## Building a power supply for the Amiga

Posted on February 7, 2021 By arananet

Here is for you a short tutorial on how to build by yourself a replacement power supply for our dear Amiga computers. In this article I will use a MeanWell RT65 as a source, well known in the Amiga world as a replacement source for the original Commodore power supply... as well as ATX's but that is another story.

The MeanWell RT65 provides the voltages that the Amiga 500/600 and 1200 requires to operate, + 5vdc, + 12vdc and -12vdc.



I have always used ATX power supplies to power my Amiga computers but I had bought this one for a project and finally the project was cancelled, so I asked myself... what can I do with this power supply? I decided, apart from making a small case, to include the possibility of connecting a small PCB which can tell me the output voltages that the power supply has at any time. I wasn't looking for something super complete, just to give me the voltages. So I also made a small PCB with an atmega328 and a divider to obtain the averages and thus obtain a constant value from the 5V and 12V lines.

#### **Design of the Case**

The case is made of 3 mm methacrylate; as always, my friends from TransparentCitySales have cut it for me (contact, Valerio, transparentcitysales@gmail.com).

I have shared the design of the methacrylate housing on my Thingiverse: https://www.thingiverse.com/thing:4753314



#### **Appearance of the Case**



### **Electrical Connections**

To connect the MeanWell power supply, I have drawn a small schematic. The connection to the voltage plate is not included in this schematic.



Note: a fuse is recommended for the power supply protection. RT-65 includes a potentiometer to adjust the 5v output, make sure you first adjust this voltage to 5v before you plug on the amiga.

#### WARNING!!! RISK!!!

As you can see the electrical connection is super simple. However I recommend that only those used to handling connections that involve high voltages make these types of connections.

#### **Plate voltages**

For this power supply I have designed a small PCB which integrates an atmega328, a  $128 \times 32$  OLED screen, and a pair of voltage dividers to obtain the values.

It is based on this project by W.A. Smith <u>https://startingelectronics.org/projects/arduino-projects/arduino-4-channel-LCD-voltmeter/</u> (only I modified it for this project, adding the OLED support).



#### Installation

For the installation, we will need some 5V on one side to power the atmega chip and the OLED screen, and on the other side we will need two input voltages, + 5V and + 12V. We will connect these two voltages to the outputs of the MeanWell RT65 power supply. Nothing more. In my case I used double sided tape to fix the PCB directly on the power supply, because there is no way to do differently.





Coincidentally, the MeanWell RT65 power supply has a small hole where the cables can be passed ... great luck! Of course, we will have to remove the upper sheet metal cover. This is done by removing the rear screw and then sliding the metal part forward.



#### **Final Result**

This is the final result of the project. A fully functional power supply, convenient to use, with its power switch and its voltage information panel.







I hope you have found this useful. The voltages PCB is available on my GitHub but SMD soldering knowledge is required to be able to assemble it.

#### github.com/arananet/multipurposeboard/

Cheers,

Edu.

# #meanwell, #amiga, #powersupply, #powersupply replacement, #rt65