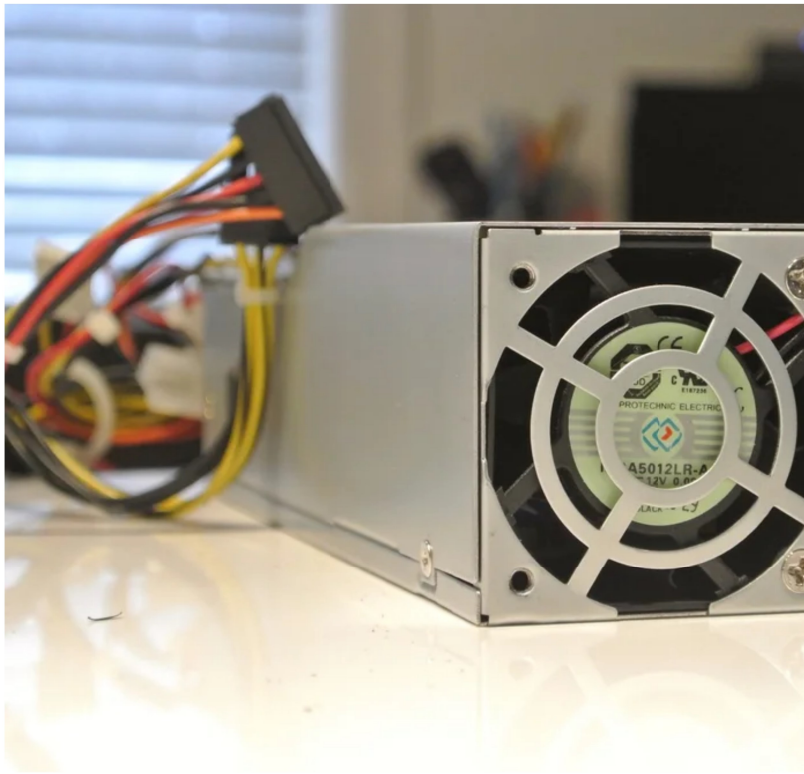


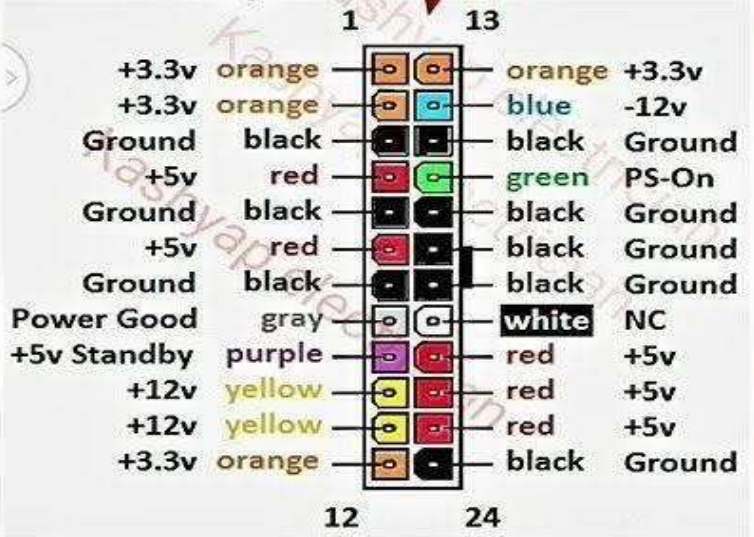
Convert an ATX Power Supply to Bench Us

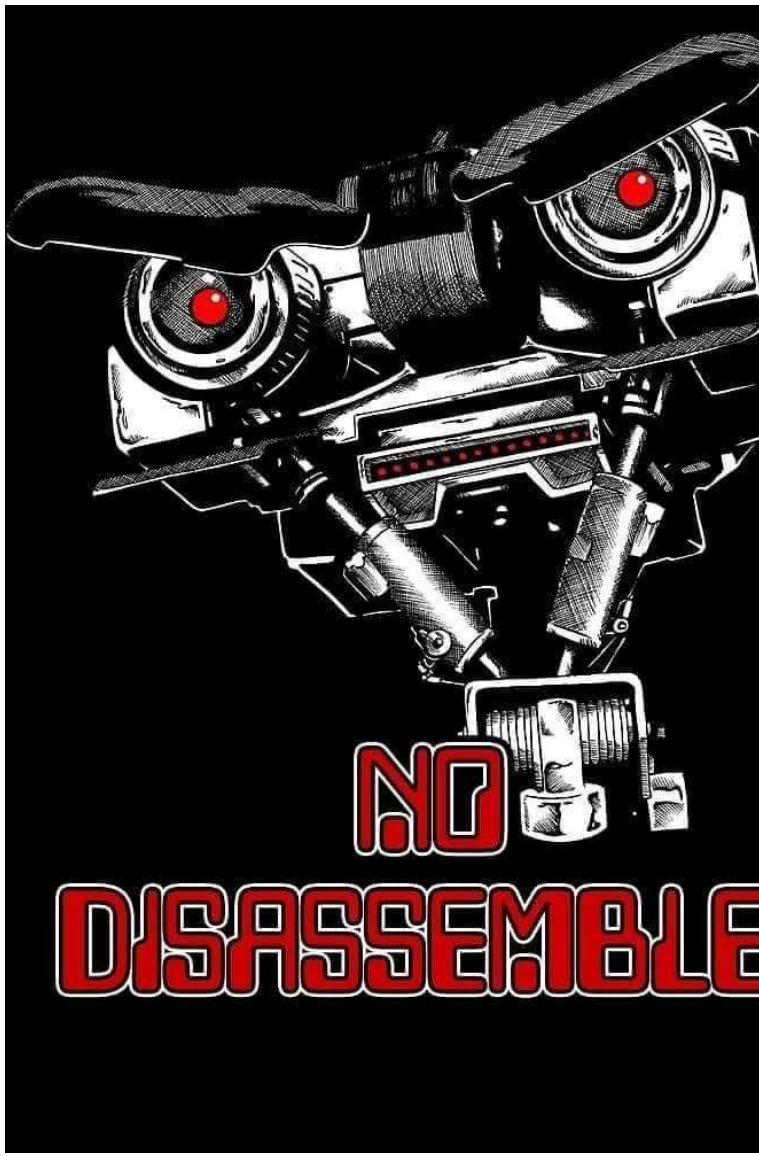
Milan N0EUV / K4VVE

Computer power supply

ATX main power connectors

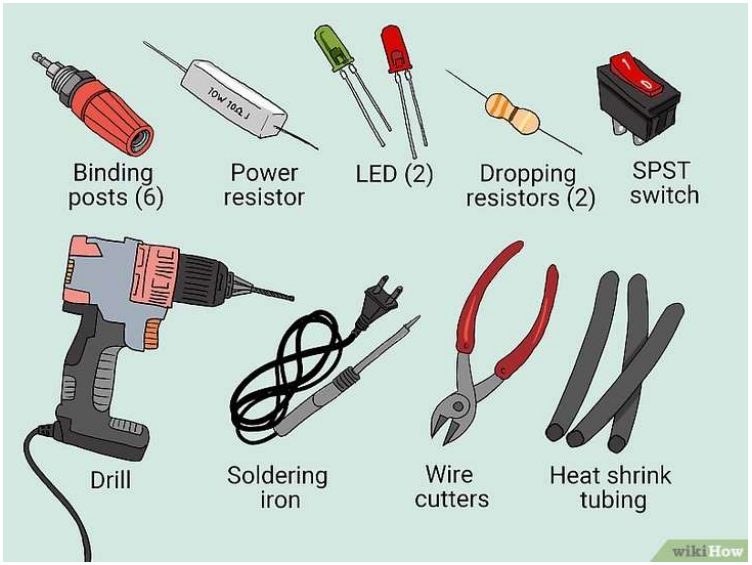
Diagram

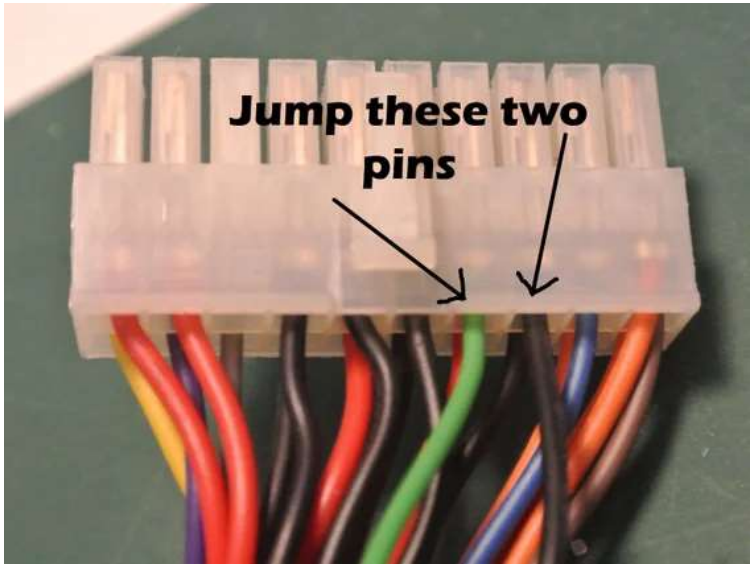


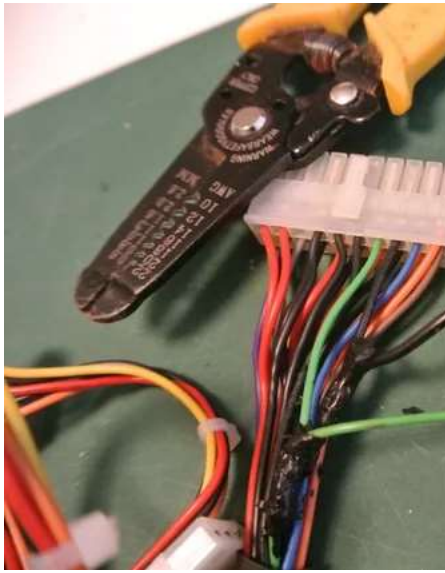


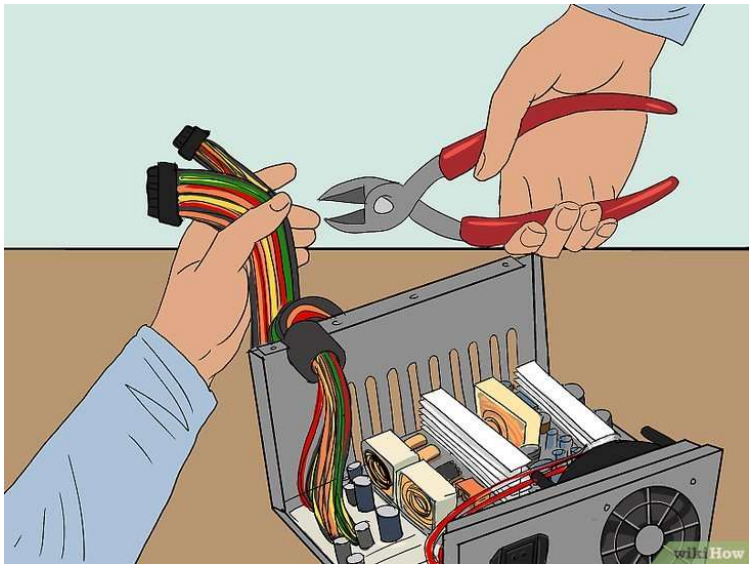
CHOSE YOUR

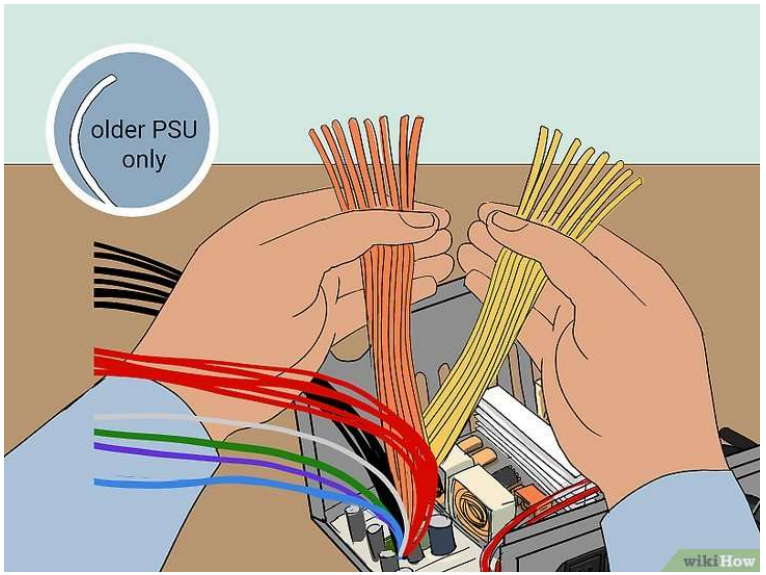
E L M E R CAREFULLY!

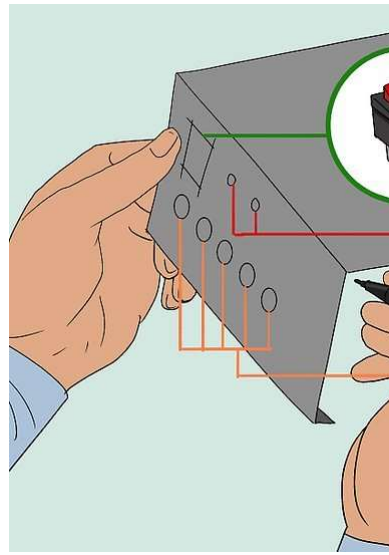

Binding posts (6)
Power resistor
LED (2)
Dropping resistors (2)
SPST switch
Drill
Soldering iron
Wire cutters
Heat shrink tubing
wikiHow


Jump these two pins

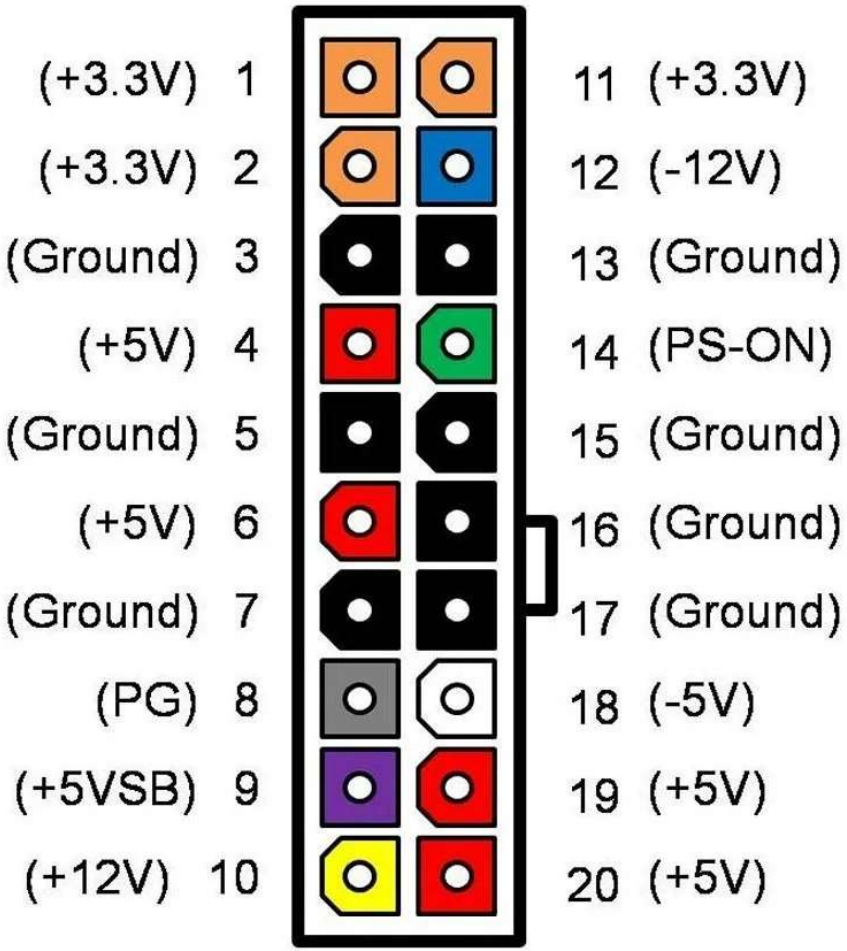



wikiHow

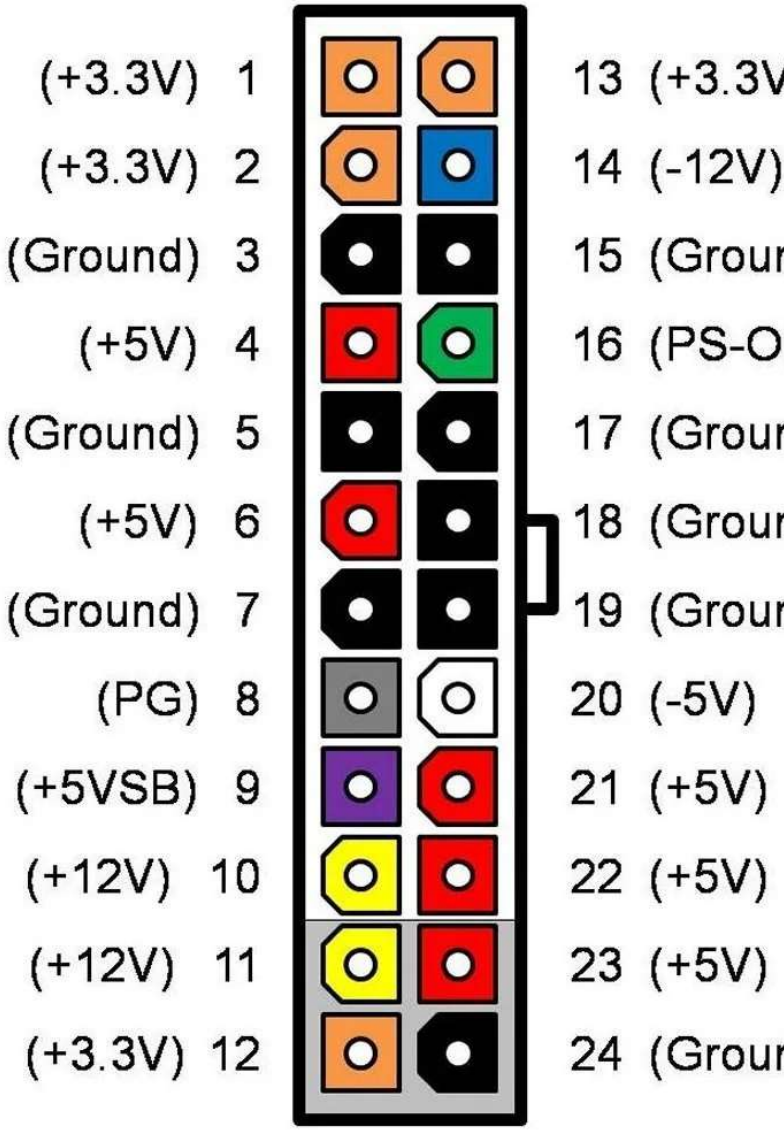

older PSU only
wikiHow



20 PIN CONNECTOR

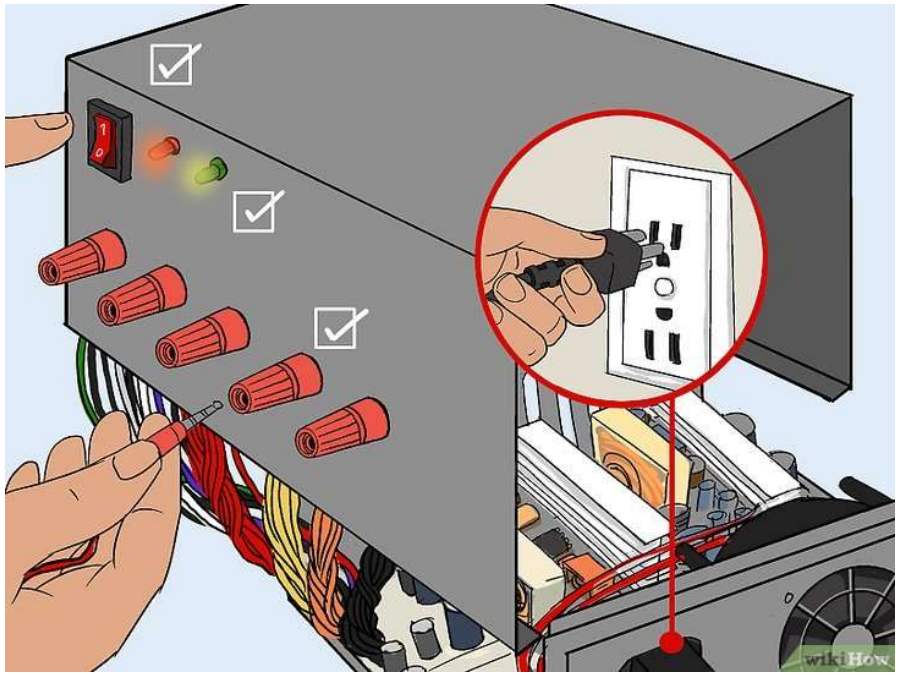


24 PIN CONNECTOR



2 **Connect the 10-ohm load resistor.** Connect one of the red wires to the power resistor and one black wire to the other end of the 10-ohm power resistor. This acts as a load, which the power supply unit needs to function properly. The power resistor will give off a lot of heat and should be mounted on the metal wall for proper cooling (or a heat sink mount). Make sure it doesn't short-circuit anything.

- You can also consider using a lighted 12v switch, which will act as the load necessary to turn on the power supply.
- If you aren't afraid of some soldering, you can replace the 10w power resistor with the cooling fan that was originally inside the PSU. Be careful with the polarity, though - match the red and black wires to each other.



The newer type ATX12V PSU's are a little more tricky to convert as th switch function and require a much larger external load resistance. To up, or switch-ON, the supply must be loaded to at least 20W or 10% of for the larger 600W+ PSU's. Anything below this the power supply ma regulation will be very poor less than 50%.

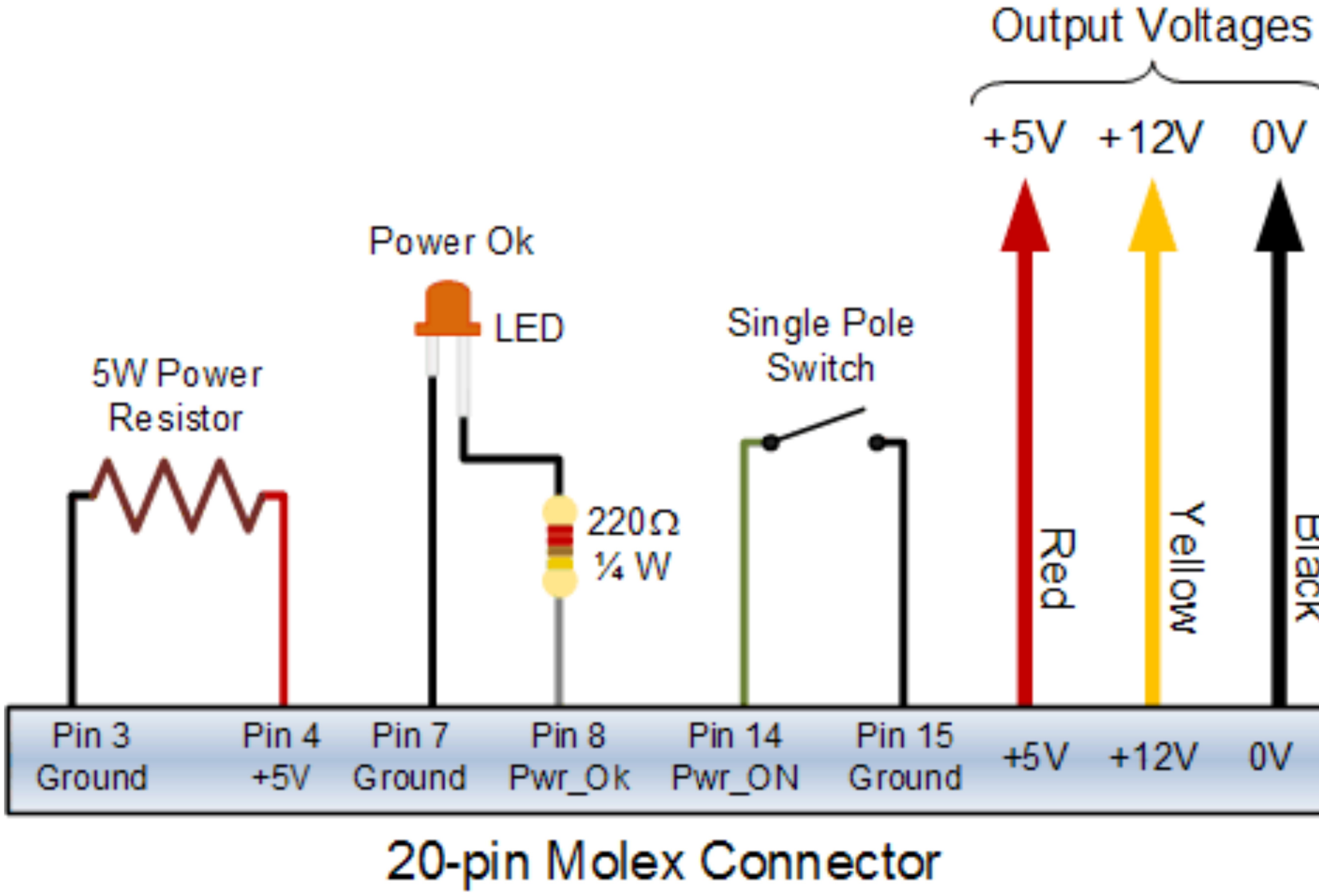
Also some of the newer and larger wattage PSU's require **pin 14 – Gre** be connected permantly to ground using a SPST switch. Obviously eac different from different manufacturers, so you need to find what work

Again the voltages that can be output by this unit are the same as befo 17v (+5, -12), 12v (+12, 0), 10v (+5, -5), 7v (+12, +5), 5v (+5, 0). Note th power supplies with a 24-pin motherboard connector may not have th lead. In this case use the older ATX power supplies with a 20-pin conne need the additional -5V supply.

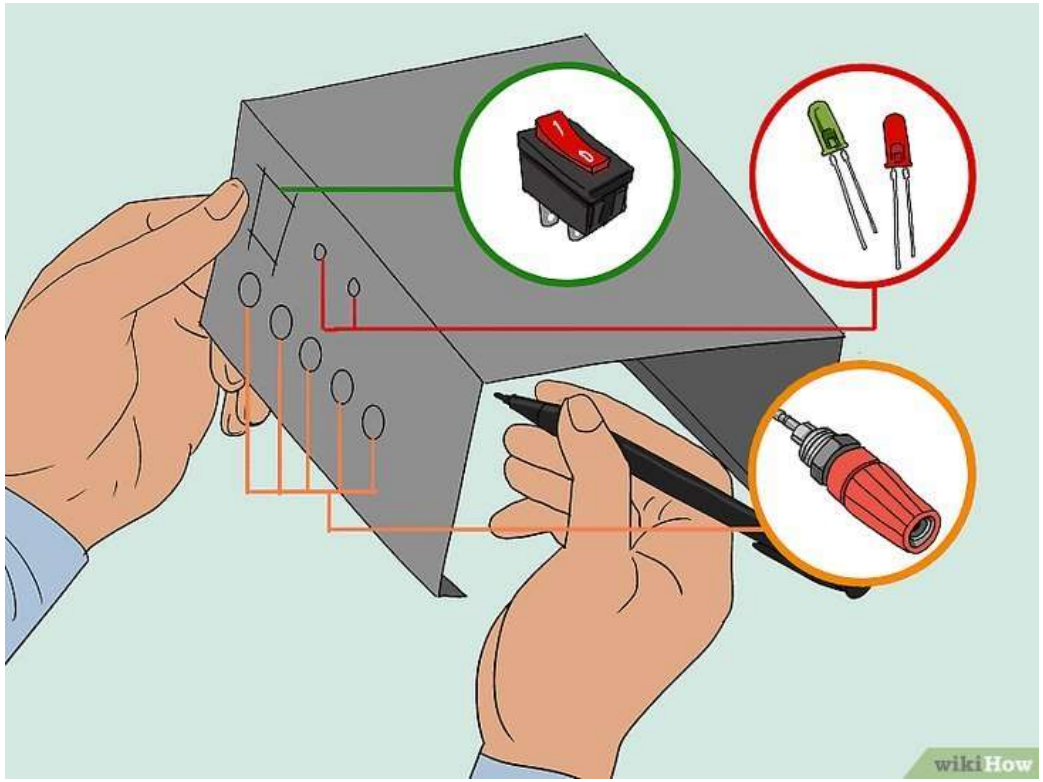
Any old PC power supply unit makes an excellent and cheap bench top the electronics constructor and the process to convert ATX PSU to a p supply is relatively straight forward. The power supply unit uses switch maintain a constant supply with good regulation and short circuit prot unit to shutdown and be re-powered immediately if something goes w

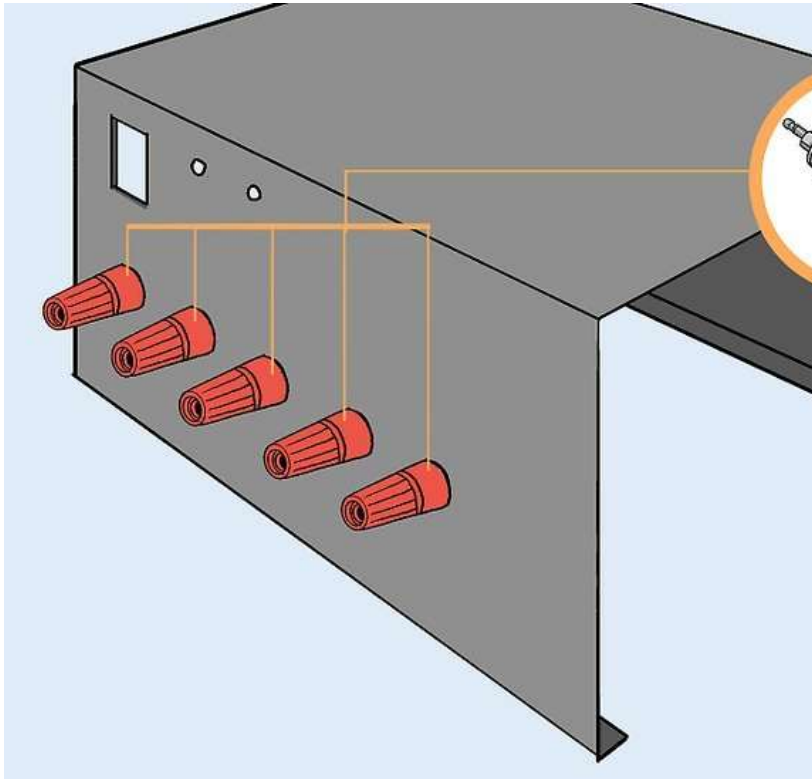
The only downside to convert ATX PSU to a bench power supply is tha rpm responds to the amount of current being drawn from the PSU so c Also the ATX PSU requires a certain amount of fresh air to keep it cool not be possible when laid onto a bench.

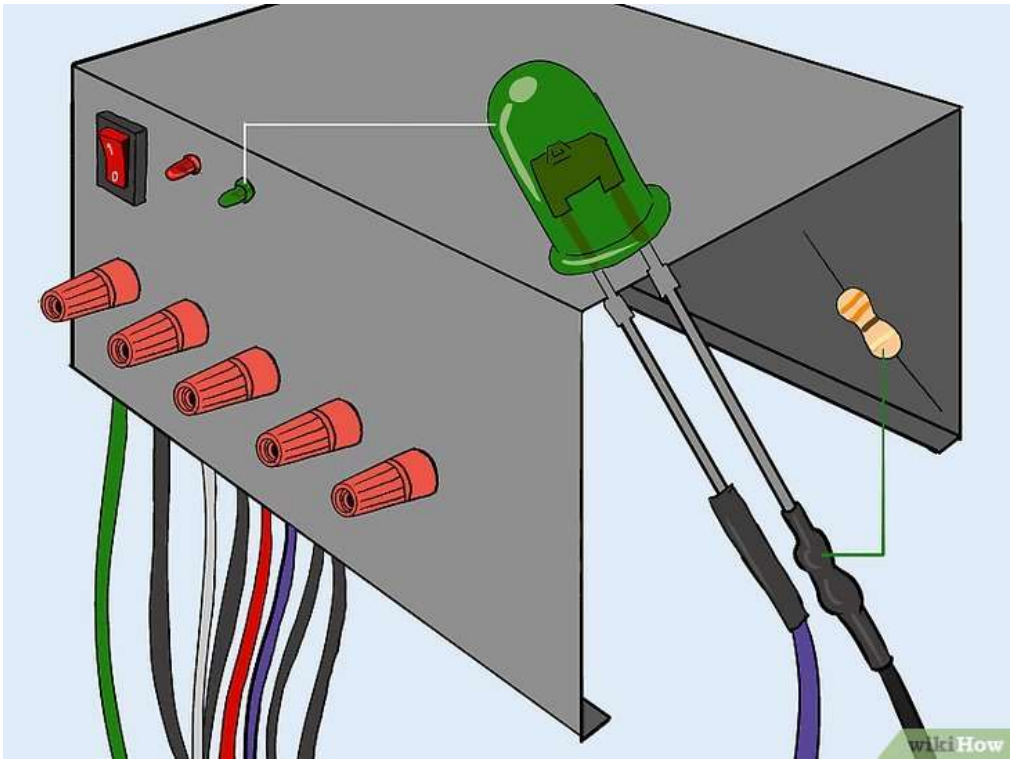
All in all, converting an **ATX PSU to a bench power supply** is an easy pr uses. Not bad for something that would otherwise get thrown away bu from the mains supply first before you start any modifications as you a responsible for your own safety!.



20-pin Molex Connector


wikiHow

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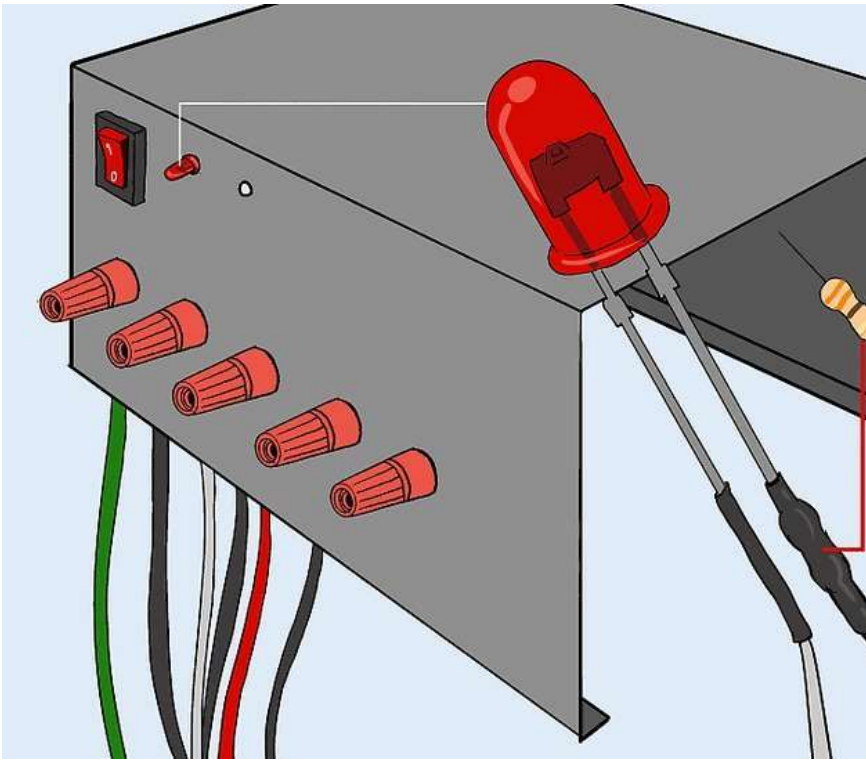
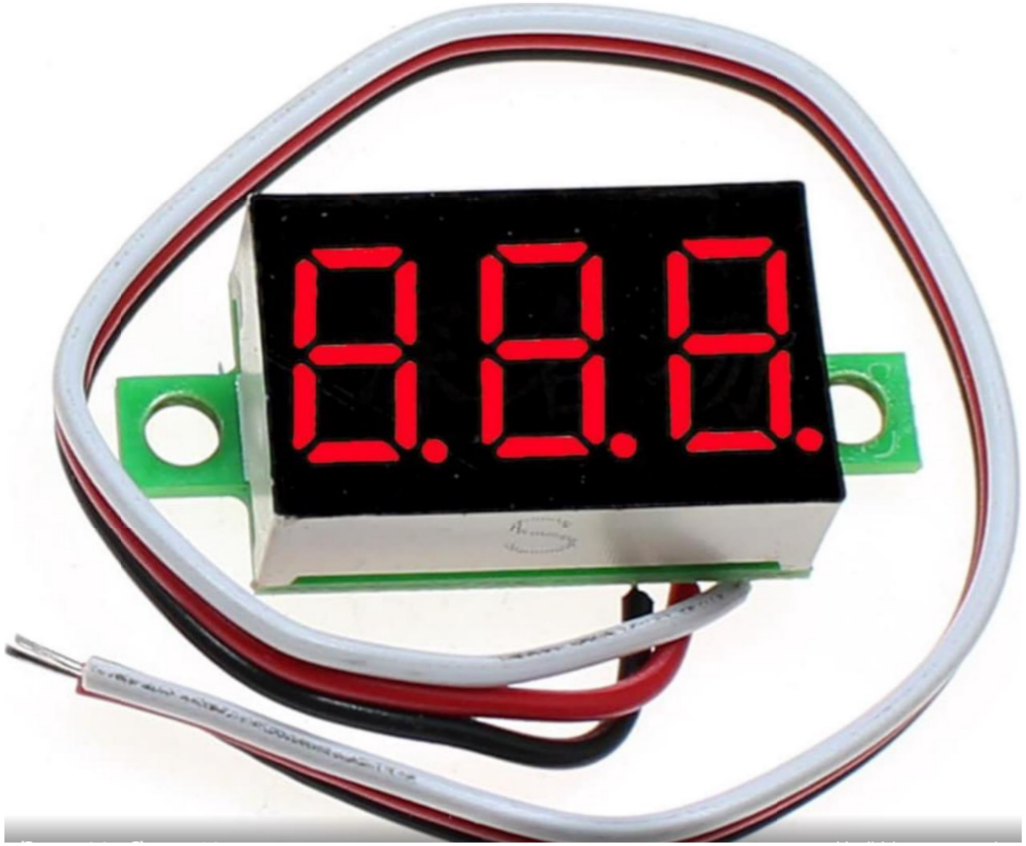



Powerwerx


Powerwe

Add a digital display



Digital LED Voltmeters Blue

SKU cvolt-blue

$11.73

Buy Now

Digital LED Voltmeter Green

SKU cvolt-green

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Buy Now

Digital LED Voltmeter Red

SKU cvolt-red

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Digital LED Voltmeters Yellow

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Digital LED Panel Green Voltmeter

SKU voltpnl-green

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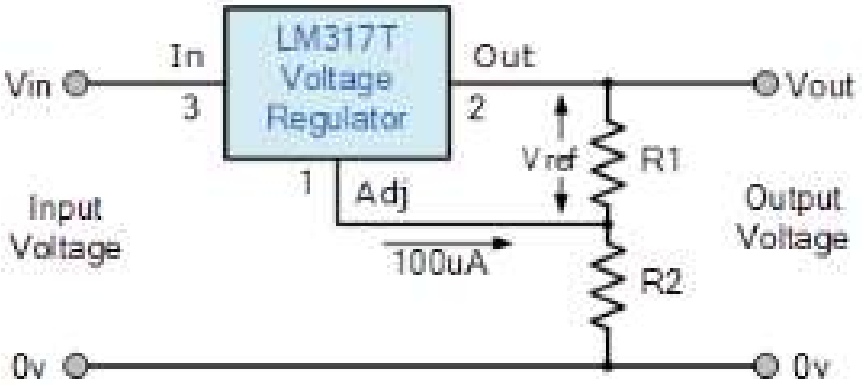
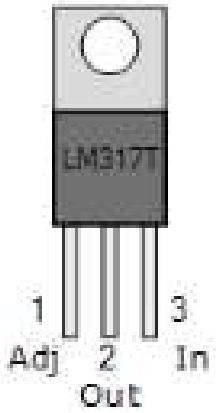
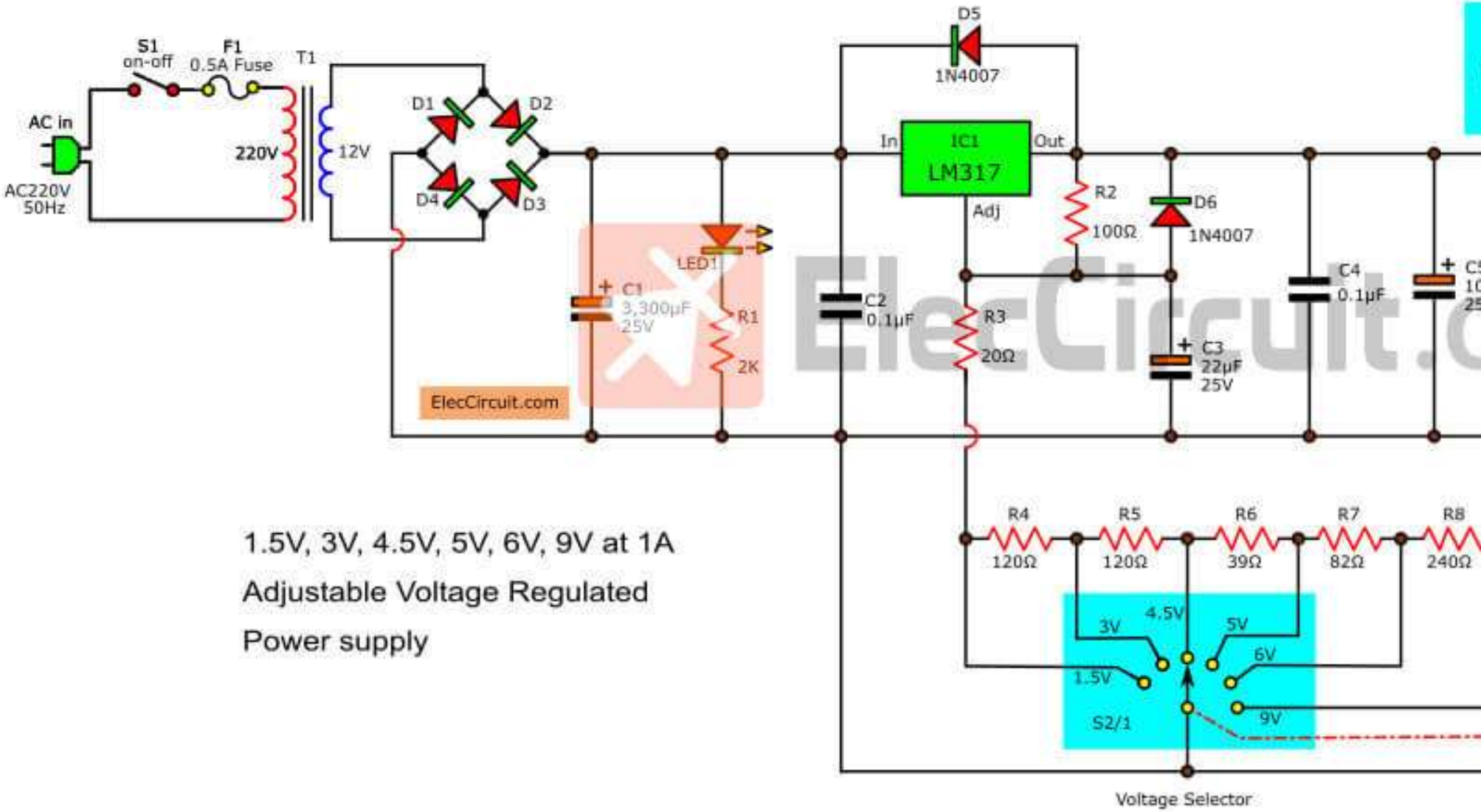




Variable Volta
Power Supply

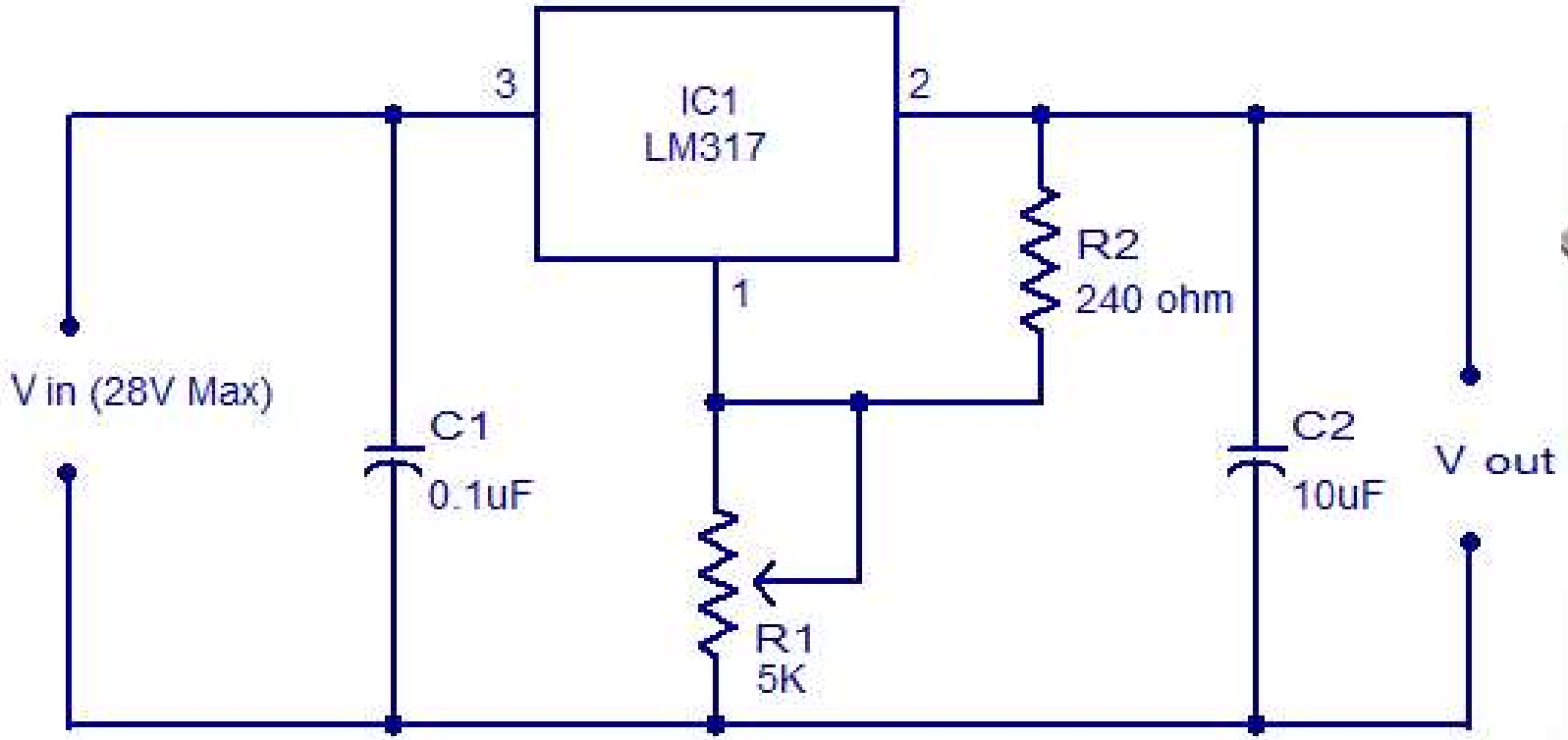
3-terminal linear fixed voltage
popular choice for creating eith
negative voltages



1.5V, 3V, 4.5V, 5V, 6V, 9V at 1A

Adjustable Voltage Regulated

Power supply



Typical adjustable regulator using LM317 www.circuitstoday.com

$$V_{out} = 1.25V\ (1 + (R2/R1)) + (I_{adj} \times R2)$$

LM3
Pin Arran

1. Adjust
2. Vout
3. Vin

Heatsink is con