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You have chosen:[togetherChouseinfo.num]] total amount: [currency]][togetherChouseinfo.price]] [togetherChouseinfo.price][currency]][currency]] When developing electronic projects, power supply is one of the most important parts of the whole project and there is always a need for multiple output voltage power supply. This is because different sensors require different input voltages and currents to run efficiently. In this scenario, a power supply that can output multiple voltages becomes very important. There are options that an engineer can use for external power supply such as RPS (regulated power supply) or AC adapters but then multiple power supplies will be needed and the whole system will be bulked up. So today we're going to be designing a multifunctional power supply. The power supply will be an UNO Arduino power supply shield that will have multiple voltage ranges such as 3.3V, 5V and 12V output. The shield will be a typical ARDU shield with all the Ardvino UNO pins can be used along with additional pins for 3.3V, 5V, 12V and GND. Here the PCB is designed on easyEDA PCB designer and made by PCBGoGo. Also check our previous DIY Arduino Shield: Parts requirements LM317 – 1 unit LM7805 – 1 UNIT LED (each color) – 1 unit 12V DC barrel jack – Unit 220Ω resistance – 1 unit 560Ω resistance – 2 units 1uF capsules - 2 units 0.1uF capsules - 1 unit borg pin (20 mm) - 52 units circuit circuit chart and schematics for Arduino shield power supply is very simple and does not include much component. We use 12V DC barrel jack for main voltage input for total Arduino UNO Shield. The LM7805 will convert the 12V to 5V output, likewise the LM317 will convert the 12V to 3.3V output. The popular LM317 IC voltage regulator can be used to build variable voltage regulator circuits. To convert 12V to 3.3V we use 330Ω and 560Ω as voltage split circuit. Putting an output capsule between the output of LM7805 and Ground is important. Similarly between LM317 and Earth. Keep in mind that all fields must be shared and the width of the required path is selected depending on the flow flow in the circuit. PCB fabrication for Arduino power supply shield after making ready circuit, it's time to go ahead with our PCB design using PCB design software. As stated earlier we are using EasyEDA PCB Designer, so we just need to convert schematics to PCB boards. When you turn schematics into boards, you also need to put parts in places according to design. After turning the top schematic into a PCB board I looked like below. You can download the Gerber file from this link and send it to the online PCBGOGO manufacturer or you can change the board layout according to your custom design and application. PCB order from PCBGoGo now when complete It is ready it is time to make them dummy. To get the PCB done is very easy, simply follow the steps below step 1: enter www.pcbgogo.com, sign up if this is your first time. Then, in the PCB prototype tab, it enters your PCB dimensions, the number of layers and the number of PCB you need. Assuming a 80cmx80cm PCB you can adjust the dimensions as shown below. Step 2: Continue by clicking the Quote button now. You are taken to a page where to adjust a few additional parameters if needed such as the material used track spacing etc. But most default values will work well. all we have to consider here is price and time. As you can see the build time is only 2-3 days and it only costs only \$5 for our PSB. You can then choose a preferred shipping method based on your need. Step 3: The final step is to upload the Gerber file and continue paying. To ensure the smooth pcbgogo process is verified if your Gerber file is valid before acting with payment. This way you can make sure that your PCB build is friendly and will reach you as committed. PCB assembly after the board was ordered, it reached me after some days though the courier in a neatly labeled box was well packed and as always the PCB quality was excellent. Get the sales kit and start putting all the parts on the right pad of the PCB board. There are not many easy-to-end sales as there are many components used in the project. When the sale is finished your board should look like below. In this power shield the borg pin is used from male to male 20 mm connections. You can use the man to pin the female borg depending on availability. The 20mm borg pins are suitable for Arduino Shields and are well suited to UNO Arduino. Testing its Arduino Shield power supply is really easy to test Arduino shield. Just put the shield on the UNO Arduino and supply it to 12V of the incoming barrel jack. The shield can take the input voltage up to 34 volts without damaging the parts. You can use a digital multimeter to check all output voltages called 3.3 volts, 5 volts and 12 volts. If all the good including the design and sale of parts went then you'll be able to note the low output voltage accurately in the output pin. Detailed video on how to design and order PCB for shields is given below. This ends full training in making Arduino ono a shield power supply. If you are faced with any problems, feel free to comment below or reach our forum for further help. Copyright © 2013-2020 Williams and Wang LLC - All Rights Reserved Home ITEAD Starter Portable Battery Power Supply Shield Kit For Arduino Mainboard Power Shield is a portable offline power supply board for Arduino. Using two AAA batteries and a high-efficiency DC-DC enhanced circuit, this shield is a power source that can output Arduino's standard pin map adapts it to the Iteaduno series and other Arduino compatible boards. Features up to 90% high efficiency enhanced circuit 5V/350mA power supply output for external USB device with cable operation temperature: 0°C ~+60°C documents Please visit our wiki page for more information about this product. Will be appreciated if you can help us improve documents by correcting errors, adding more demo codes or tutorials. Technical support for technical support, please open a ticket in itead support system. Cut yes wiki link no compatible version 1.0 Mainboard Maple LeafArduino Deumlanove / UNOArduino MEGAFreeduinoIteadmapleIteaduinoIteaduino ADKIteaduino BTIteaduino MEGA 2560 SeeeduinoSeeduino MEGA Board Size 68.63 x 53.34 x 1.6mm Operation Level Digital 5V Stackable No Weight 60 g Only registered customers who has bought this product can write reviews. Please log in or sign up. Arduino Motor Shield is open source hardware! You can build your board using the following files: Eagle Files in . ZIP SCHEMATICS IN . PDF Power The Arduino Motor Shield must be powered only by an external power supply. Since the L298 IC installed on the shield has two separate power connections, one for Logic and one for the engine supply driver. The required engine flow is often more than the current maximum USB rating. External power (non-USB) can come either from the AC-to-DC adapter (wart wall) or battery. The adapter can be connected and cared for by plugging a positive 2.1mm center plug into the Arduino board power jack on which the engine shield is mounted or by connecting the wires that direct the power supply to the Vienna and GND screw terminals to respect the poles. To prevent possible damage to the Arduino board on which the shield is mounted, we recommend using an external power supply that provides a voltage between 7 and 12 volts. If your engine needs more than 9V, we recommend separating the bumper power lines and arduino boards on which the shield is mounted. This is possible by cutting the Wayne Connect jumper placed on the back side of the shield. The absolute limit for Vienna in screw terminals is 18V. The power pins are like this: Vienna is in the screw terminal block, the input voltage to the engine attached to the shield. An external power supply attached to this pin also gives arduino board power mounted on it. By cutting wayne jumper connection you make this a dedicated power line for the engine. GND land in the screw terminal block. The shield can supply 2 amps per channel, for a total of 4 amps max. The input and output of this shield has two separate channels called A and B, each of which uses 4 Arduino pins to drive or sense the engine. There are a total of 8 pins in use on this shield. You can use each channel separately to drive two DC motors or combine them Drive a bipolar popper engine. The bumper pins that are divided by channel are shown in the table below: function pins per Ch. pins per Ch.B direction D12 D13 PWM D3 D11 brake D9 D8 current sense A0 A1 if you don't need current brakes and sensing and you also need more pins for your application you can disable these features by cutting corresponding jumpers on the back side of the shield. Additional sockets on the shield are described as follows: It took almost half a year to complete the project. I can't describe how much work went into this project. Doing this project alone takes me forever so I had some help from my friends. Here you can see our work compiled in a very long teachable one. Features of this project: Compatible only with Arduino UNO boards Drives four IV-3/IV-3a/IV-6 VFD tubes. These pipes are highly power efficient, even more efficient than Nixie, and look very cool. Energy efficiency is roughly equal to an LED matrix. I think they look better than Nixey. 12V DC + 5V DC power supply via Arduino board; Stabilized supply of 12V design required enclosures (Canadian files) Optional applications may be: clocks, thermometers, voltmeters, counters, scoreboard, ... Numerous Arduino example designs available know that the text in this command is very long but please try to read and watch every text and photo here. Some photos are not great but that's everything I can do. i know im not the best photographer . The project was originally posted on axiris but I amended and explained a lot of small things without whom you will be asking yourself what has gone wrong. You can see the number of each episode, but I recommend you to print the list section.pdf to use it for a shopping list and later to sell parts on the PCB. I've bought everything from local stores or desoldered it from non-work devices, but if you can't do just like me, you can order parts from AlyssexPress or Amazon or another store. Carbon Resistance Movie 1/4W 5% Aliexpress Link is any resistance that you need on this list 510 Ω 2x 1K Ω 1x 2K7 Ω 1x 3K9 Ω 13x 10K Ω 12x 68K Ω 12x 10 0K Ω 2x 220K QCeramic/MKT/MMK Capacitors Electrolytic Semiconductors 4x 22 μF 50V radial Aliexpress link2x 100 μF 25V radial Aliexpress linkDiscrete Semiconductors Integrated CircuitsICM7555 timer IC (must be CMOS version, Don't use standard 555 I) Aliexpress linkConnectors and Diverse PartsIf you want to make a clock you can use optional battery-backed RTC DS1307, but if you want to make it smart use an esp8266. You can use large esp8266 or small esp8266-01, but I recommend using small for hours to look better. If you want it even smarter combine esp8266 with 1 wire sensor. It supports DS1820, DS18B20, DS18S20, and DS1822. The temperature is displayed every minute. If you have any questions about this project email me. Iraj Try to answer your questions as soon as possible