STR-ACF-12V100WPSU-GEVB Users Guide

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Introduction

STR-ACF-12V100WPSU-GEVB provides an easy to use evaluation board within Strata development environment for the NCP1568 100W output AC to DC conversion. Through Strata, the developer can access datasheets, BOMs, schematics, and other collateral they may need. This document will provide instructions on how to use the evaluation board.

Features

- Input voltage range; 90Vac – 264Vac
- Output voltage; 12V
- Output current; 0A – 8.5A
- Input / Output isolation; 3kV
- PFC; Yes
- Board size; 166mm x 103mm x 33mm

Applications

- Industrial use
- General-purpose power supply

User Guide

Hardware Setup – connection

The setup for operation with Strata telemetry system. The hardware required an AC power source, an Electric load, a Computer for using STR-ACF-12V100WPSU-GEVB. The electric wire size recommended for connection is shown below.

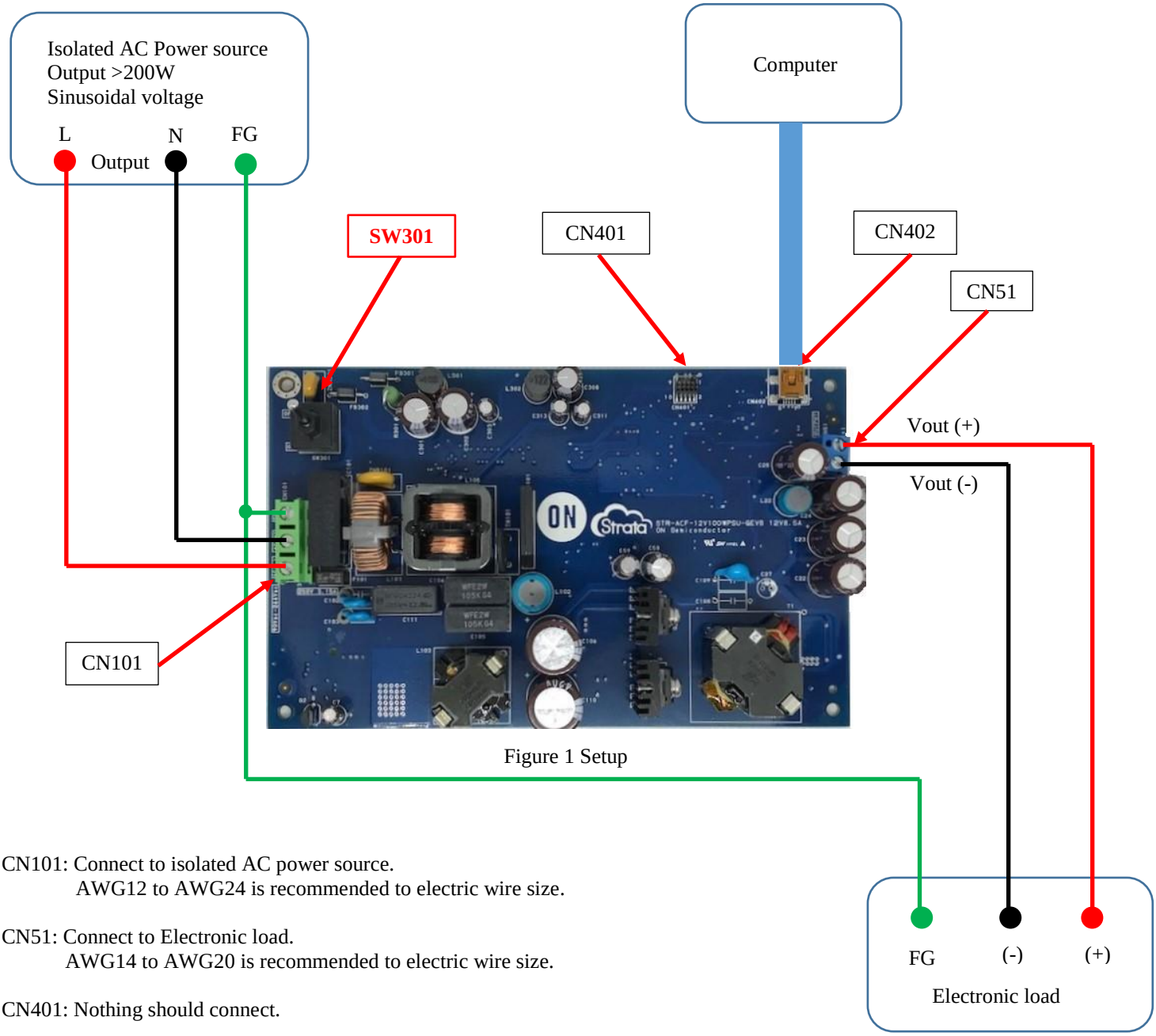


Figure 1 Setup

CN101: Connect to isolated AC power source.
AWG12 to AWG24 is recommended to electric wire size.

CN51: Connect to Electronic load.
AWG14 to AWG20 is recommended to electric wire size.

CN401: Nothing should connect.

CN402: Connect to PC using attached USB cable.

SW301: This is the Power Switch for the telemetry system. This switch should certainly be turned ON. If this SW301 is OFF, the contents of numerical values displayed on the screen and graphs are not guaranteed.

User Interface

1. Connect, as shown in Figure 1 setup and login to the Strata web site.



Figure 2 Login screen

2. The application will automatically detect the device that is plugged in and will bring up the UI for the RDK that is plugged in.

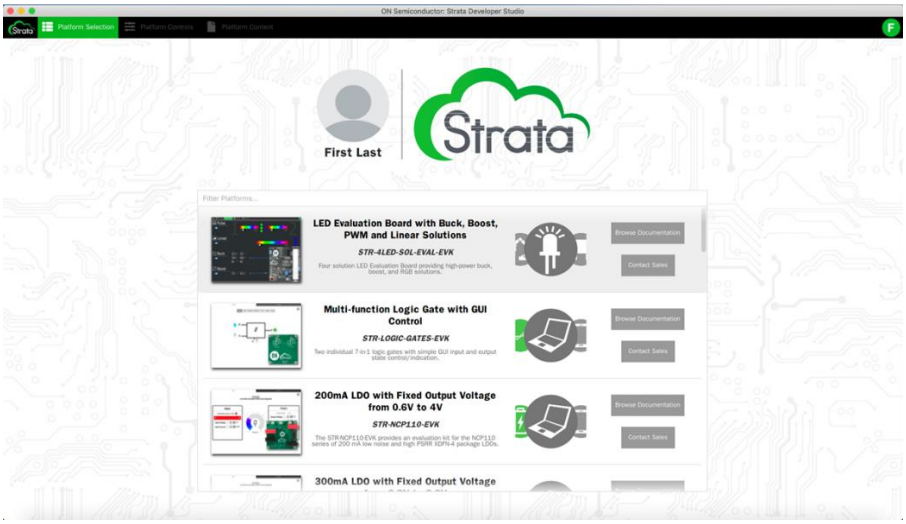


Figure 3

3. Switch SW301 should certainly be turned ON. As for operation of Strata, switch SW301 is not guaranteed in OFF.

4. A basic initial screen appears.

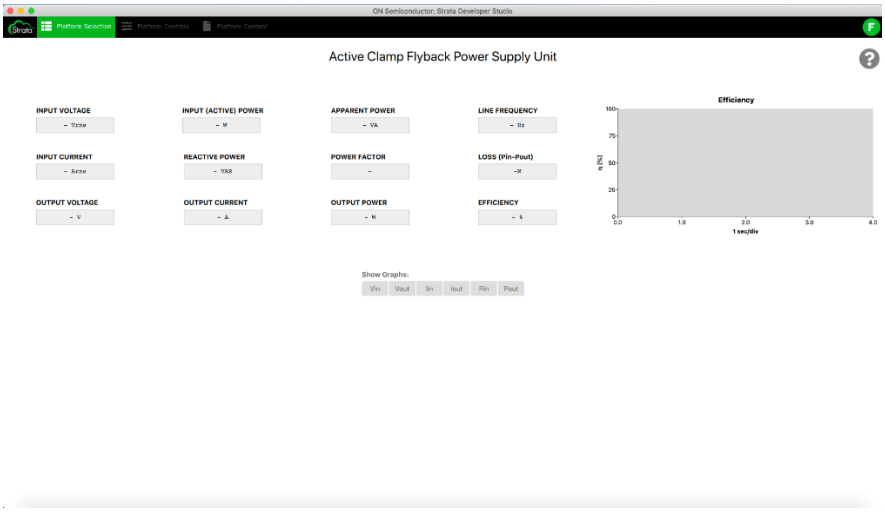


Figure 4

This screen displays a following measurement result and calculation result by the Strata telemetering system. The displays are numerical value and graphs. It seems to be Figure 4 just after starting this software. As for efficiency, both a graph and a numerical are displayed in this case.

The items displayed as graphs and numerical value.

- Input voltage (Vrms), Output voltage (V), Input current (Arms), Output current (A), Input Active power (W), Output power (V), Efficiency (%)

The items displayed as numerical value only.

- Input voltage (Vrms), Output voltage (V), Input current (Arms), Output current (A), Input Active power (W), Output power (V), Efficiency (%)
  And, Apparent power (VA), Reactive power (VAR), Power factor, Line frequency, Loss (Pin-Pout, W)

5. The round button with a question mark in the top right corner is the Help button.
6. Display graphs.



Figure 5

The item which can show graphs is shown in the button above round in Red. By left-clicking an item, you can see it in a graph. You can see one item of graph at the minimum. And it is six items at the maximum.



Figure 6 One item.

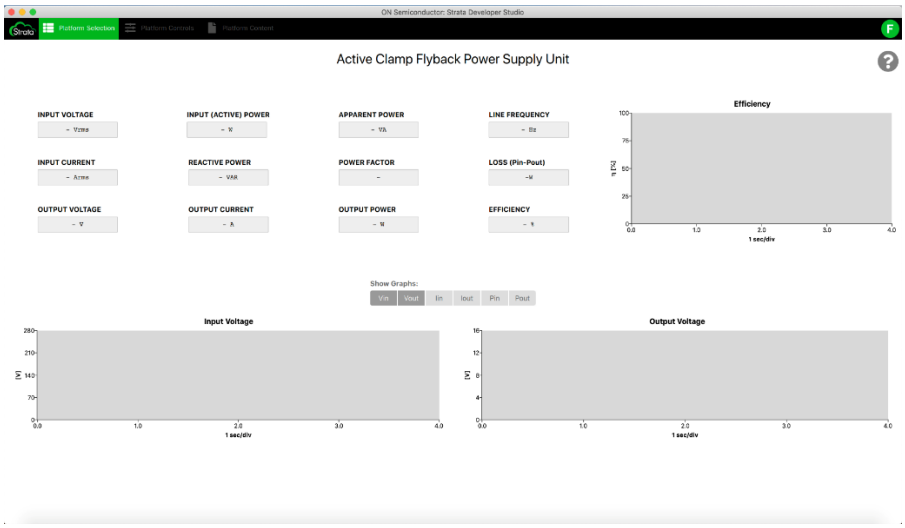


Figure 7 Two items

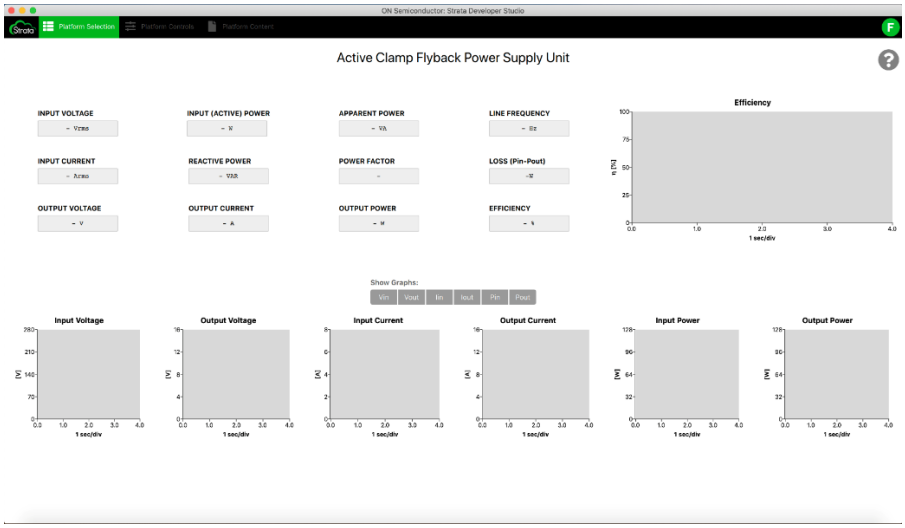


Figure 8 Six items

7. Notes (be sure to read)
    - If it displays measured value on the screen using the telemetry, be sure to turn ON SW301.
    - Connect with Computer using the USB cable attached.
    - If output current is smaller than 100 mA, the telemetry does not work. They are not correct if numerical values or graphs are shown in load current smaller than Iout=100 mA. And those results are not guaranteed.
    - If the input AC main is turned OFF or SW301 is turned OFF during working telemetry, values may still be displayed on the screen. In this case, these values are not correct and are not guaranteed.
    - Values measured by this telemetry is reference. If high accuracy is required of measurement, please use specialized measuring instruments. In that case, SW301 should be OFF and the USB cable removed.

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