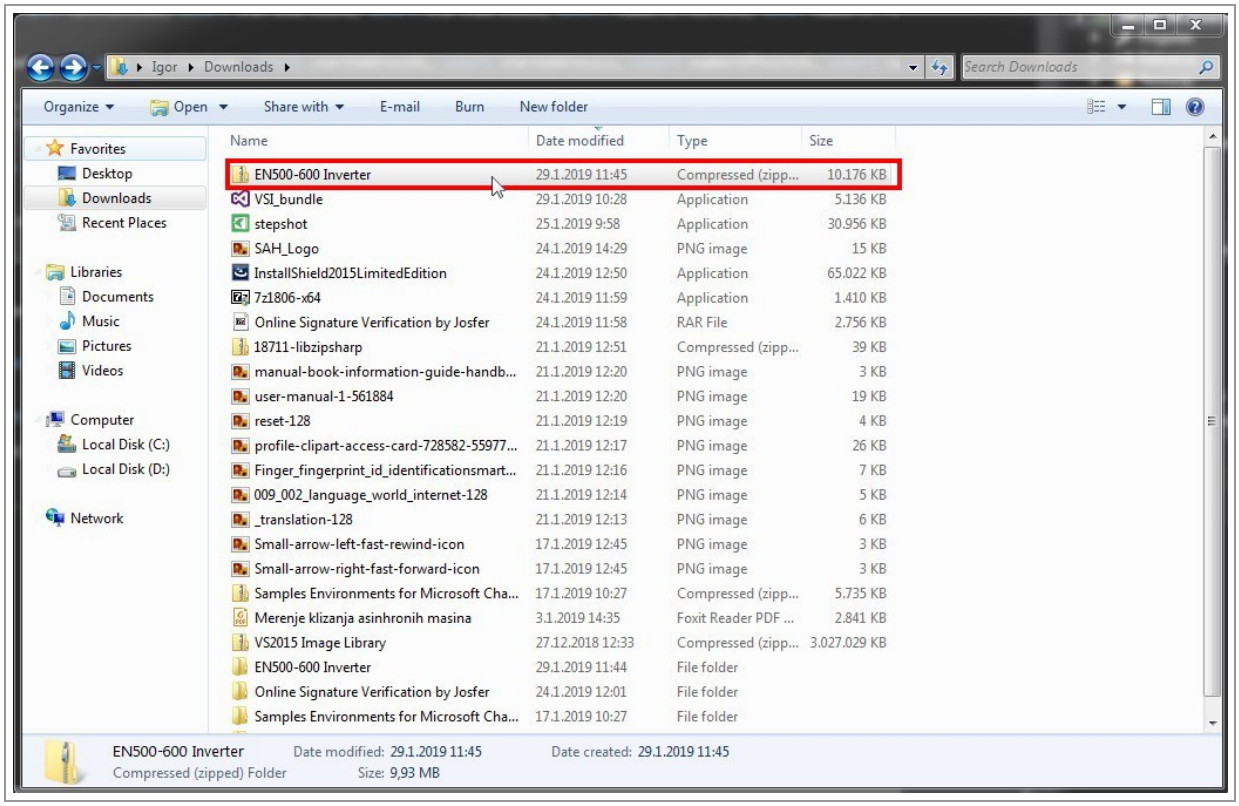
EN500-600 Inverter Guide

Igor Filipovic

Software Installation

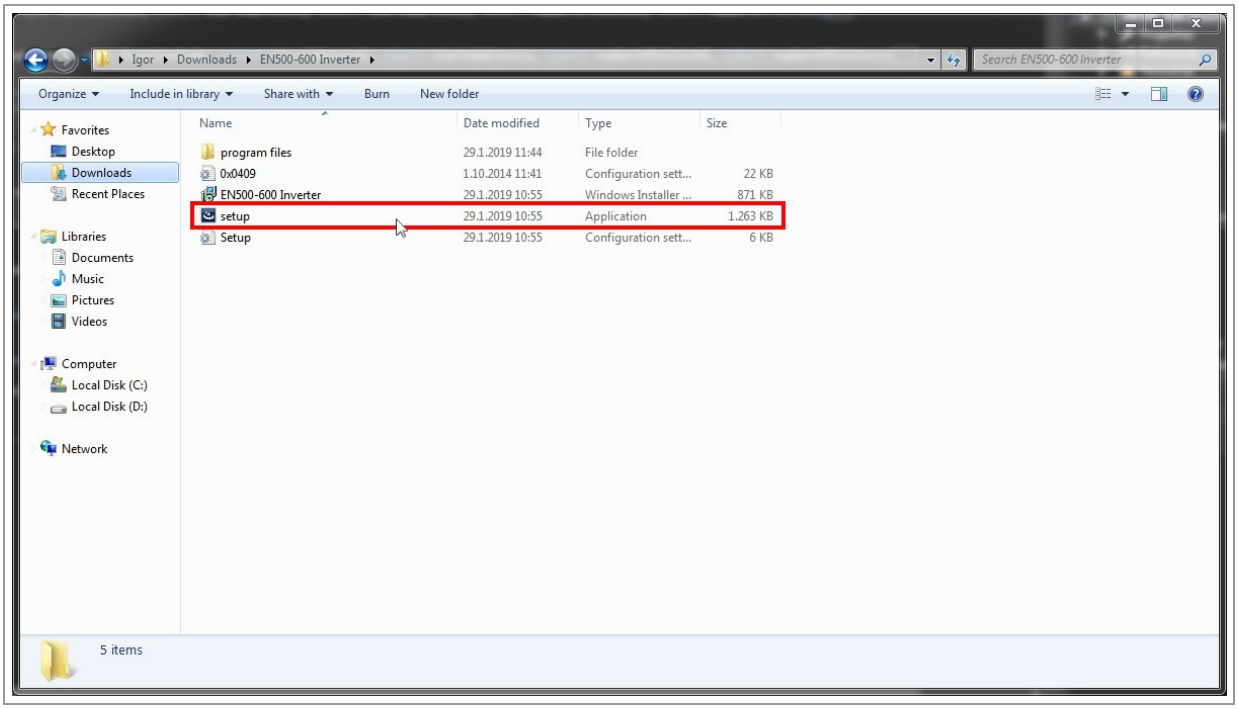
Download and Unzip Application



Download and unzip "EN500-600 Inverter" application from our website (www.sah.co.rs) under "EN600" section.

Note: this application is only available for Windows OS.

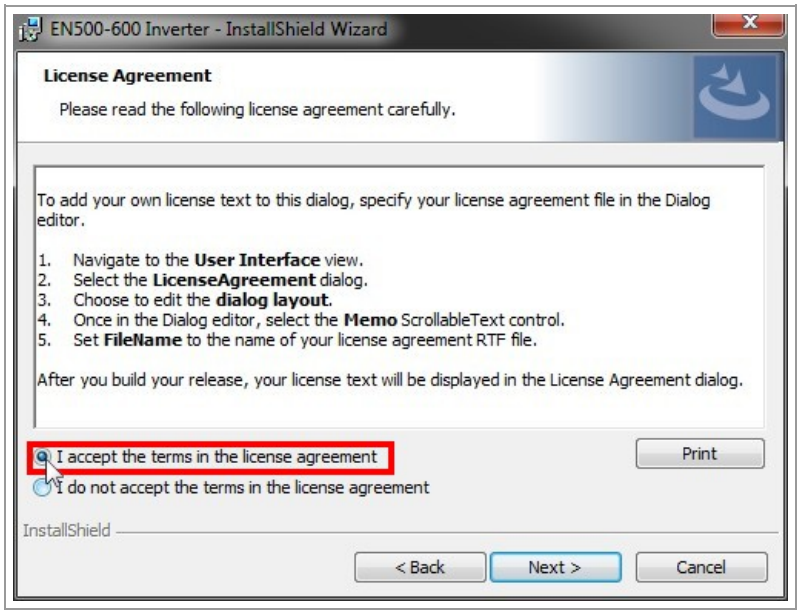
Run Installation

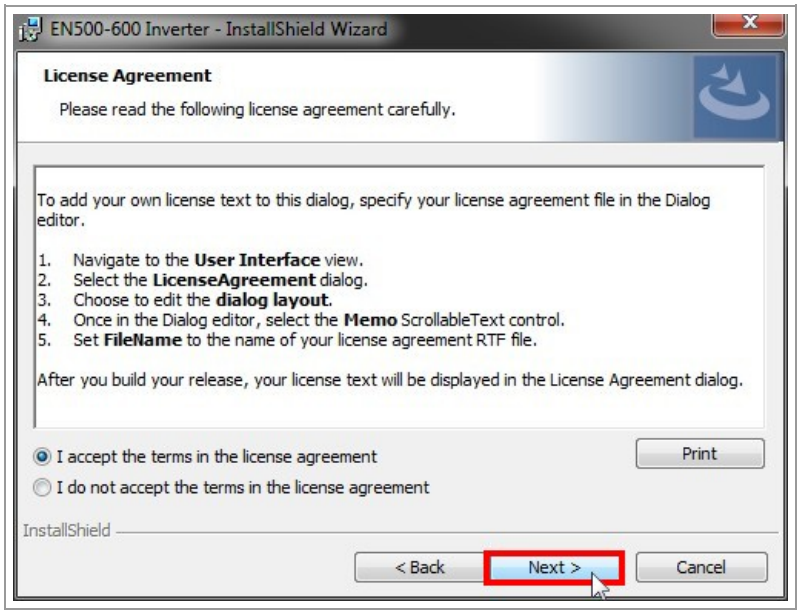


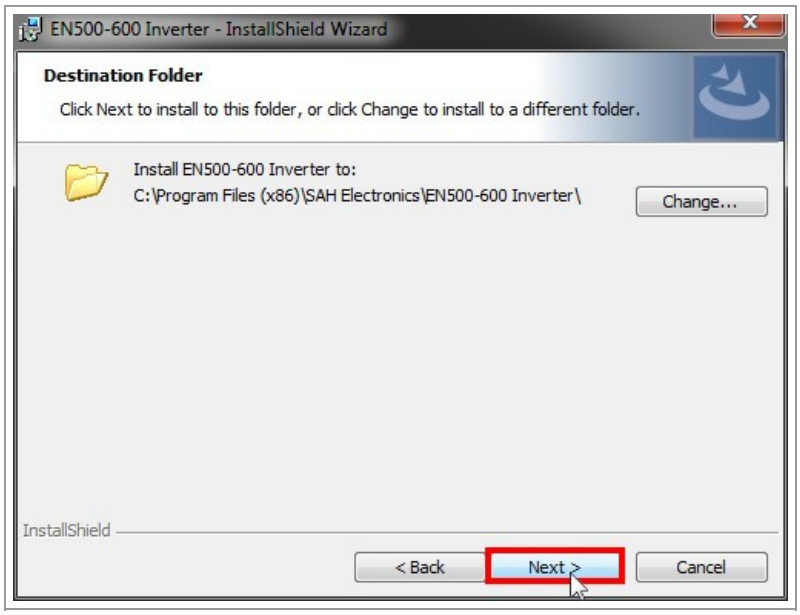
You can begin the installation process either by opening "setup.exe" or "EN500-600 Inverter.exe".

Installation Process

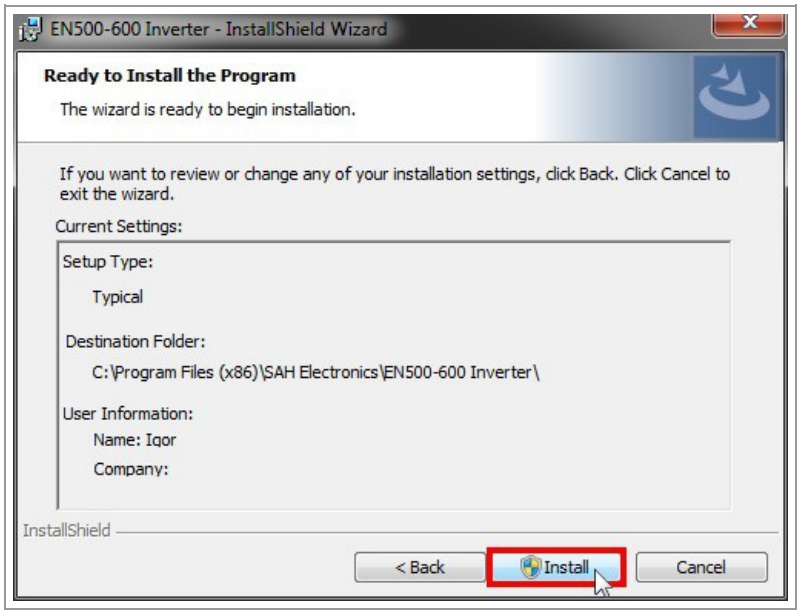
Follow these simple steps to install the software properly.

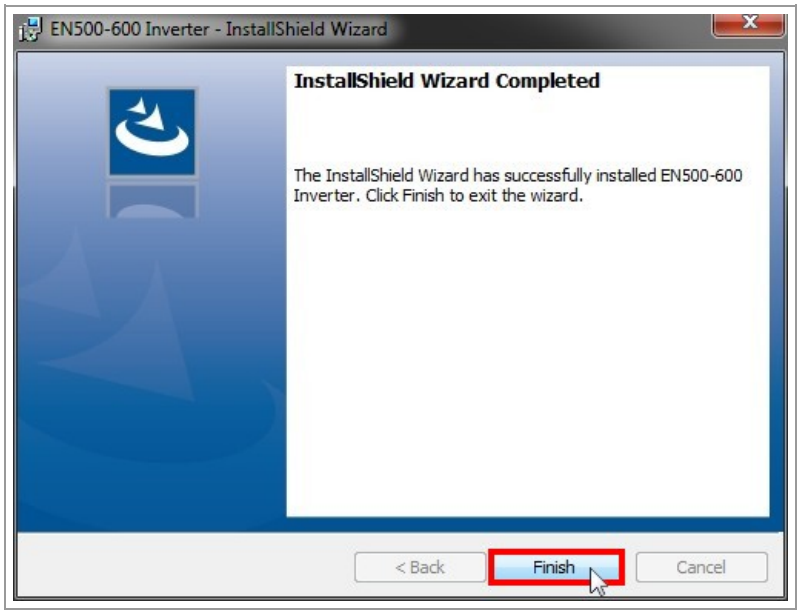






If you wish to change the destination folder you can do it by clicking on "Change" button.





Click on "Finish" button in "EN500-600 Inverter - InstallShield Wizard"

Open Application

After installation, the shortcut with name "EN500-600 Inverter" will be created on your desktop.

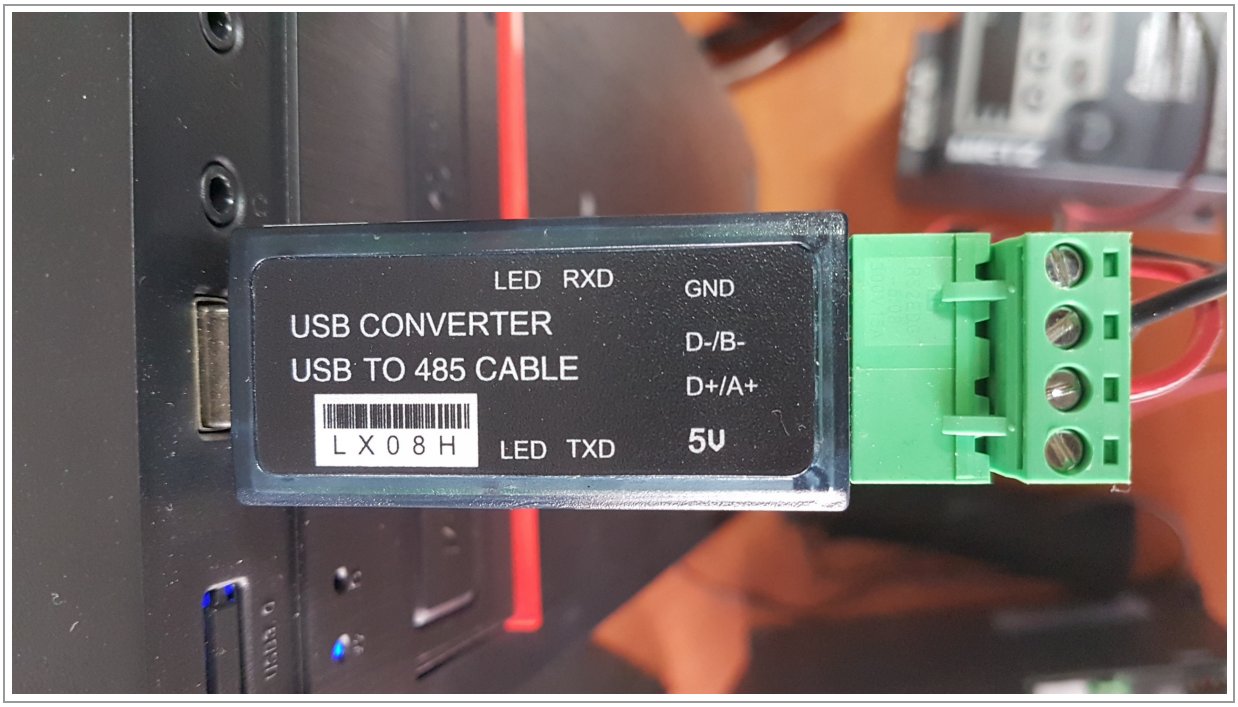
Double-click to open it.

Connecting and Wiring Inverter

Wiring Power Supply

Bring the power supply to your inverter as shown.

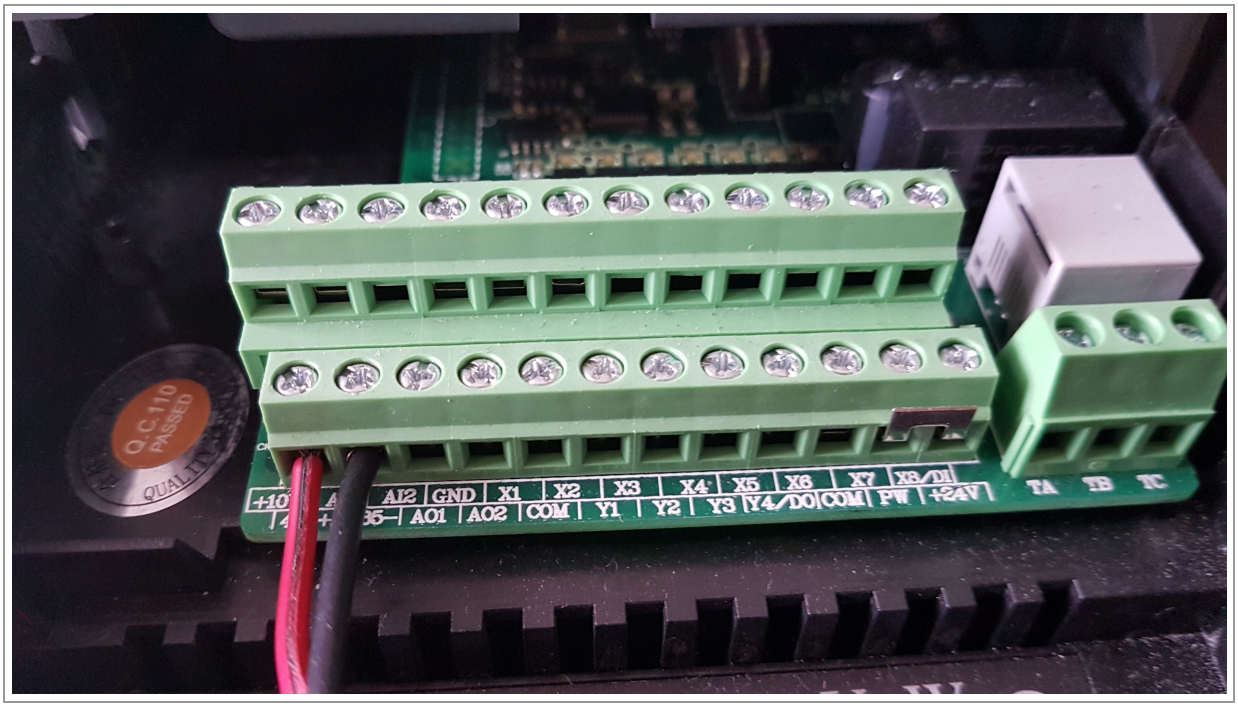
USB Connection



You need USB to RS485 converter to be connected and wired as shown on the following pictures.

Red wire -> D+/A+

Black wire -> D-/B-



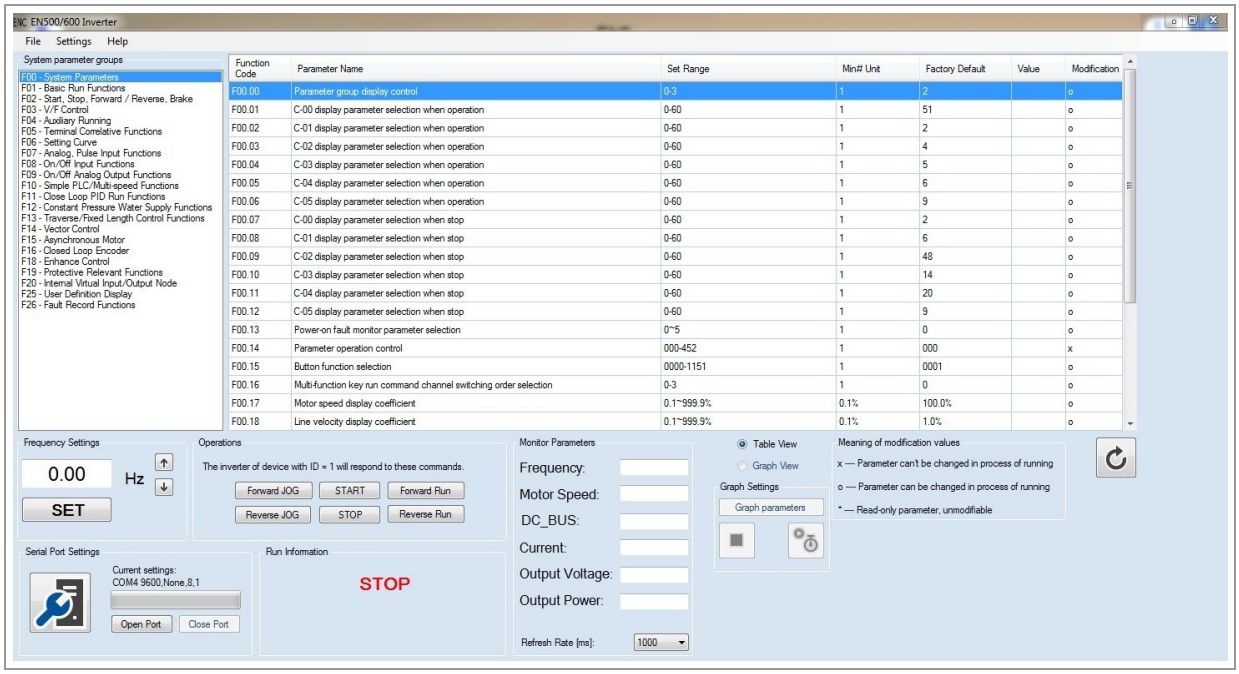
Red wire -> 485+

Black wire -> 485-


L1 L2 (+) PB (-) U V
RUN
MS

Communication Establishment

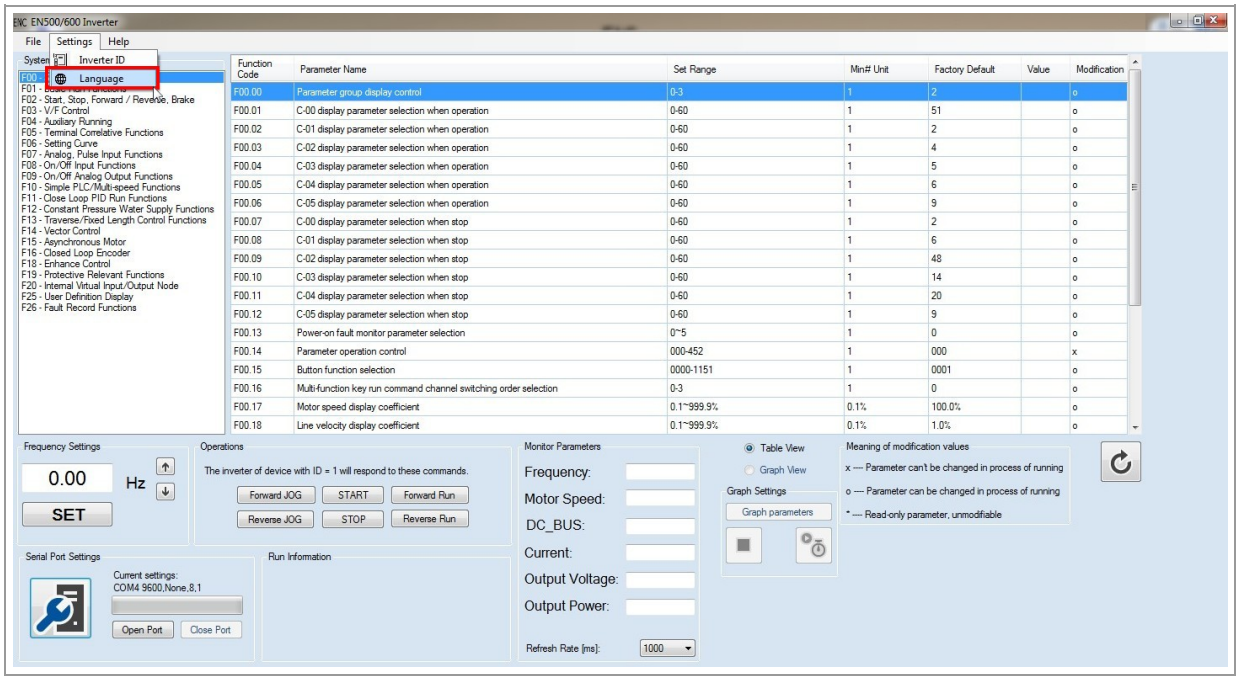
Initial Application Screen



After opening you'll get this initial screen.

Note: width and height of this window may vary depending on the dimensions of your monitor, because the app starts in full screen mode by default.

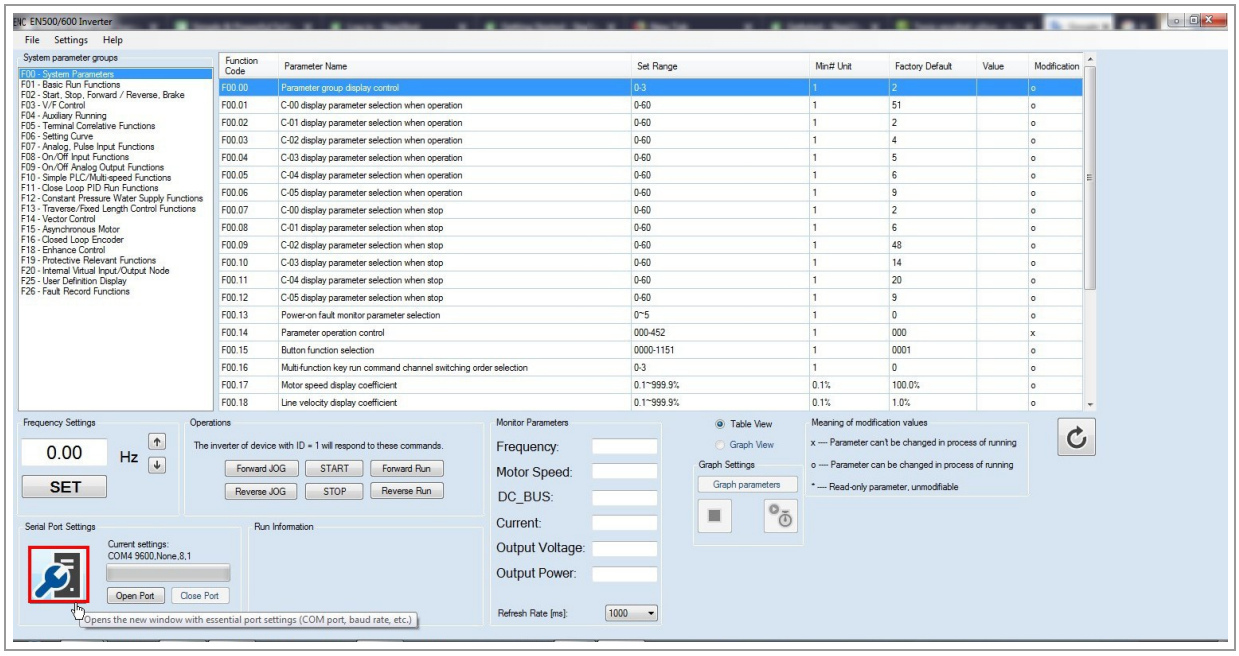
Change Language



The language is set to English by default.

If you need to change the language, go to Settings -> Language.

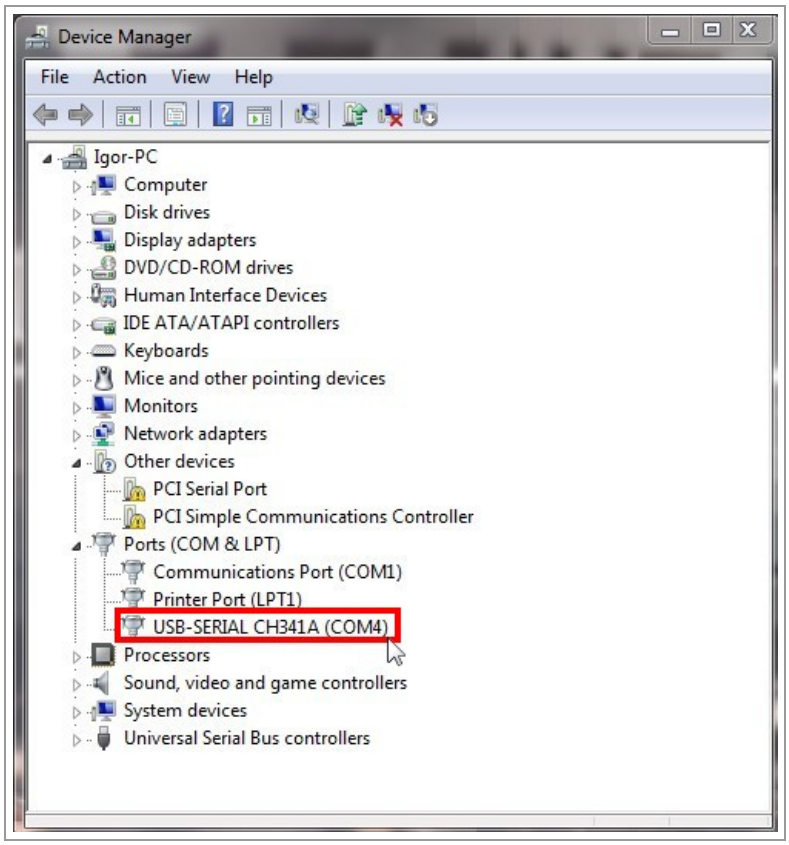
Setting Serial Port Parameters



In order to establish the communication between the inverter and your computer, you have to set the essential port parameters.

Click this button to get "Communication" window.

Check COM Port Conection



To check which port is your device connected to, follow the next steps:

(1) On your Windows menu go to Control Panel -> Device Manager

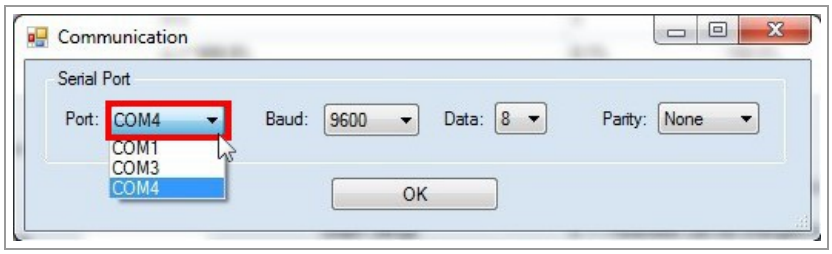
(2) Expand "Ports (COM & LPT)" item to get the list of all ports connected to your computer

(3) Find your serial port (usually it is marked as "USB-SERIAL CH341A")

(4) Notice the port label in brackets (COM + port number)

(5) Go back to your communication settings and select the noticed port

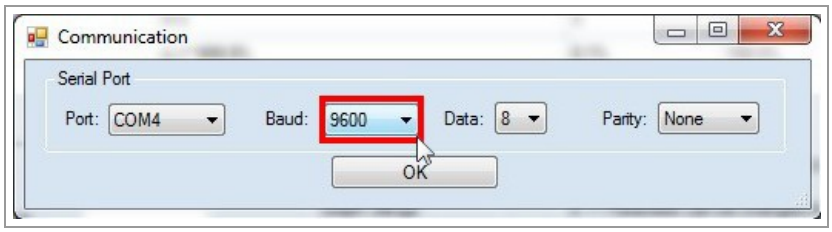
Select COM Port



In "Communication" window click on "Port" drop-down combo box to get the list of all available COM ports on your computer.

Note: when you launch the application for the first time this combo box will be empty; once you define this parameter it will be used as default every next time you start the app.

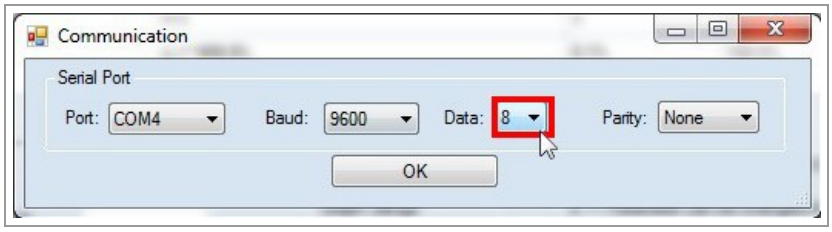
Select Baud Rate



By default baud rate configuration parameter is set to 9600.

Check for the default value of this parameter in Help -> User manual (Chapter 6.2 -> Default value of function F05.01).

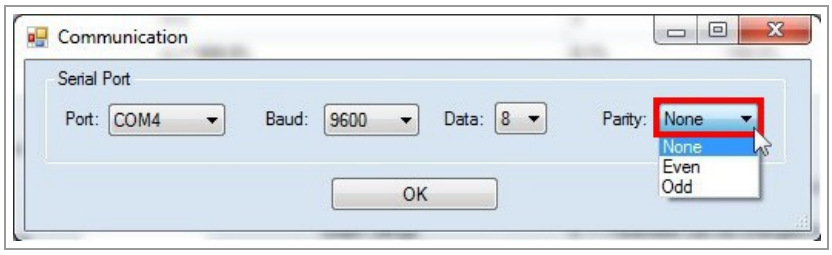
Select Data Format



By default data format configuration parameter is set to 8.

Check for the default value of this parameter in Help -> User manual (Chapter 6.2 -> Default value of function F05.02).

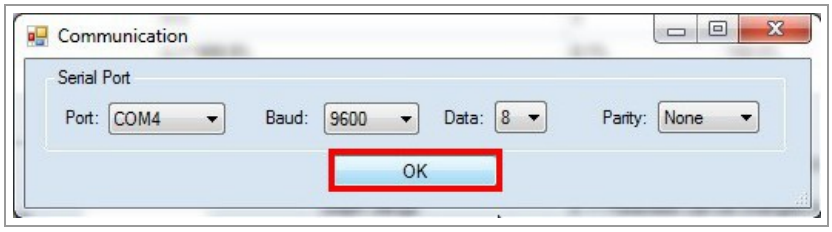
Select Parity Checkout



By default parity checkout configuration parameter is set to None.

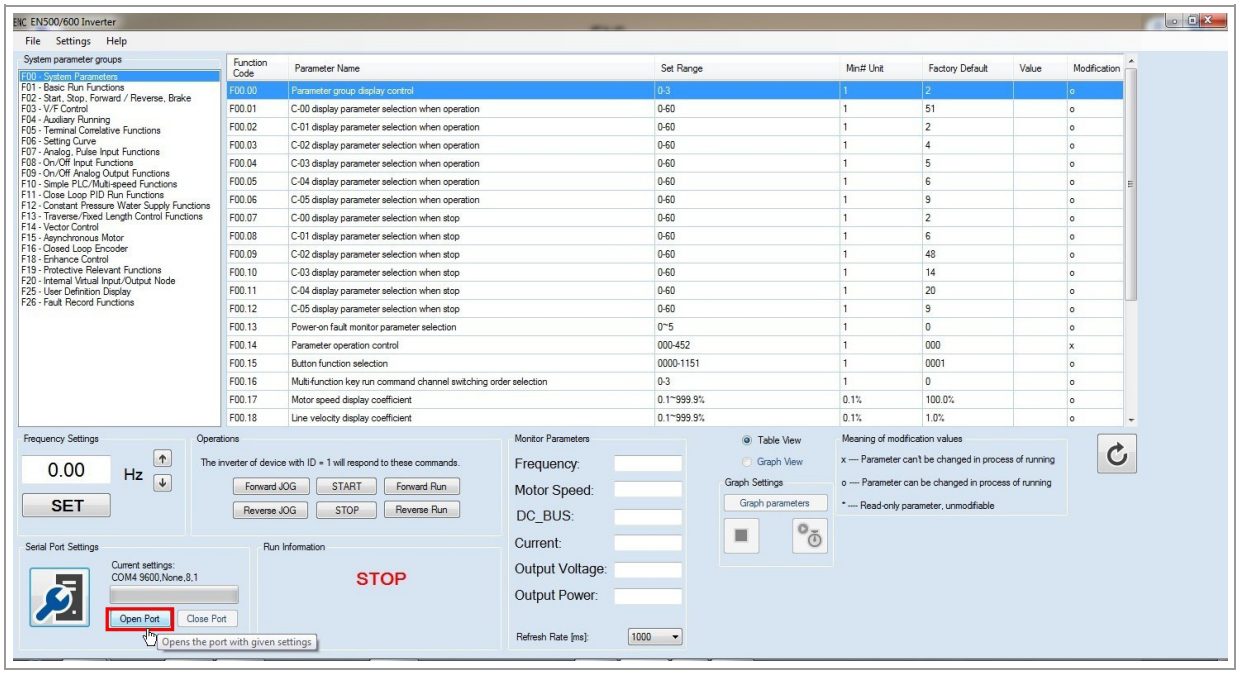
Check for the default value of this parameter in Help -> User manual (Chapter 6.2 -> Default value of function F05.02).

Save Your Settings



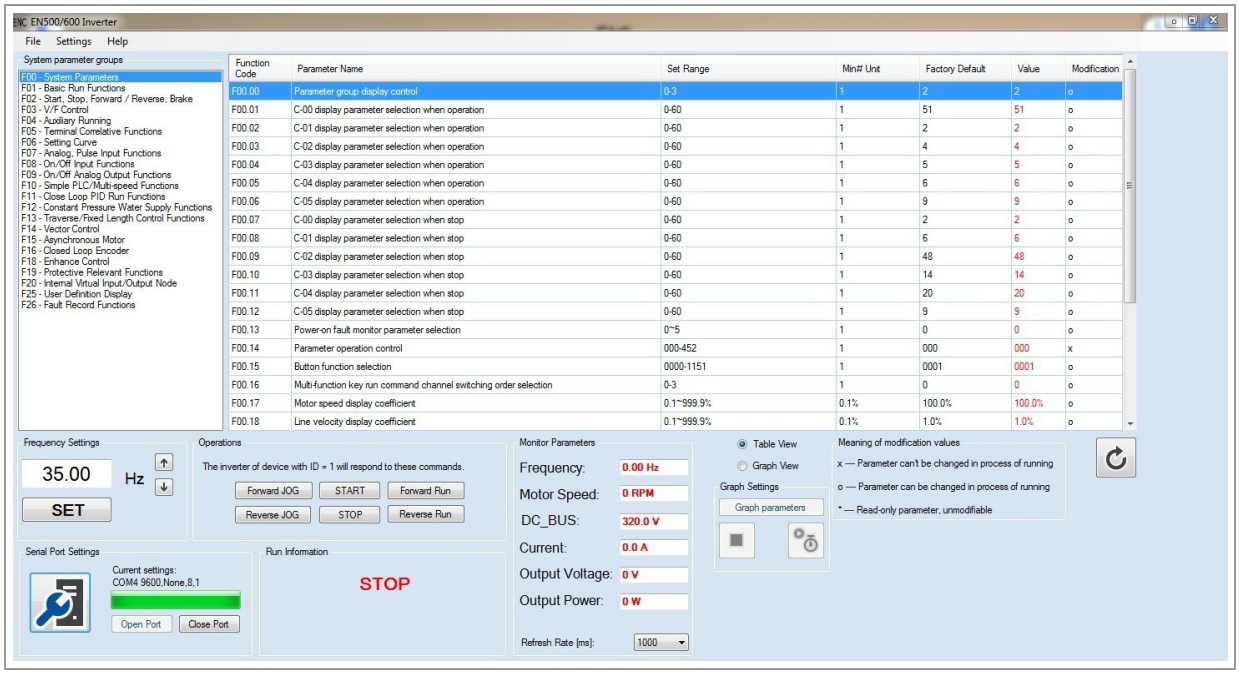
Click OK to save your communication settings and go back to the main screen

Open Port



Click on "Open Port" button to establish the communication between the inverter and your computer.

Connection Established



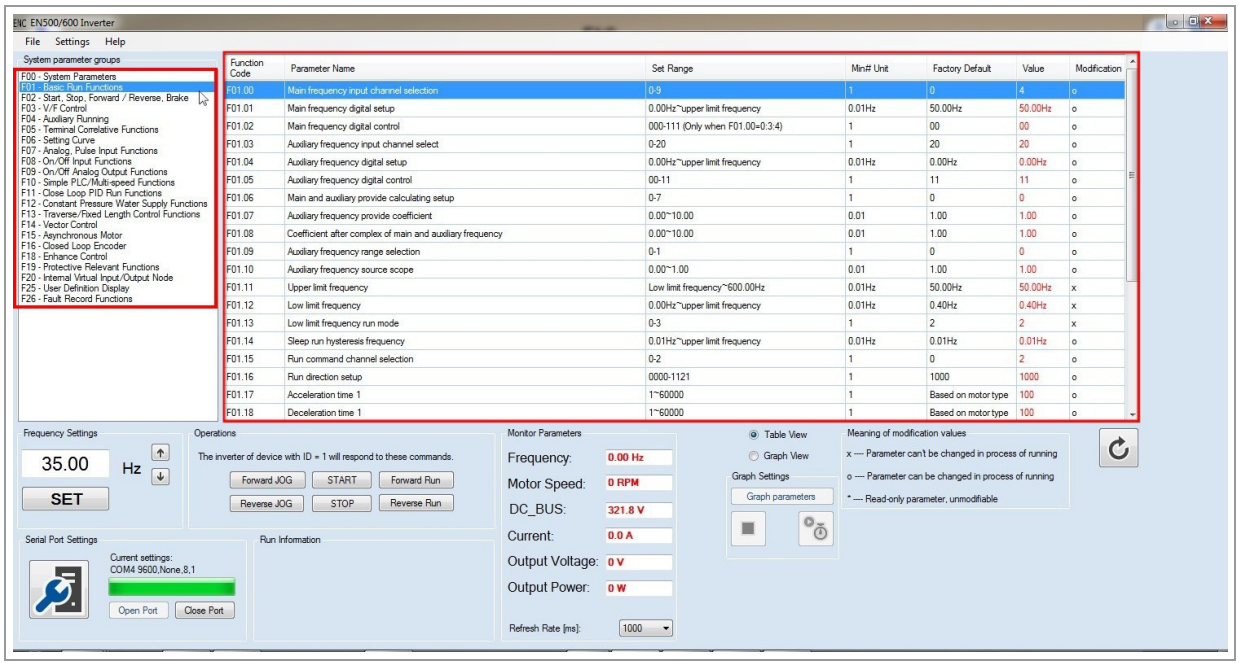
If the progress bar above the port buttons become green, the connection is established successfully and the main parameters are loaded from the inverter (colored in red).

If the error message is shown, then you should go back to the previous steps and check if you set the serial port

parameters properly.

Application Features

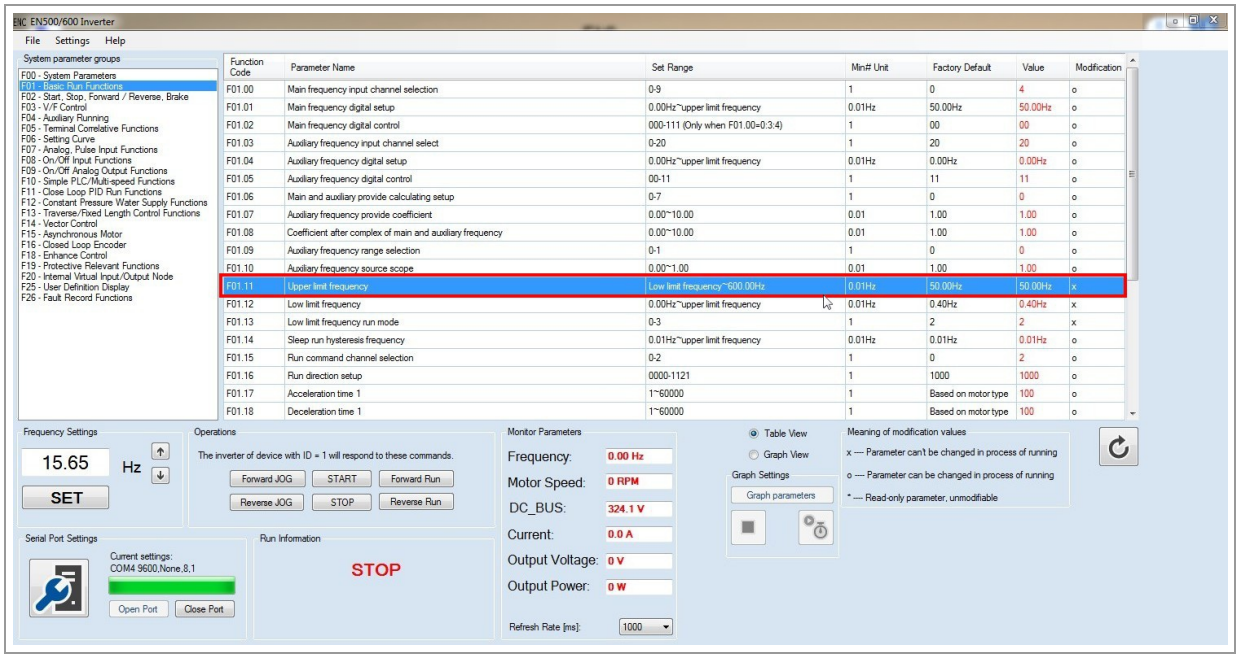
Switch Between System Parameter Groups



You can choose what functions to be shown in the table by clicking on desired system parameter group from the list.

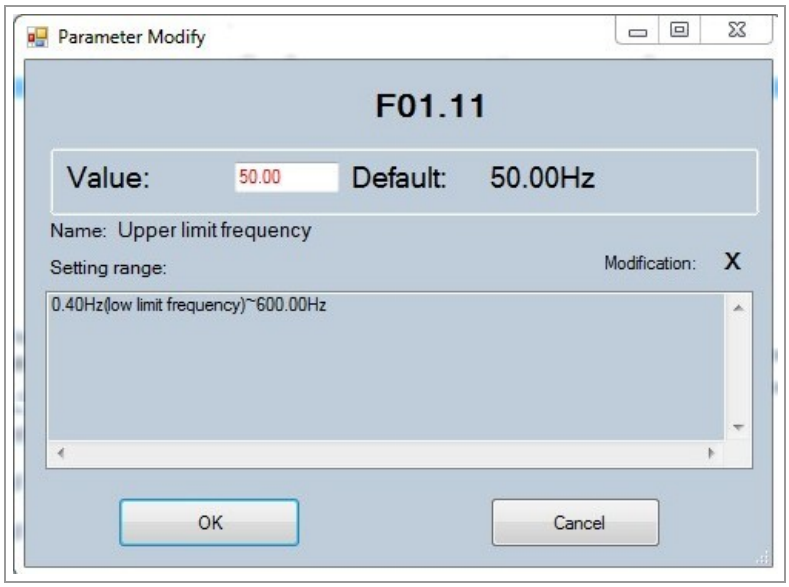
This operation takes a few seconds.

Parameter Modify

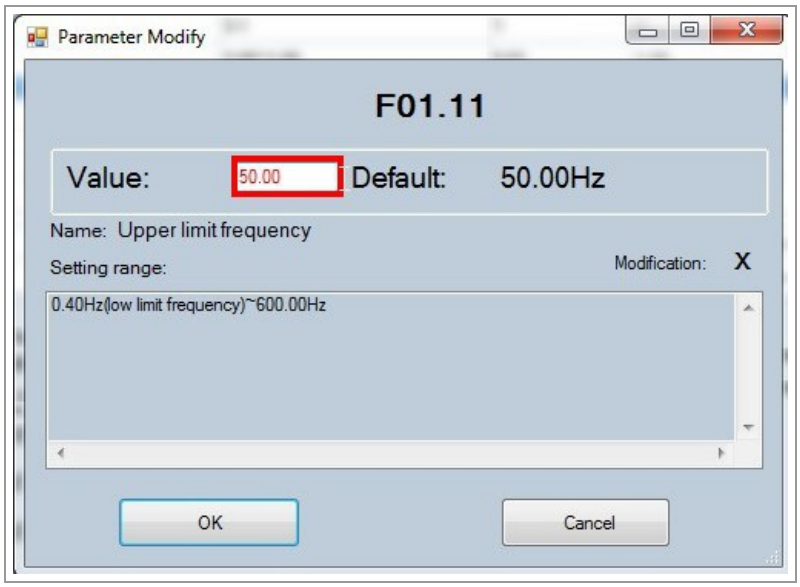


Double-click on desired row in the table to modify the value of selected parameter.

"Parameter Modify" window will be opened.

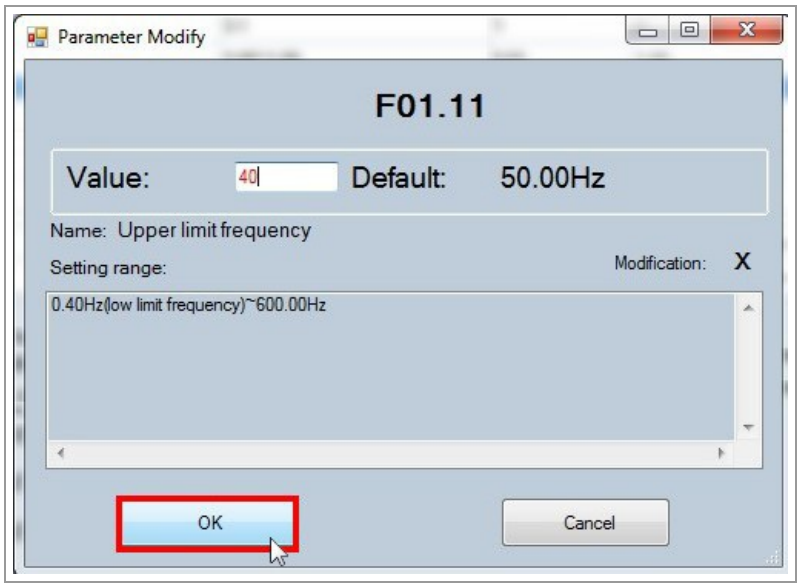


In this menu you can modify the value of selected parameter.

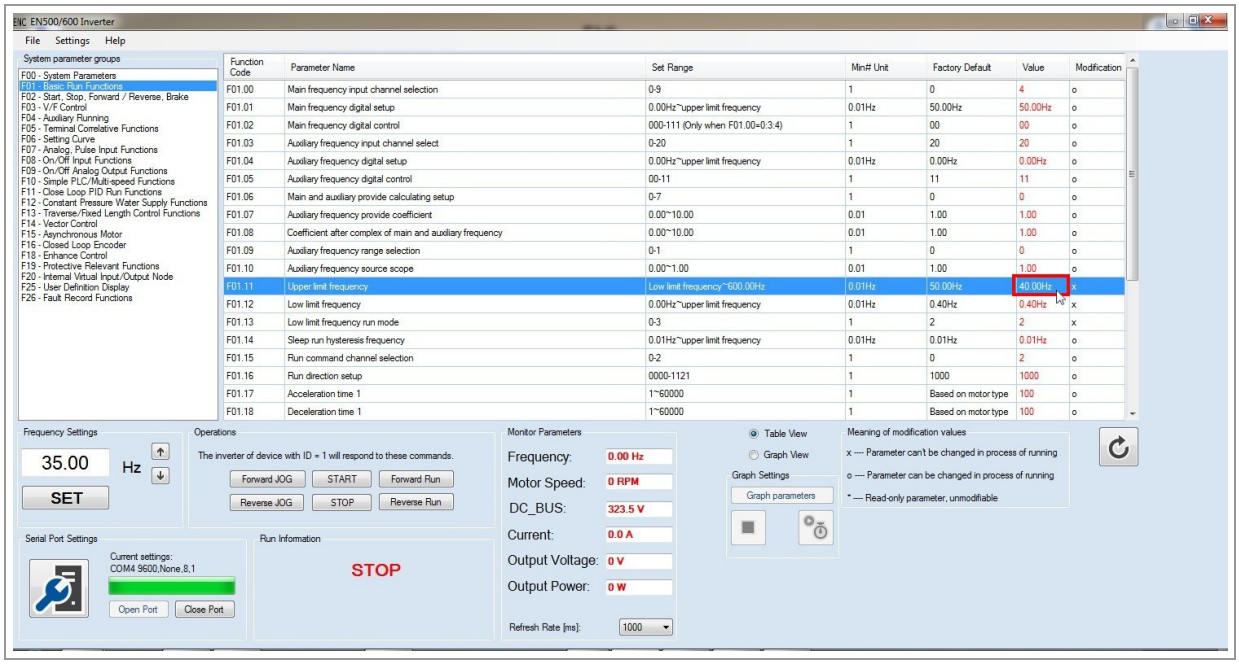


Enter the desired value within the shown setting range.

Note: if the parameter is read-only or not modifiable in current inverter running status, this field will be disabled.



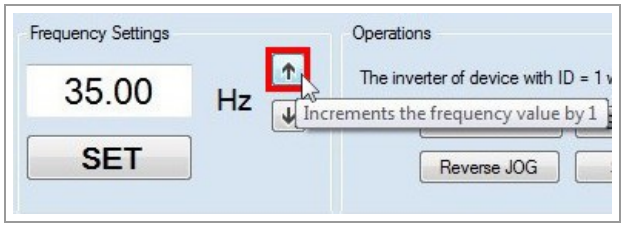
Confirm your changes by clicking OK button.



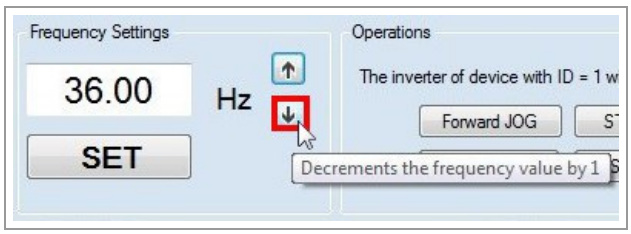
Your changes should be seen in the table after few seconds.

Otherwise, you'll get the warning message, which means that you didn't enter the valid value (not formatted correctly or value out of setting range).

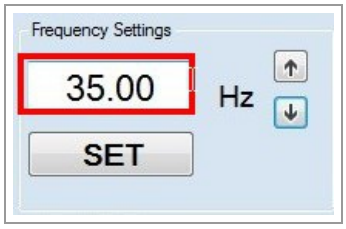
Adjust Frequency Settings



Increment the value of setting frequency by 1 (if it doesn't exceed the upper limit frequency)

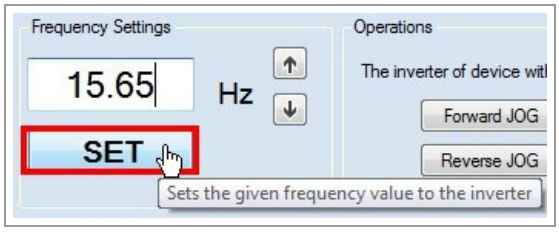


Decrement the value of setting frequency by 1 (if it is not less than low limit frequency)

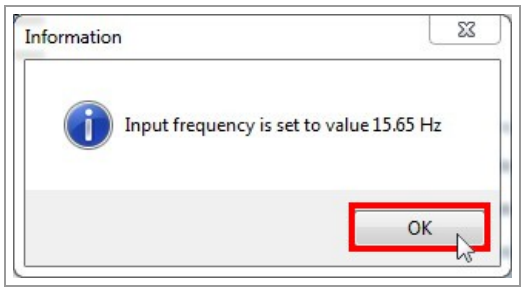


Also you can enter the value manually.

Set Frequency

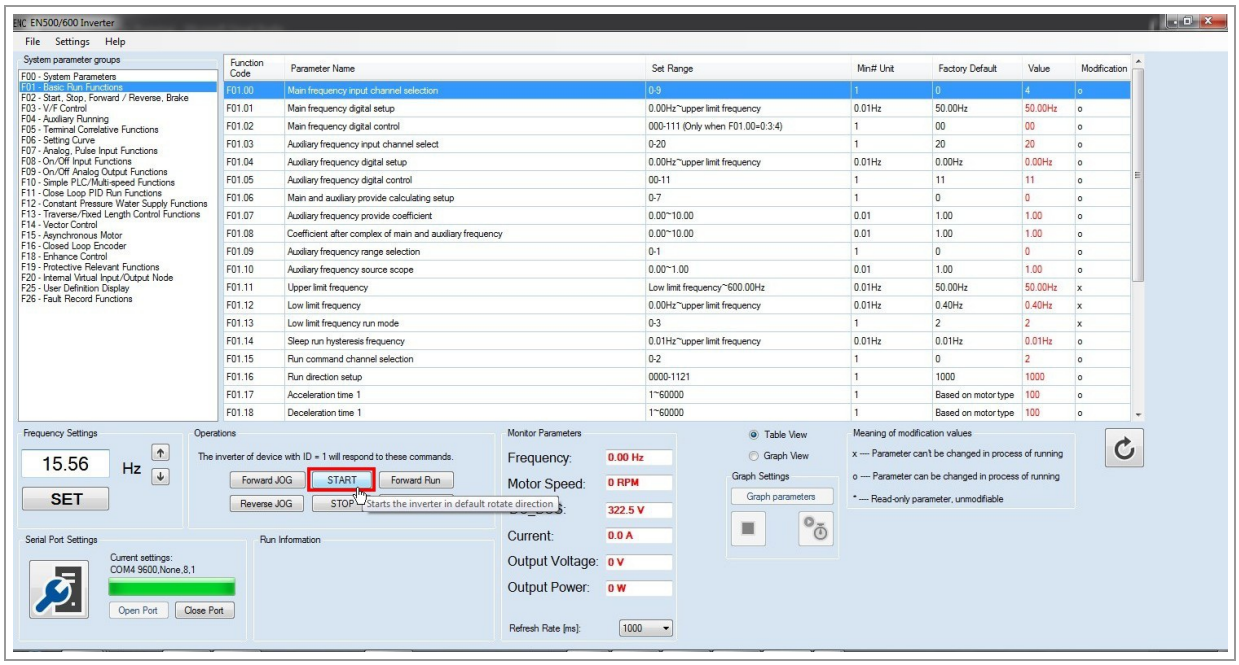


Click SET button to assign the given frequency value to the inverter.



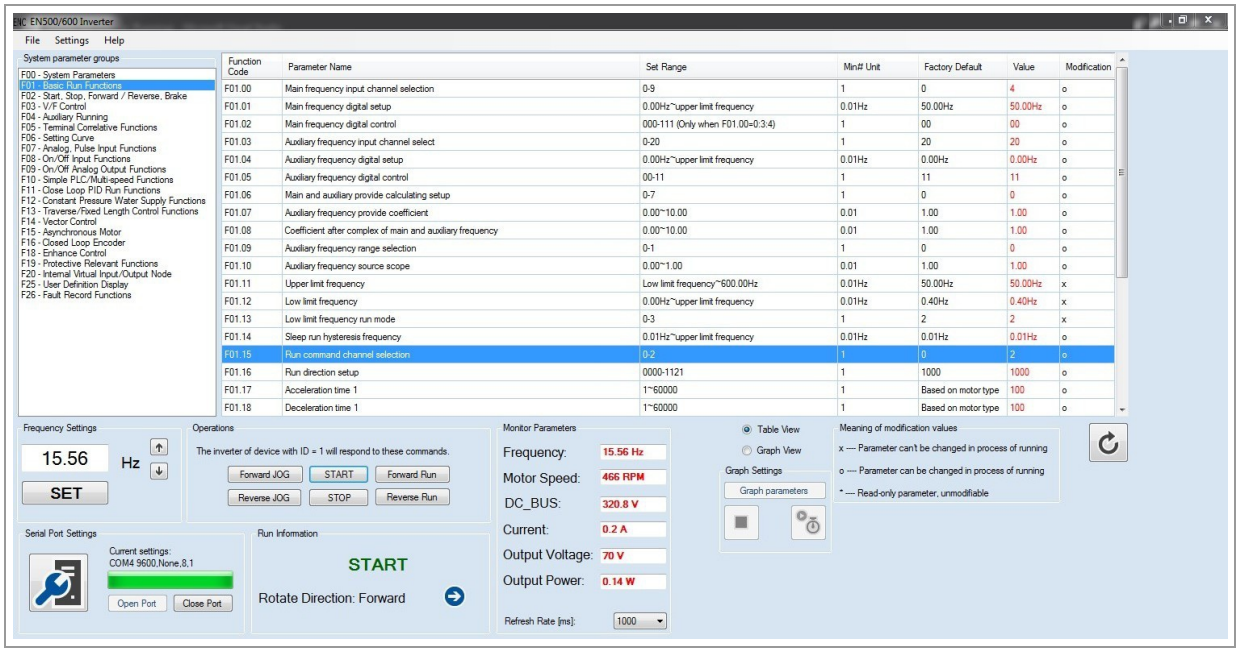
You'll be notified that the value has been set to the given value successfully.

Start The Inverter



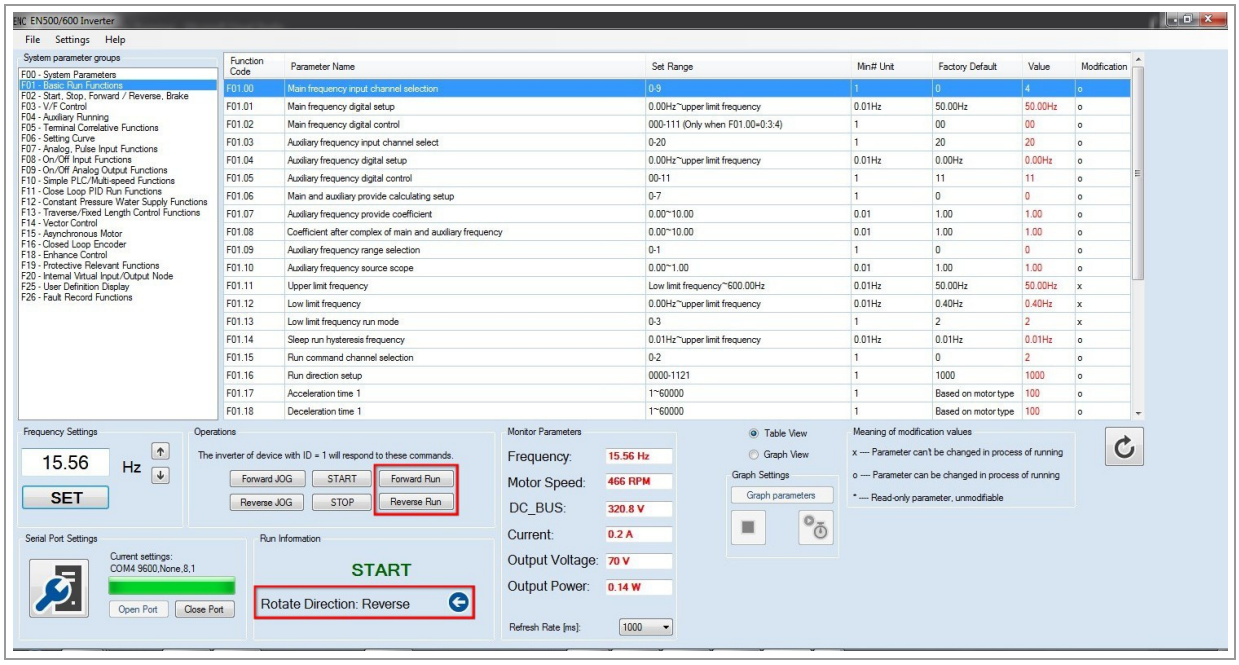
Click on START button to start the inverter in default rotate direction.

Note: if nothing happens, check if F01.15 is set to value 2.



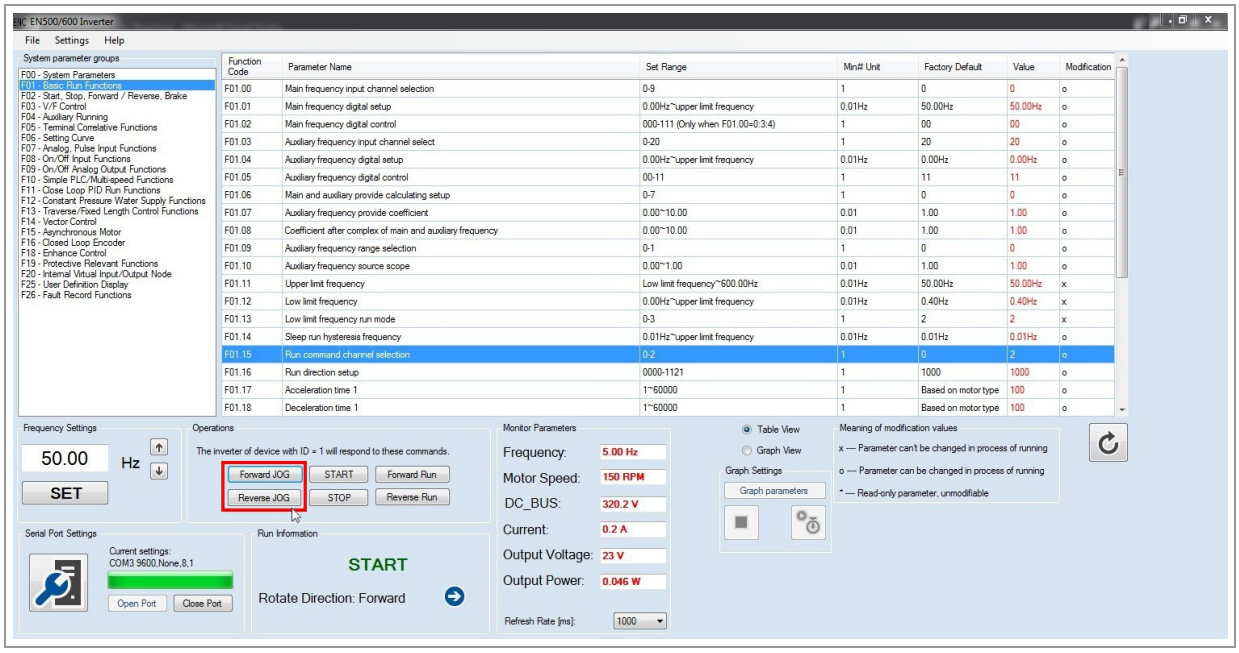
Run information should be changed from STOP to START and the Rotate Direction label will appear.

Also you will notice that Monitor Parameters are changing by the chosen refresh rate interval (by default 1000 ms)



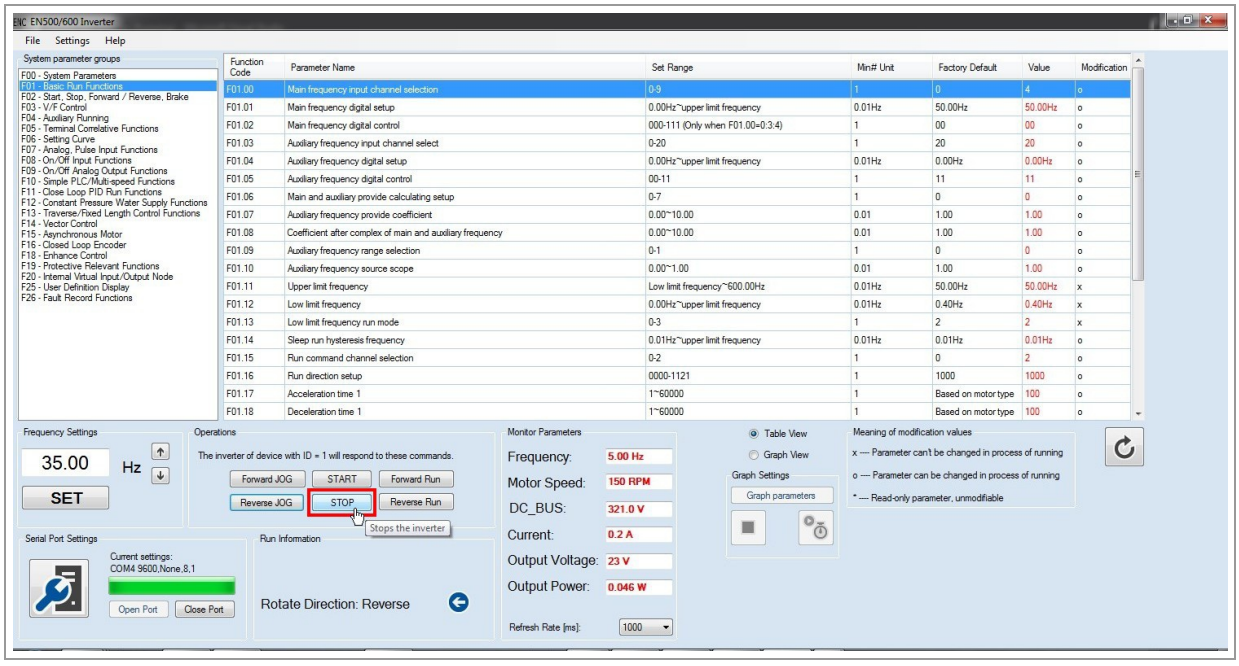
Click on "Forward Run" or "Reverse Run" button to change between forward and reverse rotate direction.

The change will be displayed in Run Information group box.



JOG buttons will start the inverter in forward or reverse direction with set JOG frequency (default is 5.00 Hz)

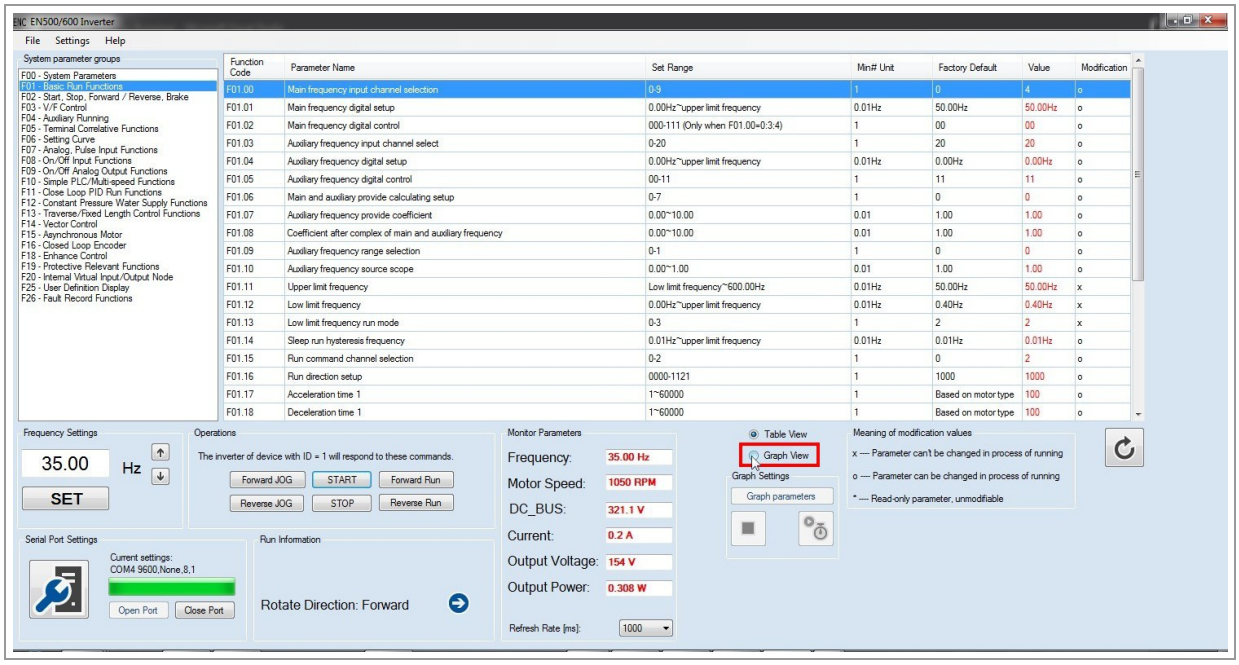
Stop The Inverter



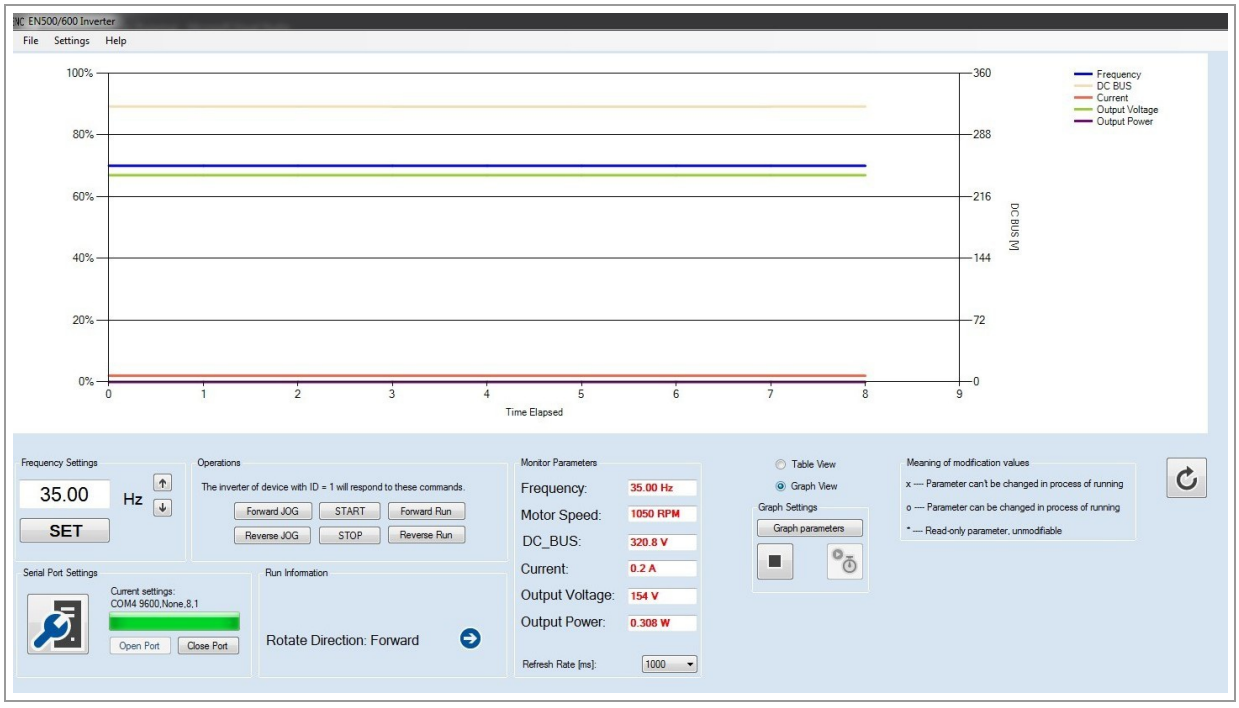
Click on STOP button to stop the running of inverter.

All monitor parameters except "DC_BUS" will fall to zero and Rotate Direction label will fade.

Graph View

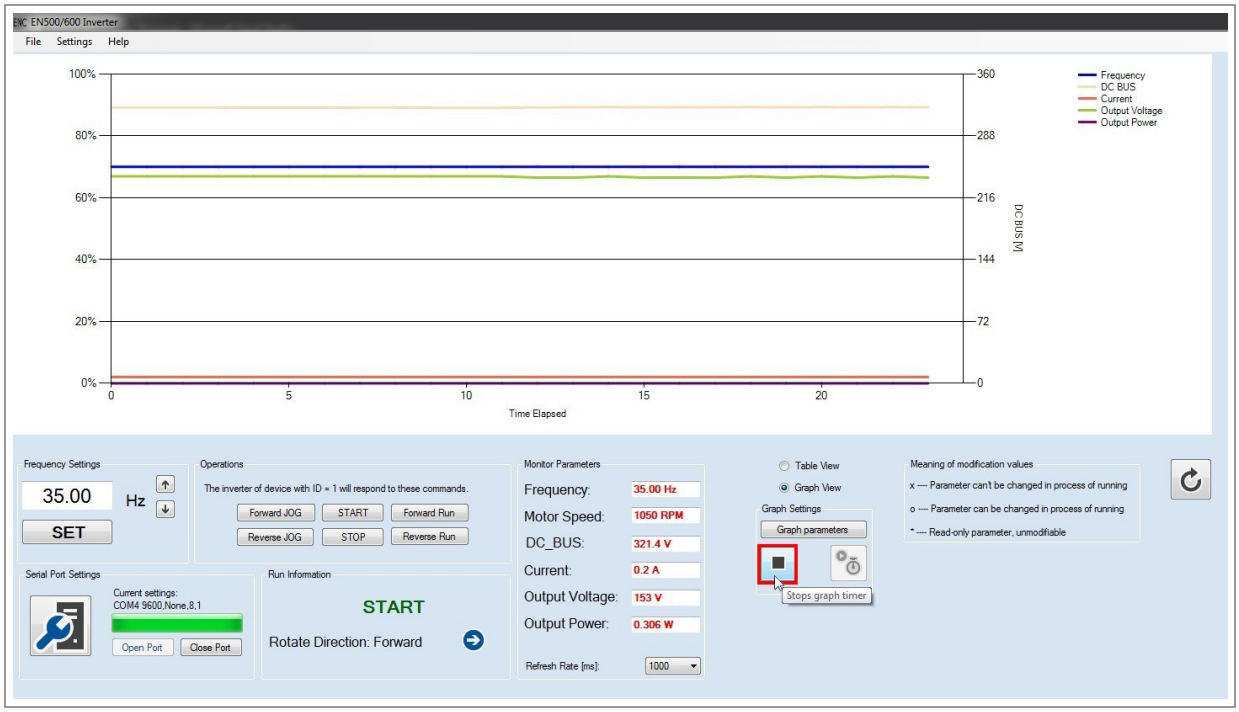


Click on Graph View radio button to change the current view from table to graph.



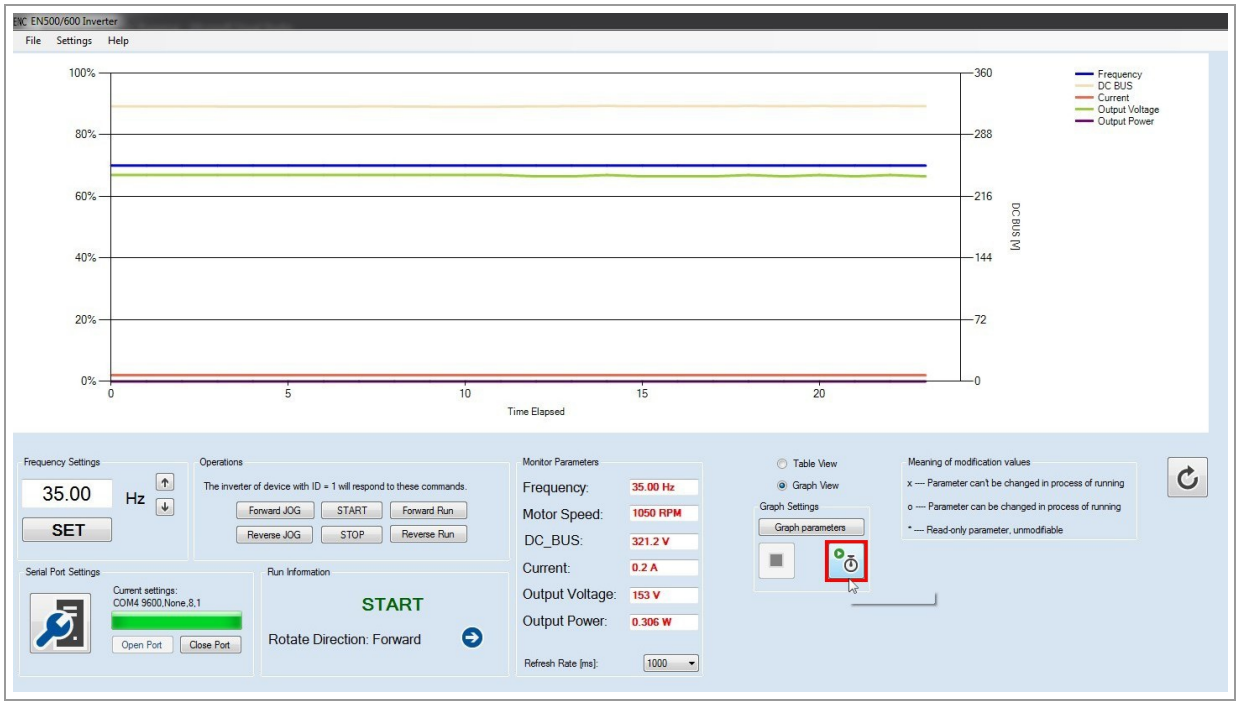
In this mode you can observe the trending chart of key parameter changes through specified time intervals (Refresh Rate).

Stop Graph Timer



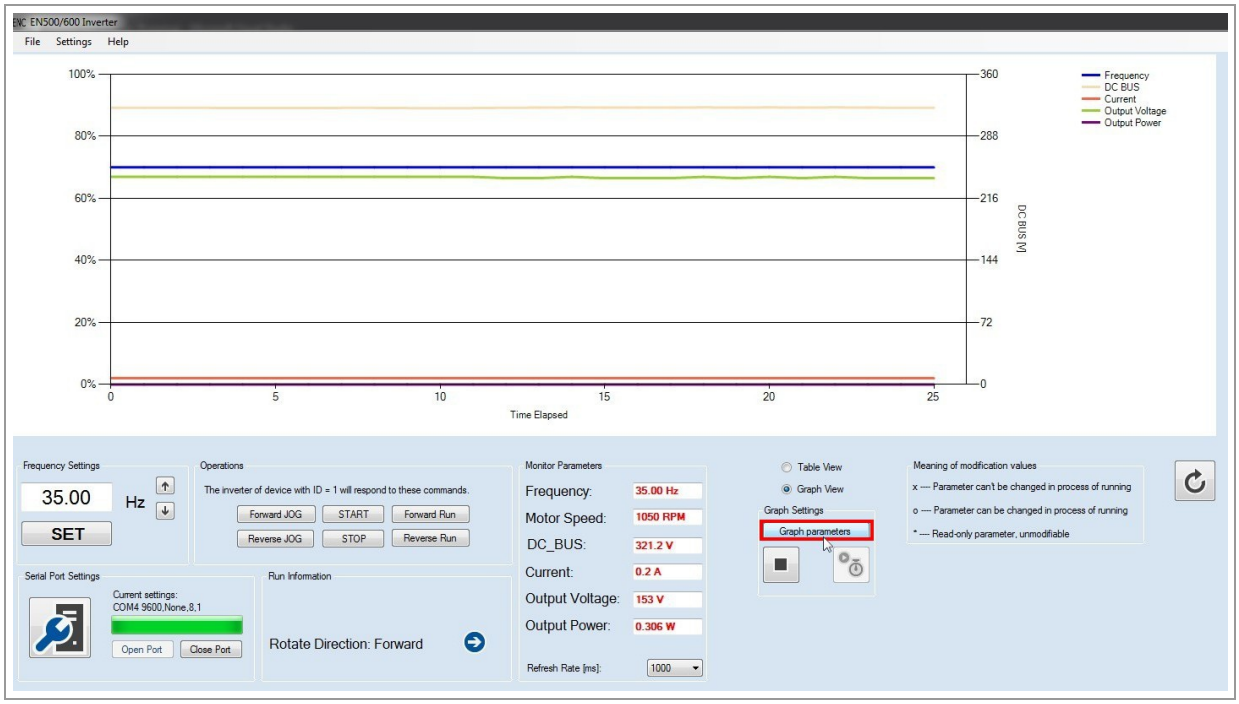
By clicking on the marked button you can pause the trending chart timer.

Start Graph Timer



By clicking on the marked button you can resume the trending chart timer.

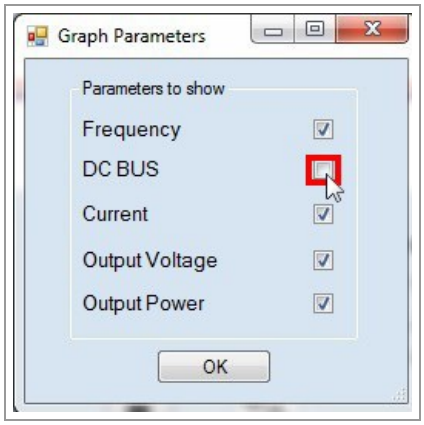
Graph Parameters



Click on "Graph parameters" button to open the menu where you can choose parameters to be shown in the graph.

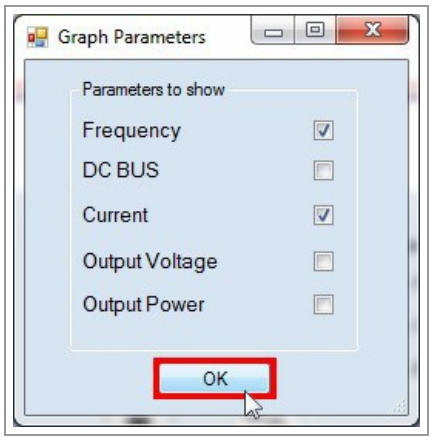
Note: data from trending chart is not logging anywhere, so after closing this menu the data tracking will be restarted and the current record will be lost.

Graph Parameters Menu



In this menu you can select parameters that you wish to be shown/not shown in the graph.

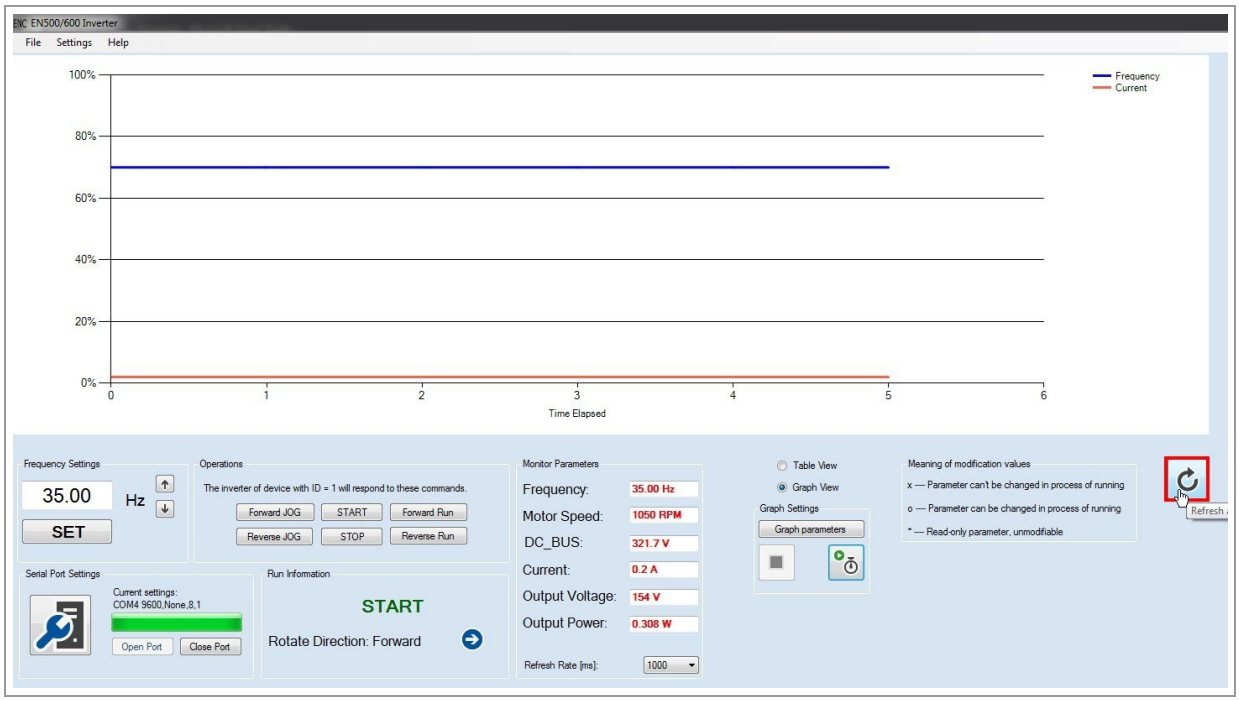
By default all 5 parameters are included into the graph view.



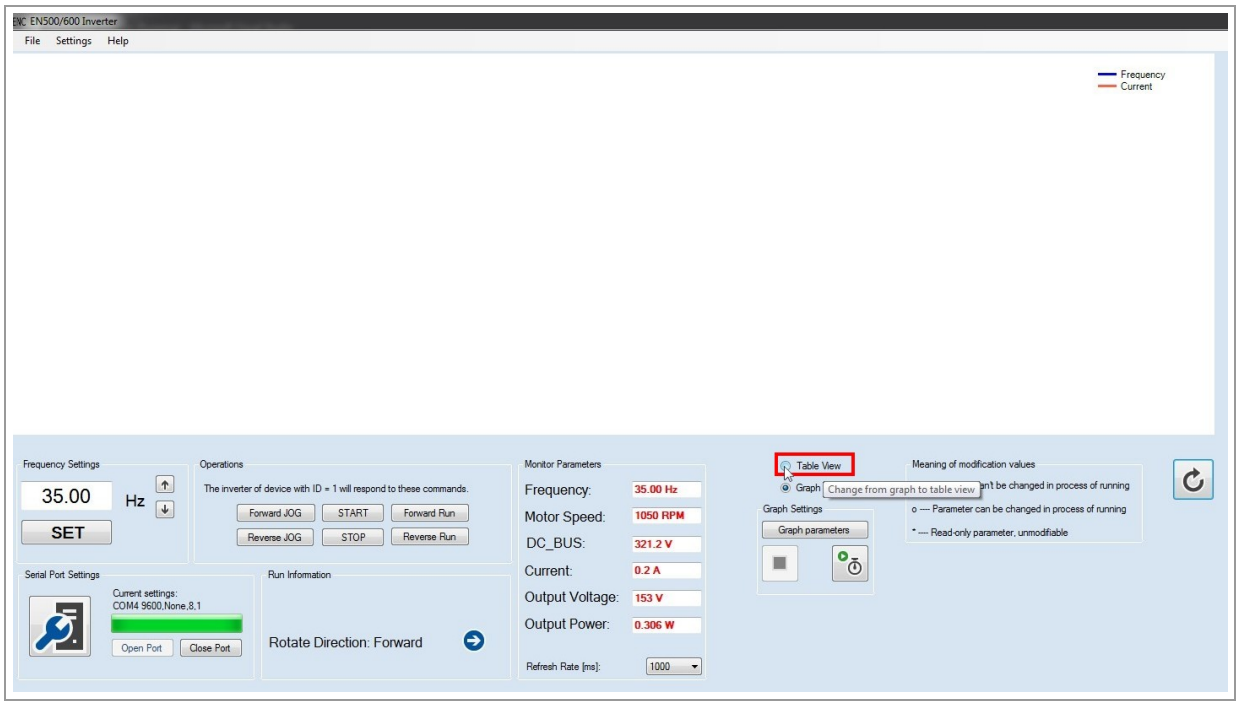
Click OK button to apply the settings and go back to the main screen.

Note: data tracking will be restarted.

Refresh Chart

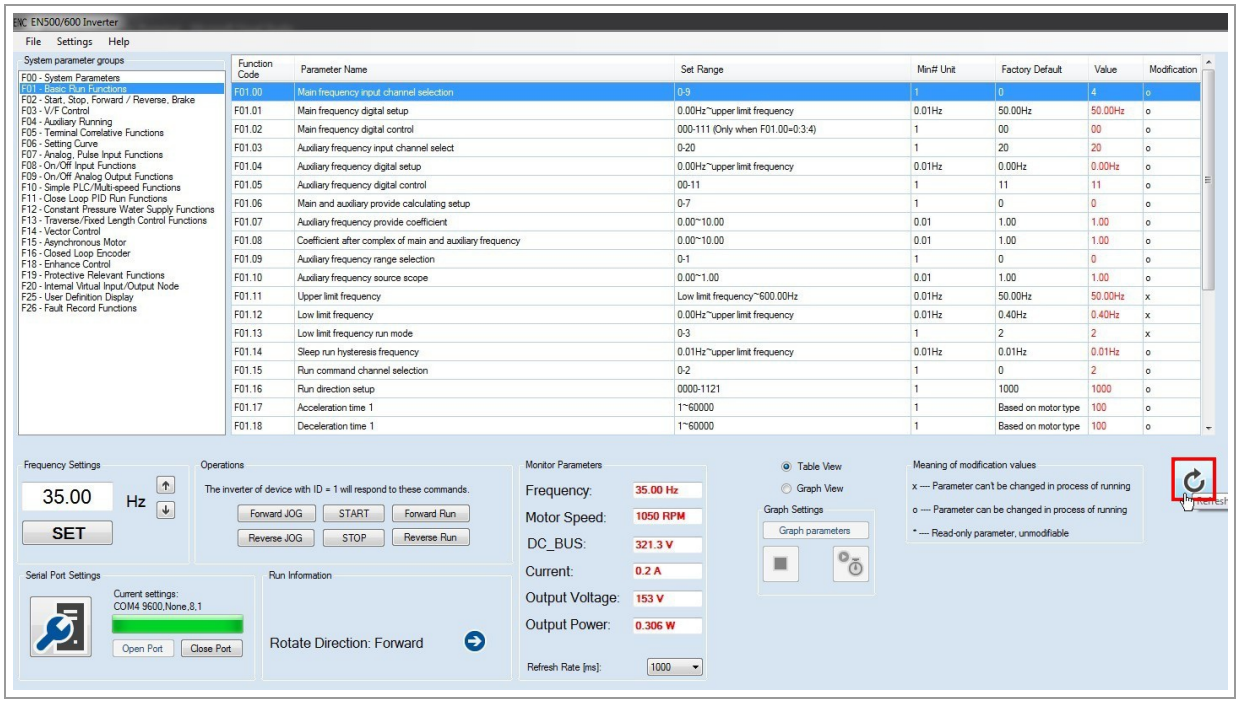


Another way to refresh the tracking data in chart and begin the tracking again from 0 is by clicking the Refresh button.



You can switch to table view again by clicking the Table View radio button.

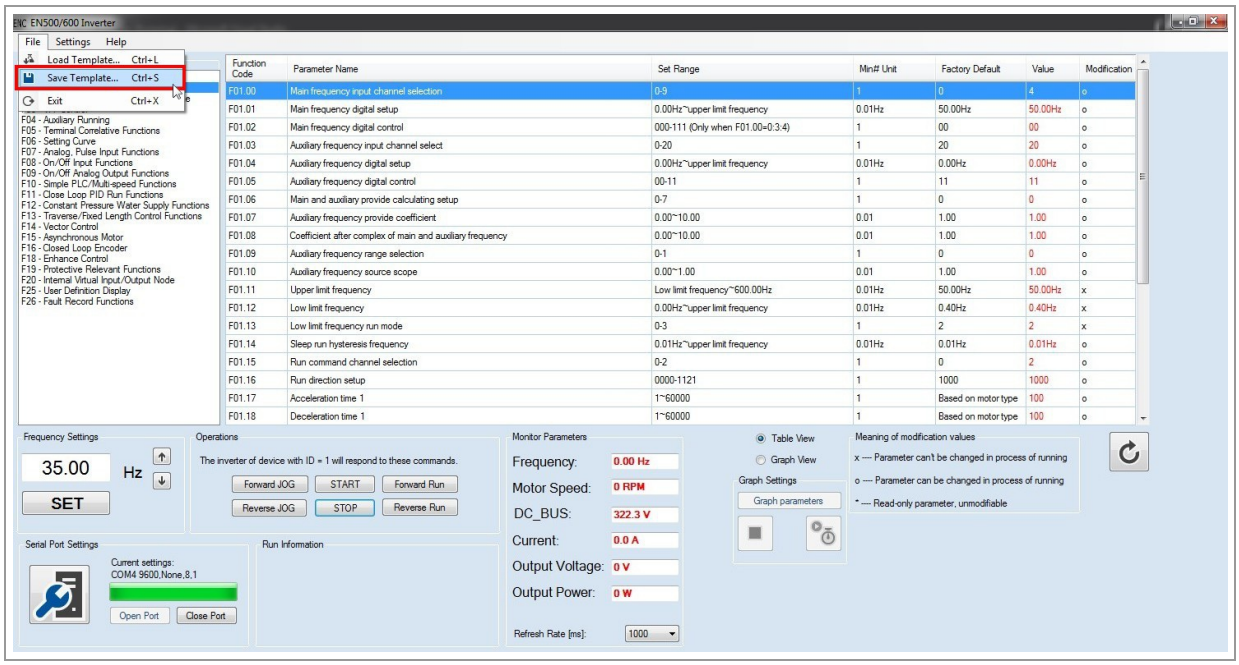
Refresh Table



In table view, you can reload all the parameters from the chosen system parameter group by clicking Refresh button.

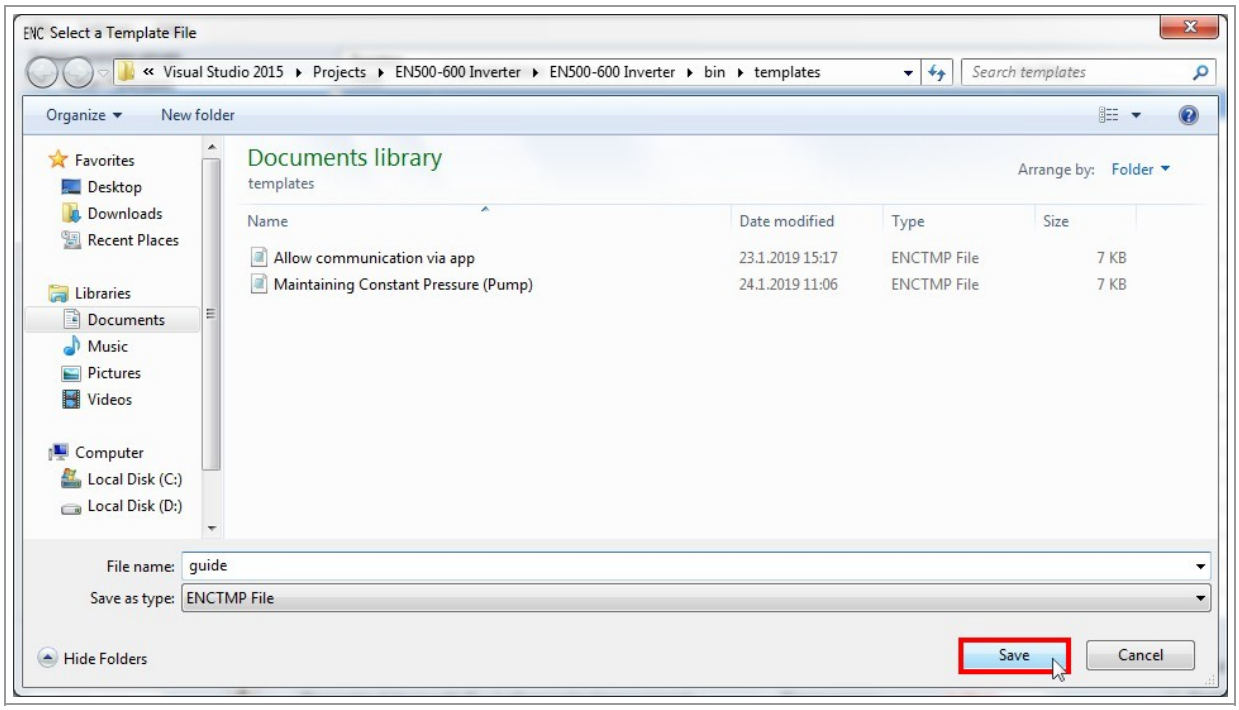
You can also do it by clicking again on the chosen system parameter group in the list box.

Save Template



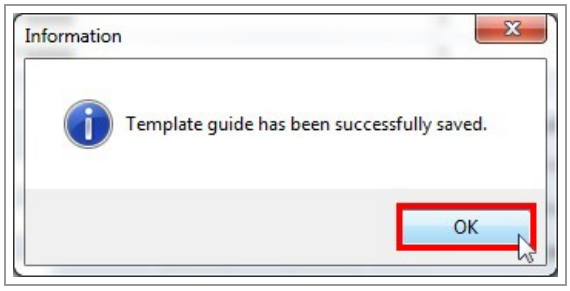
You can save all the current values of inverter parameters as a template file, that you can later reload.

By clicking on File -> Save Template... button or by pressing Ctrl+S shortcut on your keyboard, browse window should open.



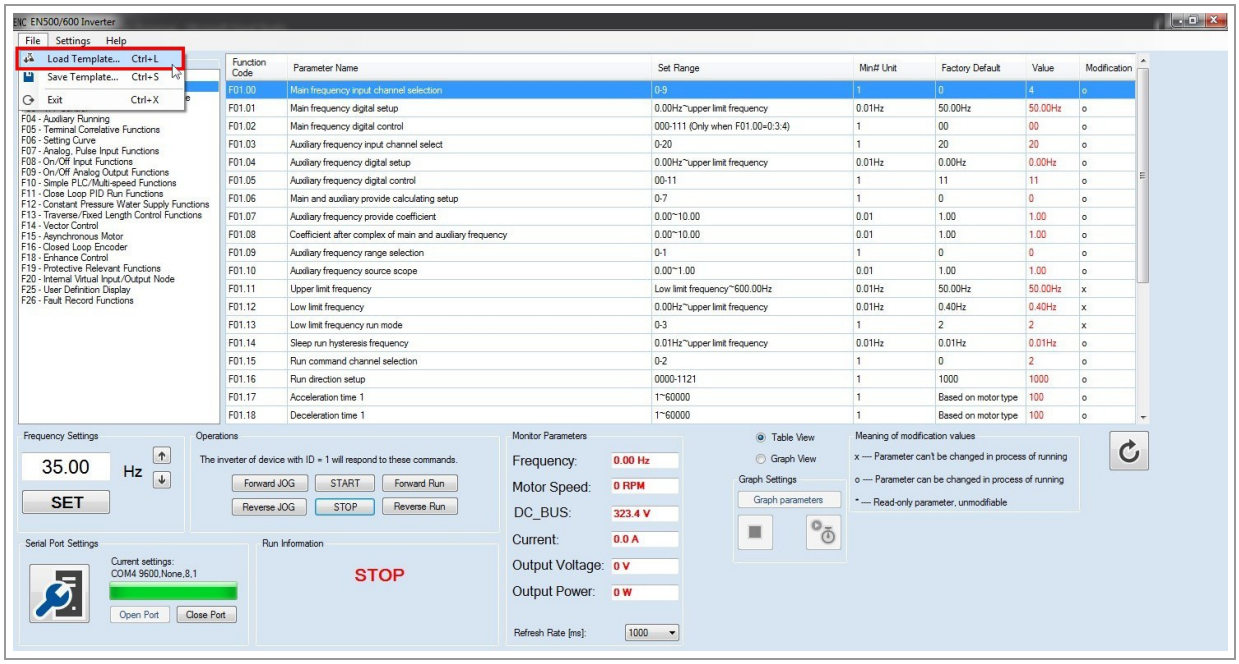
Enter the desired file name and click on Save button to generate the new template (with .enctmp file extension).

Note: because of the security of data transmission, estimated waiting time for this process is about 30 seconds due to the write timeout of the serial port.



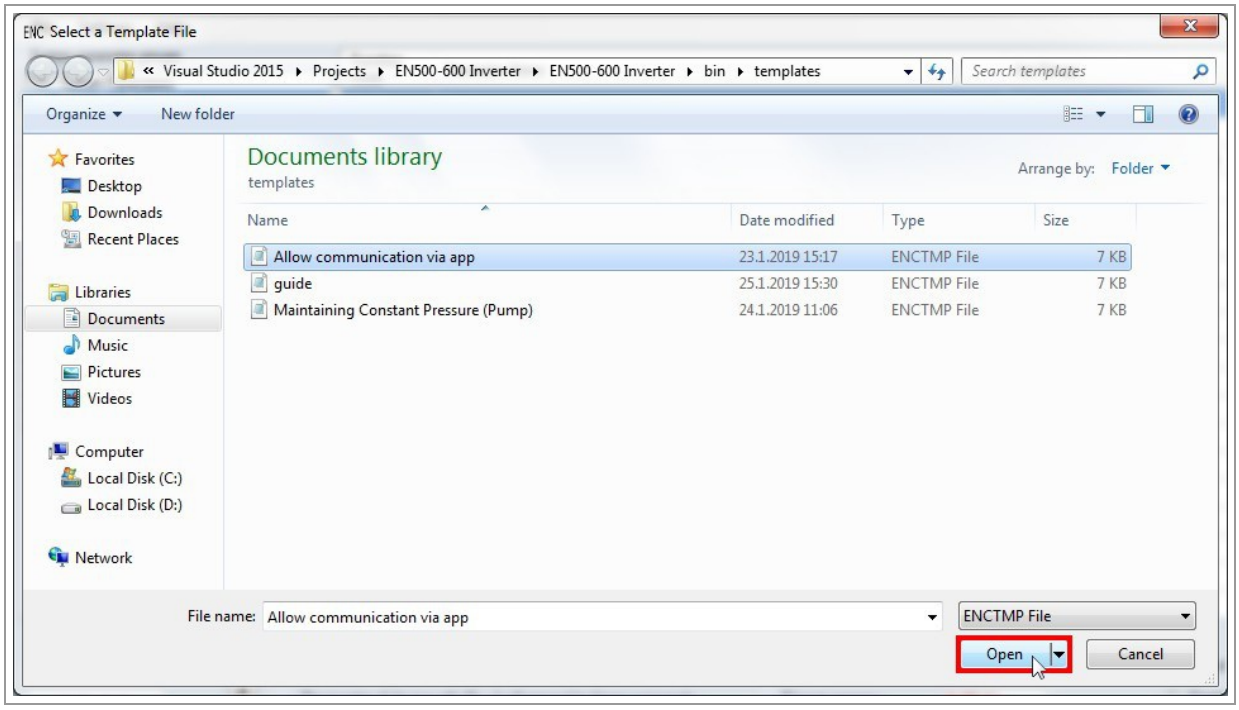
You'll be notified when the process of saving template is finished.

Load Template



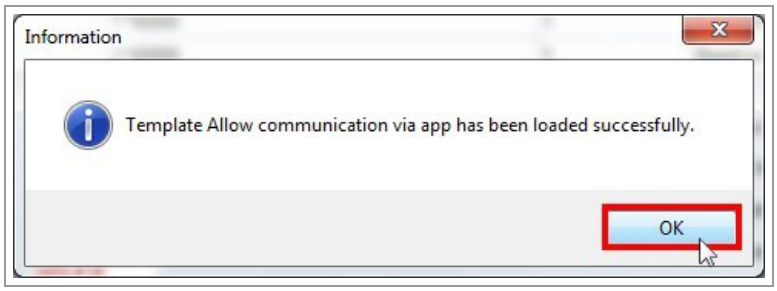
You can load the previously saved template by clicking File -> Load Template... or by pressing Ctrl+L shortcut on your keyboard.

Browse window should open.



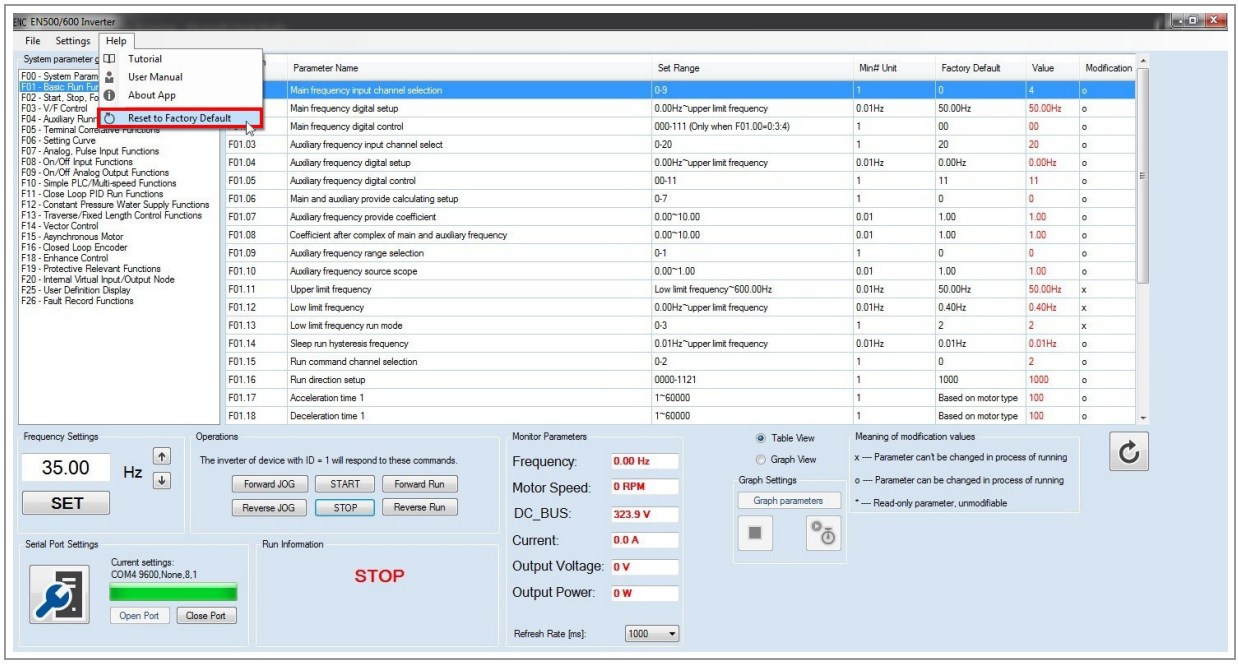
Select the certain .enctmp file and click on "Open" button to load all the parameters to the inverter.

Note: because of the security of data transmission, estimated waiting time for this process is about 30 seconds due to the read timeout of the serial port.



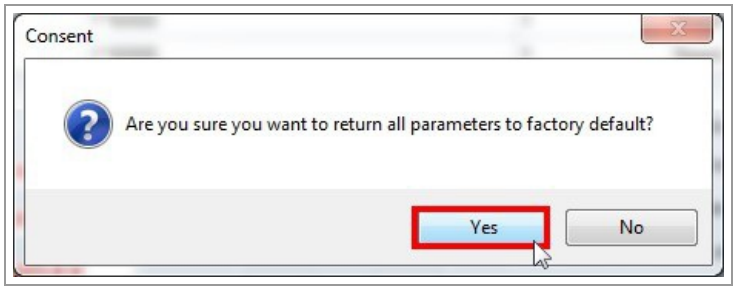
You'll be notified when the process of loading template is finished.

Reset to Factory Default

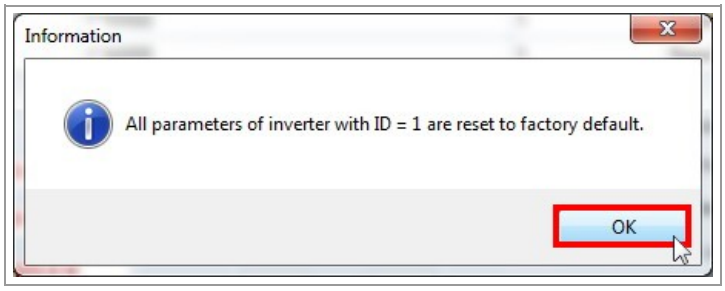


If you wish to restore all the parameters to the factory settings go to Help -> Reset to Factory Default.

This process will take few seconds.

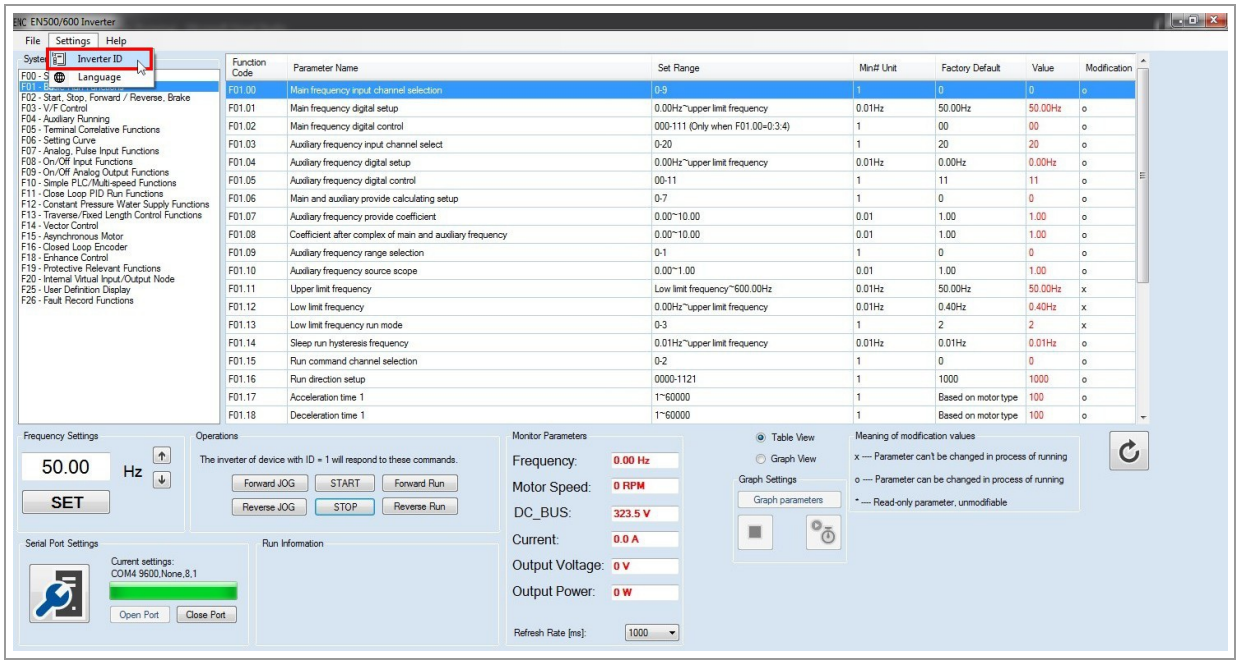


You'll be prompted if you're sure about your choice.



You'll get the confirmation that the process of reverting all parameters to factory default is accomplished successfully.

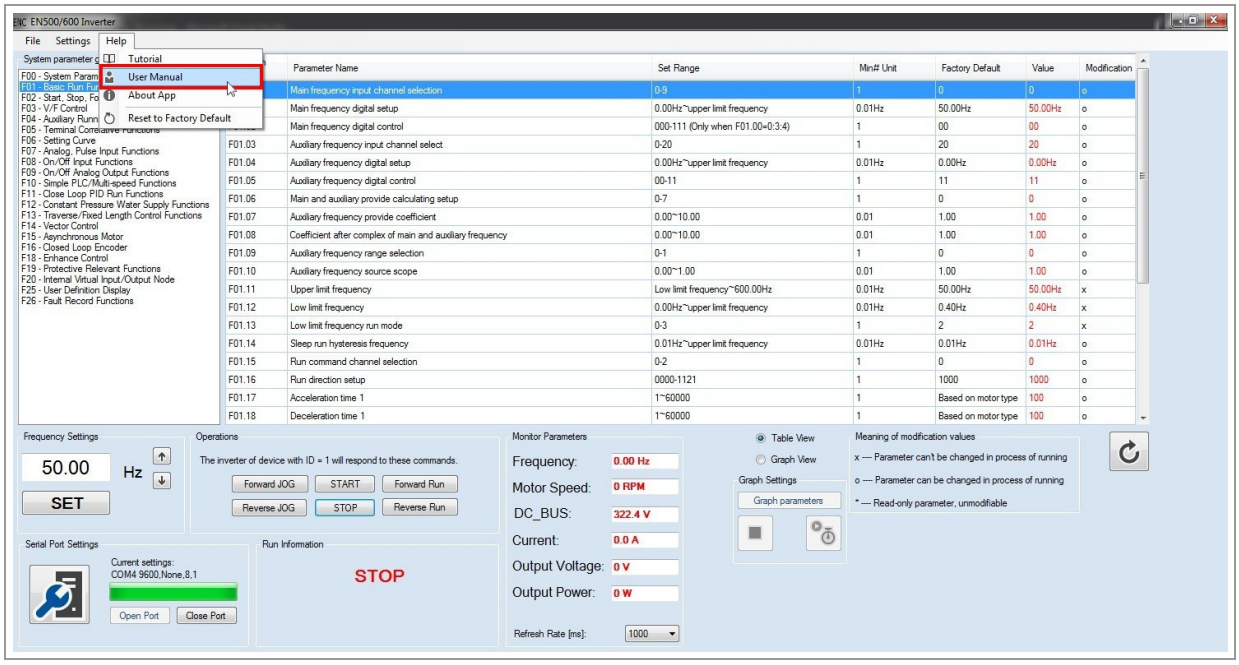
Inverter ID Settings



This setting should allow user to switch between different inverters connected to this PC.

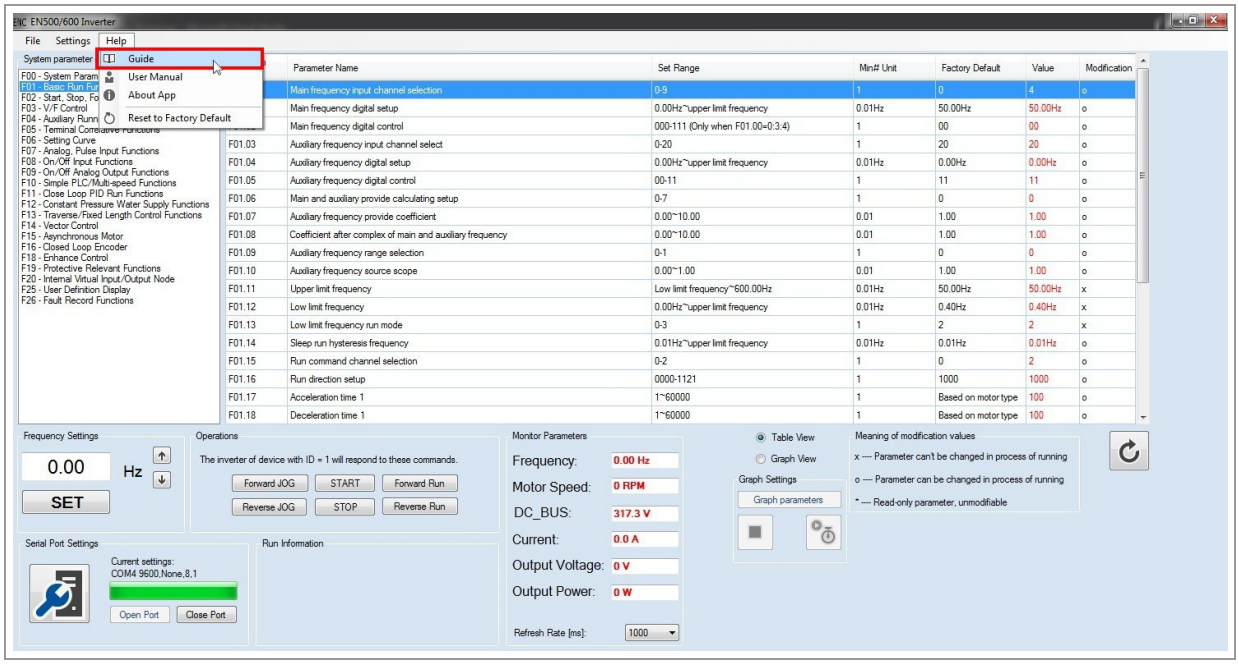
Note: this feature is not supported in version 1.0

User Manual



Click on "User Manual" button to open PDF documentation for EN500/600 inverter.

Guide



To open this guide go to Help -> Guide in menu bar.

Support

Contact

For all questions, suggestions and advices write to igor@sah.rs or visit the official company website www.sah.co.rs

This is the first version of software and it's not fully tested so it may have some malfunctions or bugs.

If you notice some of them, feel free to leave the feedback so we can fix it in later releases.

Sincerely,

Igor Filipovic (SAH Electronics Belgrade)