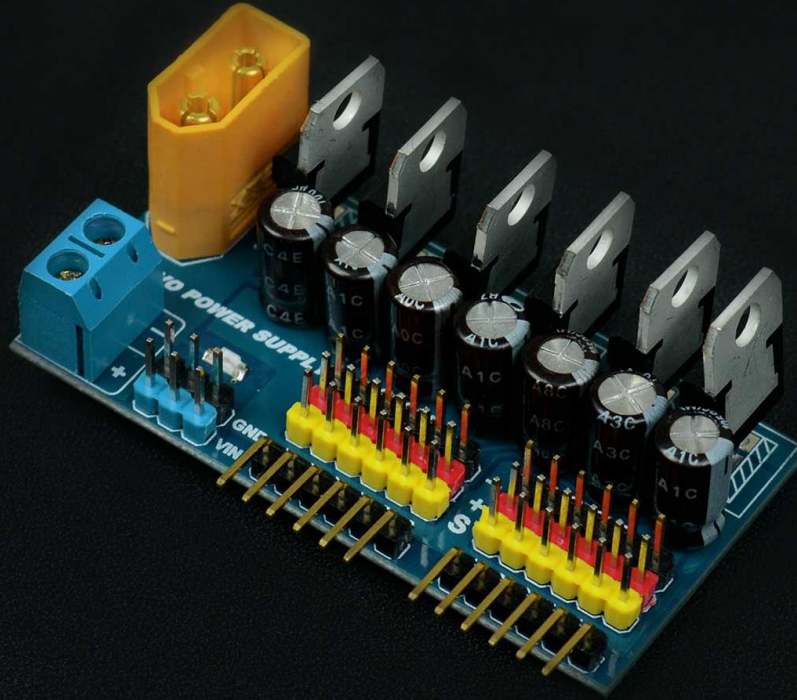


USER MANUAL

Servo Power Supply



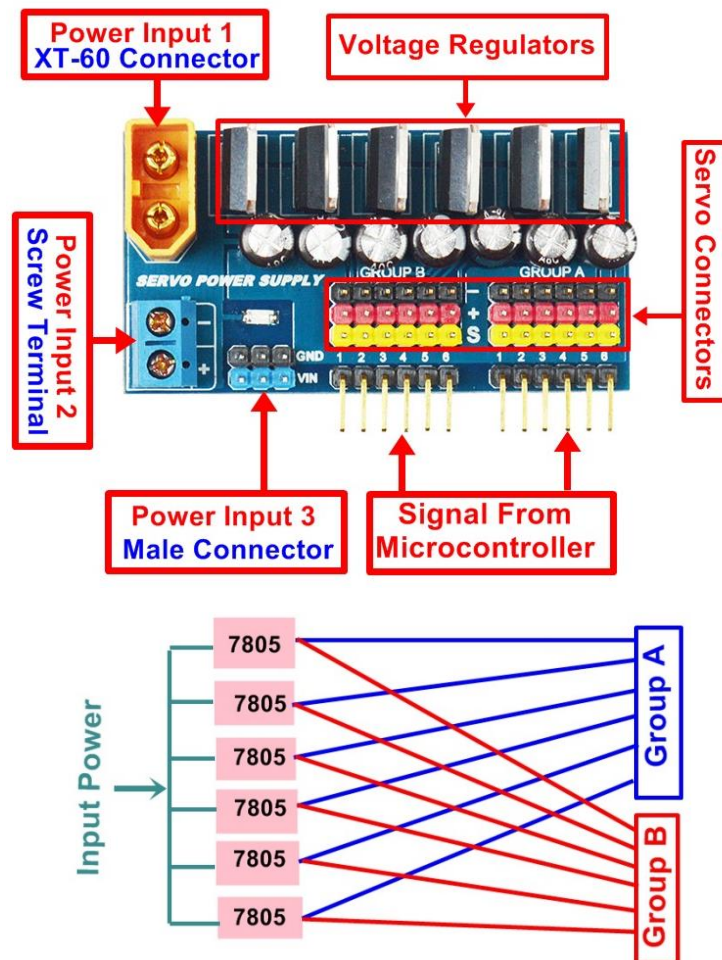
While working on a project that requires a bunch of servo motors (e.g.: a robotic arm), the first concern is to provide sufficient power to all of the motors. This module is useful to supply clean 5V to all of the servo motors of your project easily.

There are a total of **12** servo connectors arranged in 2 groups. Each of them are capable of supplying **up to 1A** peak current. A maximum of **12** micro sized servo or **6** medium sized servo motors can be powered up using this module.

Specifications:

1. 12 servo connectors, arranged in 2 groups. Each group (6 servo ports) receives power from a dedicated 7805 IC.
2. A total of 12 micro servo (e.g.: SG-91R / SG-90R) or 6 medium sized servo (e.g.: MG-996) can be powered up.
3. XT-60 connector for providing input voltage from LiPo battery directly
4. Alternative power input connector: If your power source doesn't have a XT-60 connector.
5. Max output current per group of servo connectors: 1A (Input 2S LiPo / 8 volt), 700mA (Input 3S Lipo / 12 volt).

Components:



Servo Connectors: There are 12 standard servo connectors arranged in 2 groups.

Voltage Regulators: There are 6 7805 linear 5V regulator ICs. Each IC provides power to 2 servo connectors, one from group A and one from group B.

Signal Inputs: 12 'L' shaped male connectors to provide control signal to the servo motors from a microcontroller.

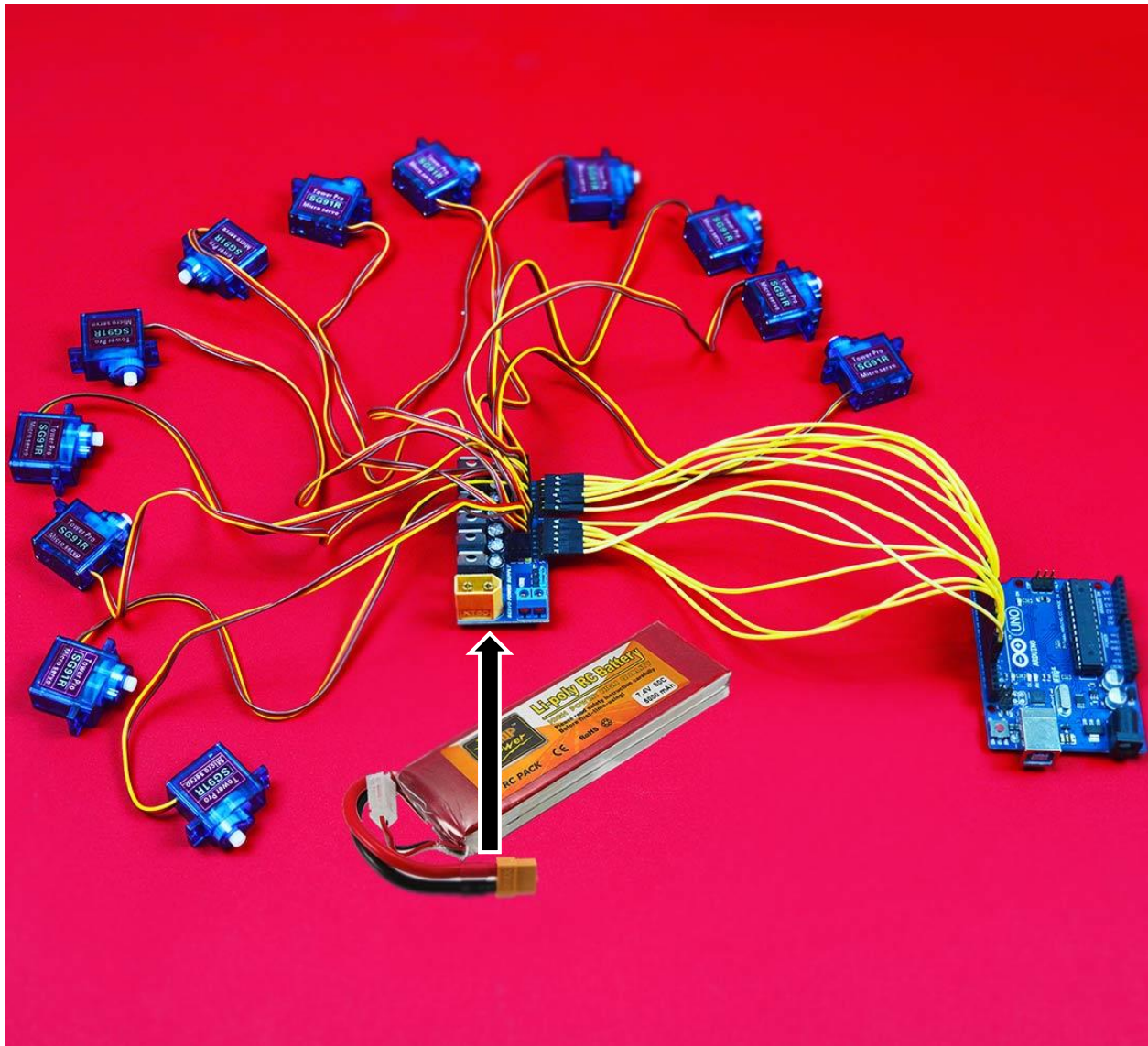
XT-60 Connector: To directly connect a 2 cell or 3 cell lipo battery that has a XT-60 connector.

Power Input 2 and 3: In case your power source doesn't have a XT-60 connector, then use these to provide input voltage (7V-12V). **Be aware of the '+' & '-' polarity. Connecting in reverse will damage the voltage regulator ICs.**

Connection:

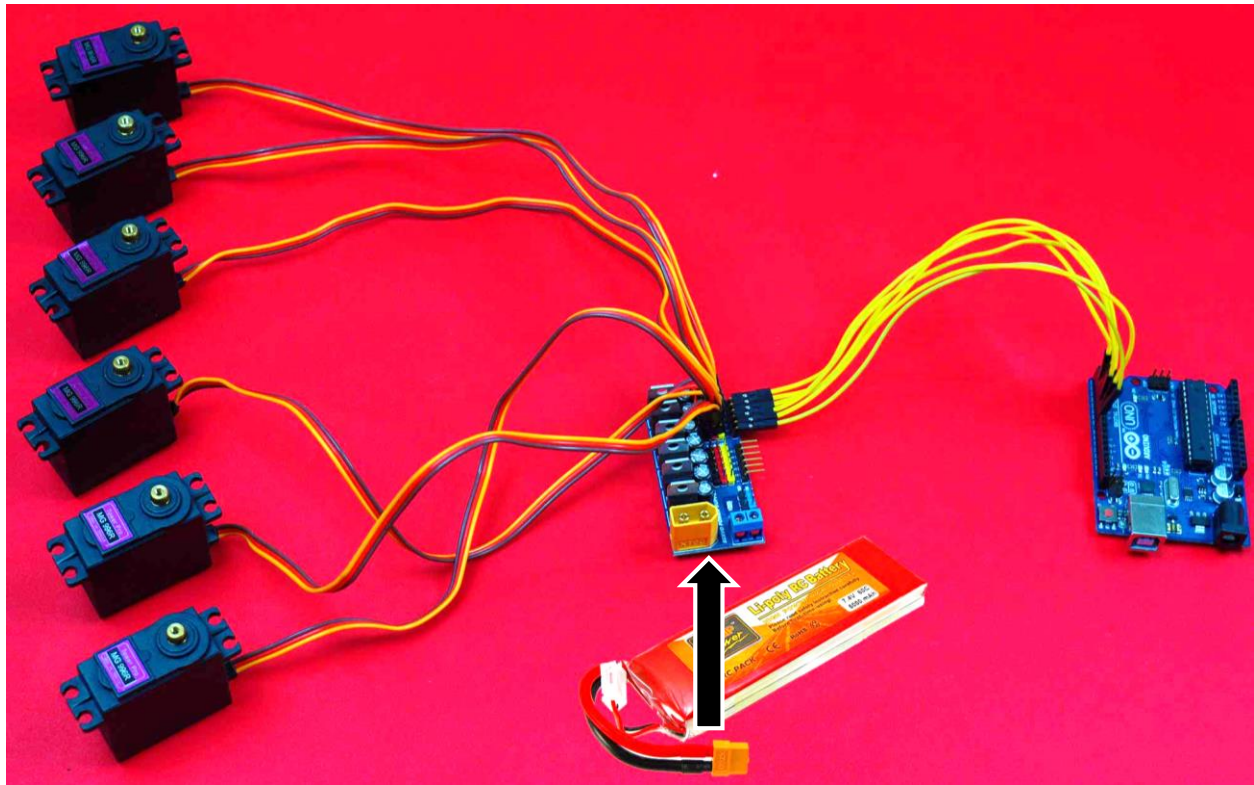
Connecting Micro Servo:

12 micro sized servo motors like SG-90R or SG-91R can be connected like the picture below.



Connecting Medium Sized Servo:

Below is the picture for connecting a maximum of 6 medium sized servo motors like MG-996. Use either group A or Group B. **Never use both of the groups when using medium sized servo.**



Always connect GND of servo power supply (one of the three black GND connectors beside screw terminal) to Arduino GND. Otherwise. It won't work.

Notes:

1. Connecting a medium sized servo to one connector and a micro sized servo to another connector of the same pin number of another group is not recommended.
2. The 7805 IC, without heating up, can supply current up to 1A if input voltage is about 8V (2s lipo) and 700mA if input voltage is about 12V (3s lipo).
3. Please go through the datasheet / user manual of your servo motor for operating voltage and current if they are different from the examples of this user manual.
4. While using the alternative power input connector, be careful about the '+' and '-' polarity. Reversing polarity will damage the 7805 ICs.