clear Button** - use to clear the date from the Output view.

**Sequence List:**

Address	Code	Name	Transaction	Formatted/Text	Hex	Binary	Delay
0E	8B	READ_VOUT	Read				

**Output:**

Time Stamp	Loop	READ_VOUT(0E, r)
09:25:02.9	1	23.94

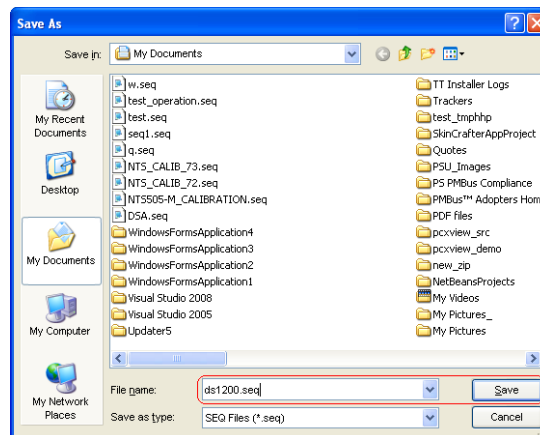
**Commands Guide:**

"The READ\_VOUT command returns the actual, measured (not commanded) output voltage in the same format as set by the VOUT\_MODE command. See Section 9.1 for how the VOUT\_SCALE command (Section 18.4) applies to the value returned by this command. If the VOUT\_MODE is set for Linear or Direct format, the returned value is in volts. If the VOUT\_MODE is set to VID format, then the returned value is the VID code corresponding to the voltage closest to the measured voltage."

## F. SAVING THE COMMAND SEQUENCE

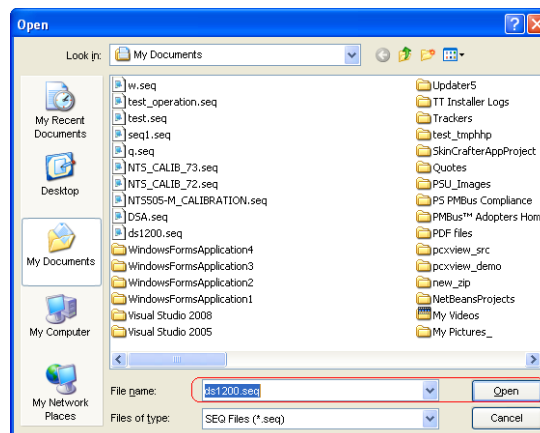
The command sequence you made can be saved for future use or for use with the other power supply device model.

- 1) Click the **Save** button and the **Save** dialog will appear as seen below.
- 2) On the **Save** dialog, enter the desired filename of the sequence with an extension of **.seq**. Then click the Save button on the **Save** dialog. For example the command sequence we have will be saved as ds1200.seq.



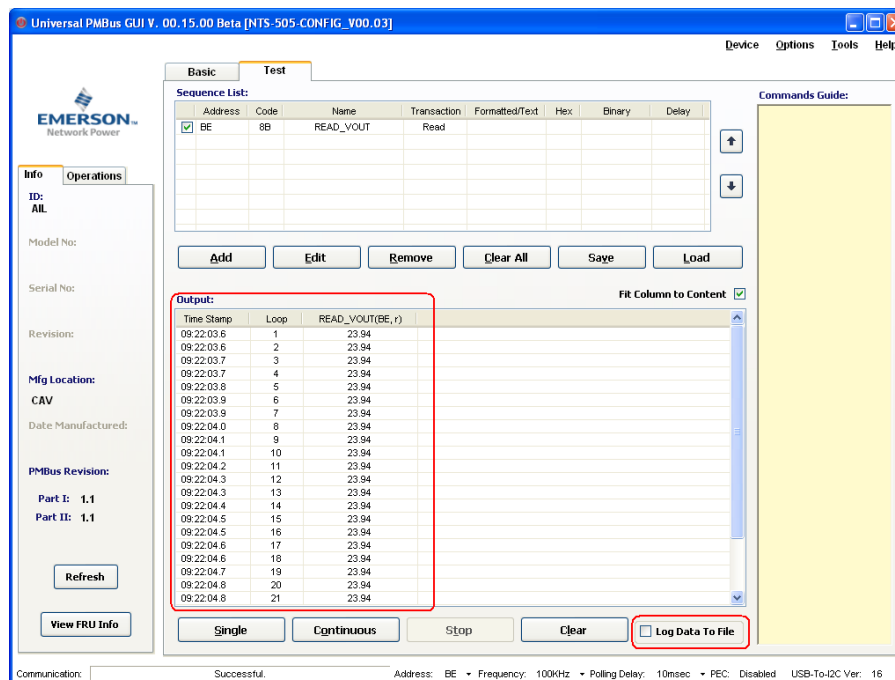
## G. LOADING THE COMMAND SEQUENCE FILE.

- 1) Click the **Load** button and the **Open** dialog will appear as seen below.
- 2) On the **Open** dialog window, enter the filename of the command sequence for example to load. Then click the **Open** button to load the file. Here the **ds1200.seq** will be opened.

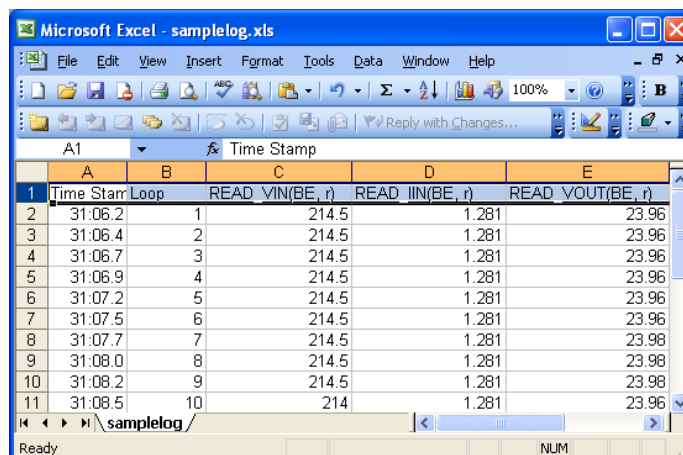


## H. EXPORTING THE OUTPUT DATA TO A TEXT FILE

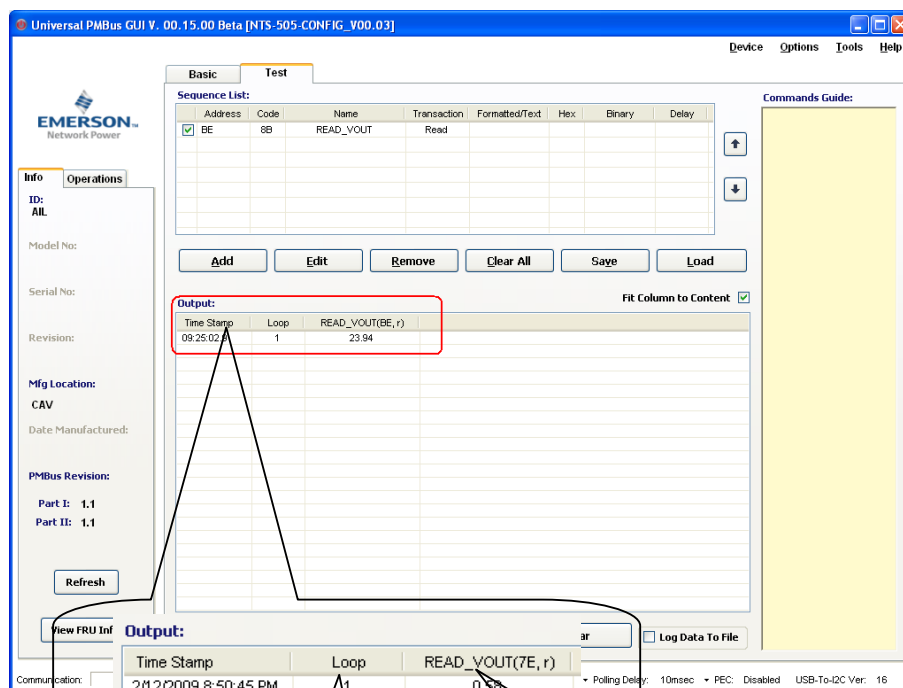
Data can be exported to a tab delimited text file which can then be imported to an spreadsheet application for data analysis. If you have a data to the **Output** view as seen below:



- 1) Click the **Log to File** button and a **Save** dialog will be appear on the screen.
- 2) Enter the desired filename, then click the **Saved** button. Format of file to save will be in excel format.



## I. OUTPUT VIEW INFORMATION



**Time Stamp column** - displays the moment of time a loop was executed.

**Loop column** - displays the number of execution of a sequence.

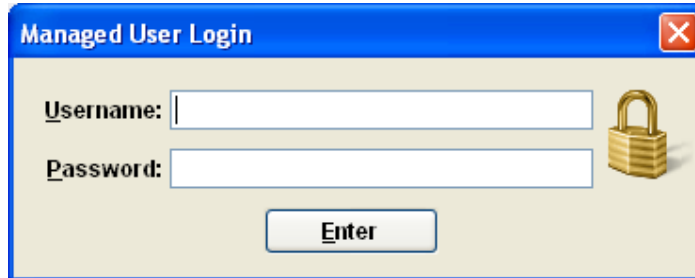
**Command columns** - displays the value read, or the status of send/write transaction. Here "7E" is the address, and "r" indicate a read transaction.



## Configuration File Update (Authorized personnel only)



This section was designed for authorized personnel only. It is also password protected for security protection to change any setting and update supported PSU and configuration file.



This will show the list of supported Power Supply model. Display and supported command can be change and update in this section.

**Device Configuration**

**Device List:**

1. CindyLou - Demo
2. HPS3000-9 - Config\_v00.02
3. ReferenceConf - Config\_V00.00
4. DS1000DC-3 - Config\_v00.01
5. DS1200-3 - Config\_v00.05
6. DS2000-3 - Config\_v00.01
7. UFE2000 - Config\_v00.03
8. CloudShield - Config\_v00.08
9. DS2900-3-001 - Config\_v00.01
10. McBean - Config\_v00.01
11. Pentair - Config\_v00.01
12. Yertle - Config\_v00.01
13. CindyLou - Config\_v00.01
14. NTS-506 - Config\_v00.01
15. NTS-505 - Config\_v00.03
16. NTS-503 - Config\_v00.01
17. NTS-508 - Config\_v00.01
18. DS2900 - Config\_v00.01
19. UMP1 - Config\_v00.01
20. UMP4 - Config\_v00.03
21. DS1050-3 - Config\_v00.04
22. LCM600Q - Config\_v00.01

**Details**

Device Model: LCM600Q      SMBus Frequency: 100

Configuration Name: Config\_v00.01      Polling Delay: 100

Device Type: ACDC      No. of Output: 1

Device Address (Hex): B2      ☐ PEC Enabled

FRU Address (Hex): AE      ☐ SCF Supported

**Temperature Labels**

Temp-1: Temp-1      Temp-2: NA      Temp-3: Not Supported

**Supported LEDs**

☒ DC\_OK      ☒ FAULT      ☐ AC\_OK/INPUT\_OK

**Picture File (PNG)**

**Auto Detection ID**

LCM600Q

**Commands**

Command Code: 8B      Name: READ\_VOUT      ☒ Enabled

**Details**

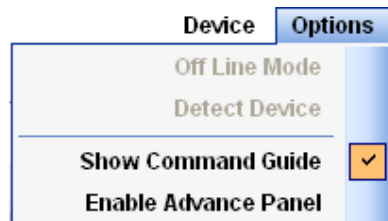
Transaction Type: READ\_WORD

Data Format: LINEAR     

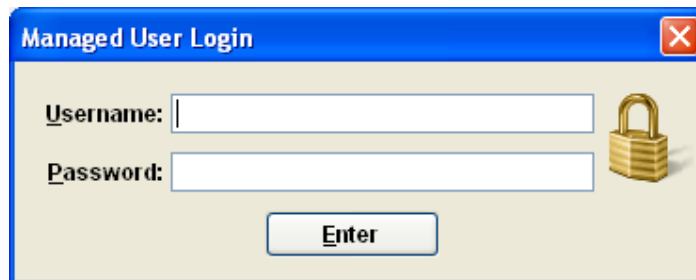
Linear Exponent: -9

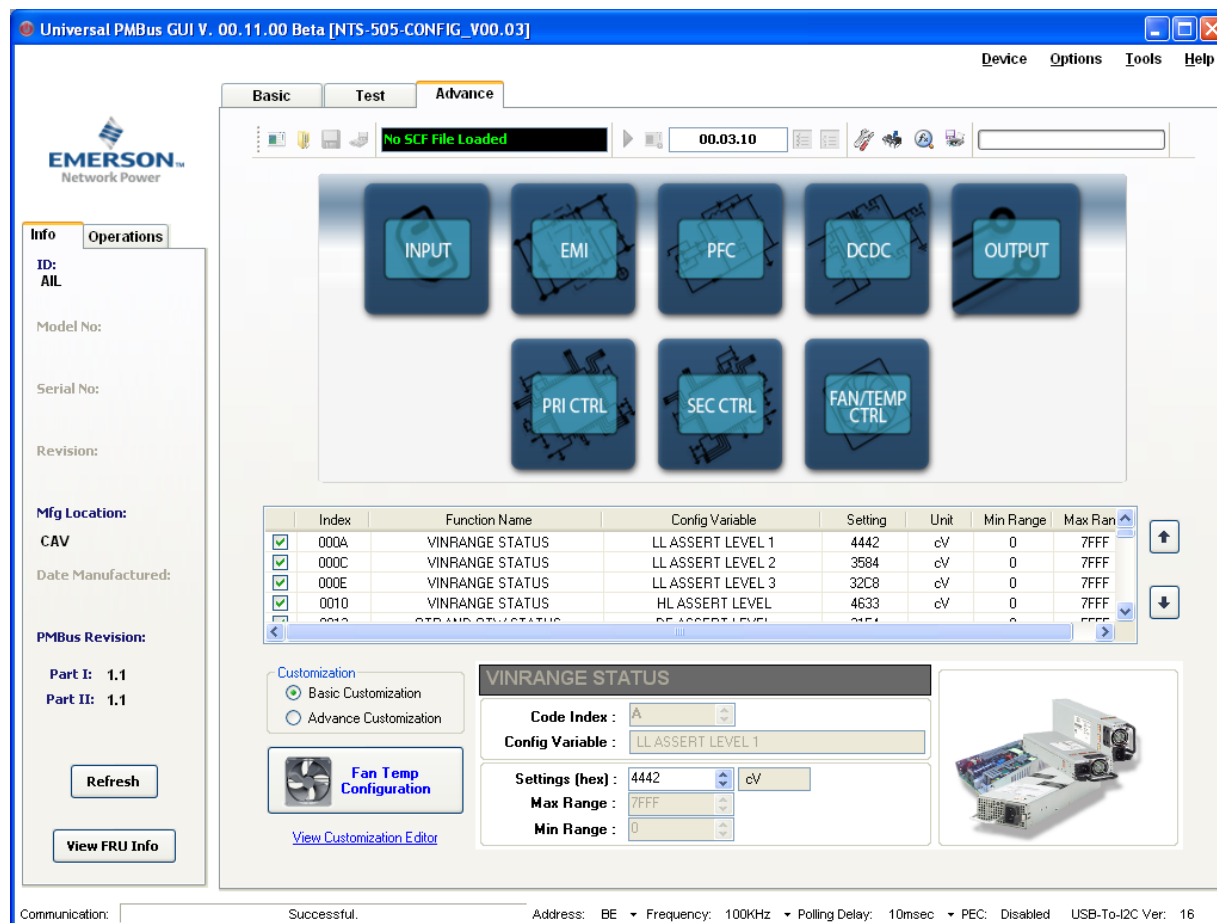
## Advance Panel Section (Authorized personnel only)

Universal PMBus GUI also has the feature for Software Configurable Firmware.



This section was designed for authorized personnel only and has the knowledge on firmware configurable operation. It is also password protected for security protection to change any setting in the power supply that may cause destroying the unit.





Universal PMBus GUI V. 00.11.00 Beta [NTS-505-CONFIG\_V00.03]

Device Options Tools Help

Basic Test Advance

No SCF File Loaded 00.03.10

EMERSON Network Power

Info Operations

ID: AIL

Model No:

Serial No:

Revision:

Mfg Location: CAV

Date Manufactured:

PMBus Revision:

Part I: 1.1

Part II: 1.1

Refresh

View FRU Info

INPUT EMI PFC DCDC OUTPUT

PRI CTRL SEC CTRL FAN/TEMP CTRL

Index	Function Name	Config Variable	Setting	Unit	Min Range	Max Range
000A	VINRANGE STATUS	LL ASSERT LEVEL 1	4442	cV	0	7FFF
000C	VINRANGE STATUS	LL ASSERT LEVEL 2	3584	cV	0	7FFF
000E	VINRANGE STATUS	LL ASSERT LEVEL 3	32C8	cV	0	7FFF
0010	VINRANGE STATUS	HL ASSERT LEVEL	4633	cV	0	7FFF
0012	OTD AND OTV STATUS	OTD ASSERT LEVEL	2451	cV	0	7FFF

Customization

Basic Customization

Advance Customization

Fan Temp Configuration

View Customization Editor

VINRANGE STATUS

Code Index: A

Config Variable: LL ASSERT LEVEL 1

Settings (hex): 4442 cV

Max Range: 7FFF

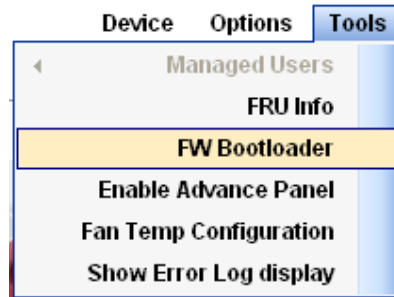
Min Range: 0

Communication: Successful Address: BE Frequency: 100KHz Polling Delay: 10msec PEC: Disabled USB-To-I2C Ver: 16

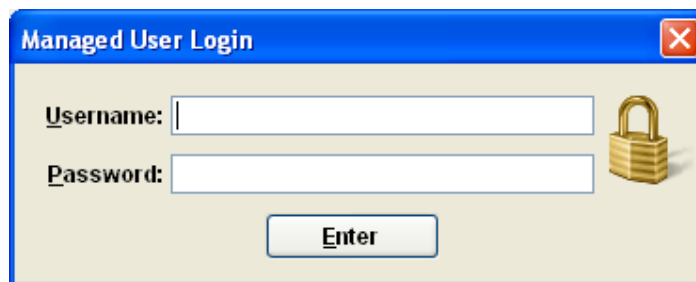
This new features of power supplies will help changing any parameter without changing the firmware. Only selected power supply has this capability. For more information about this new feature, please contact our technical support team.

## Firmware Update (Authorized personnel only)

Another Universal PMBus GUI capability is the bootloader. This feature of GUI was design for power supply firmware update.

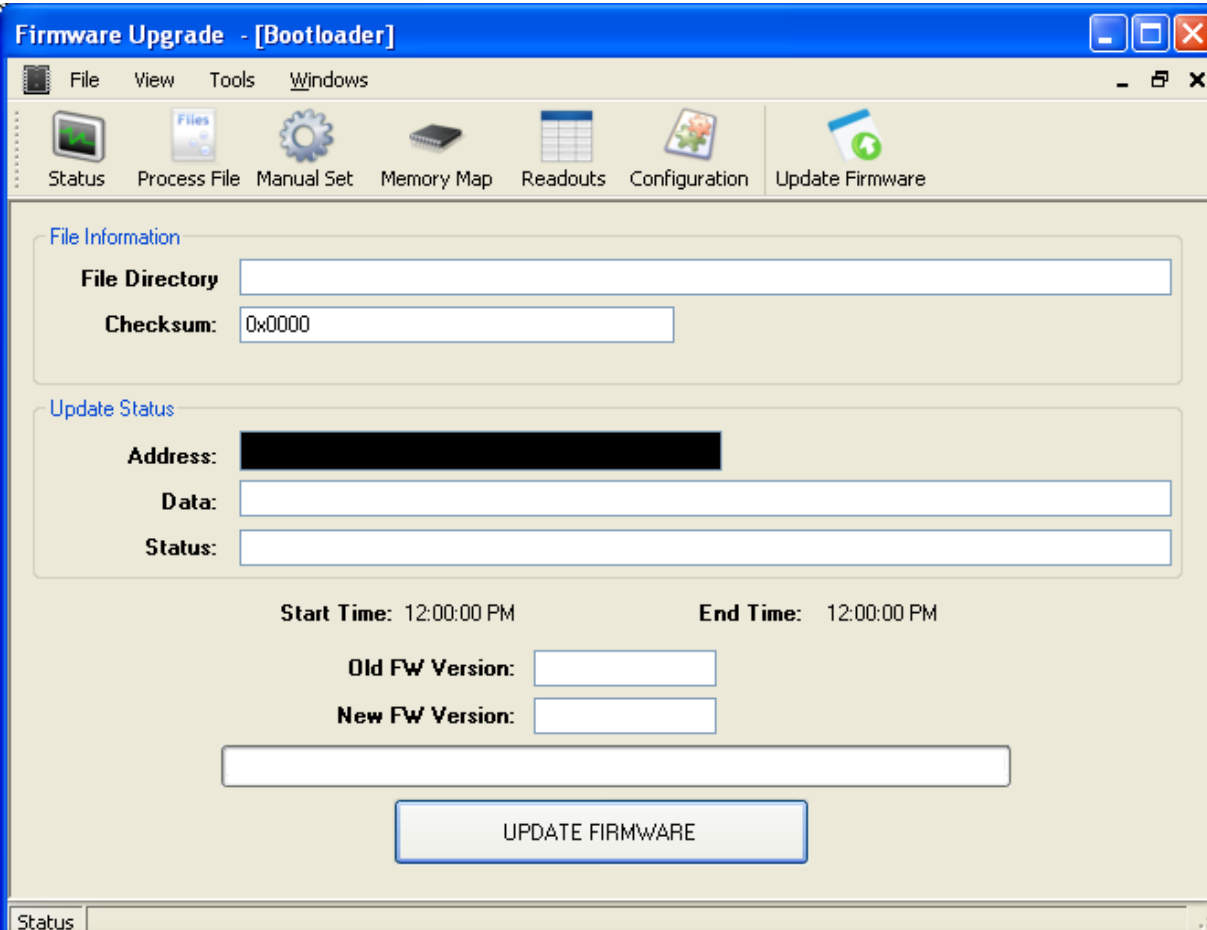


Authorized personnel only can access this feature. It is also password protected.



There are two login available for Advance Panel Section.

- a. Authorized Personnel
- b. Bootloader Administrator



**Firmware Upgrade - [Bootloader]**

File View Tools Windows

Status Process File Manual Set Memory Map Readouts Configuration Update Firmware

**File Information**

File Directory:

Checksum:

**Update Status**

Address:

Data:

Status:

Start Time: 12:00:00 PM End Time: 12:00:00 PM

Old FW Version:

New FW Version:

**UPDATE FIRMWARE**

Status

This GUI feature will enable user to update the firmware of power supply anywhere.

For more information if your power supply is supported with this feature, please contact our technical support team.