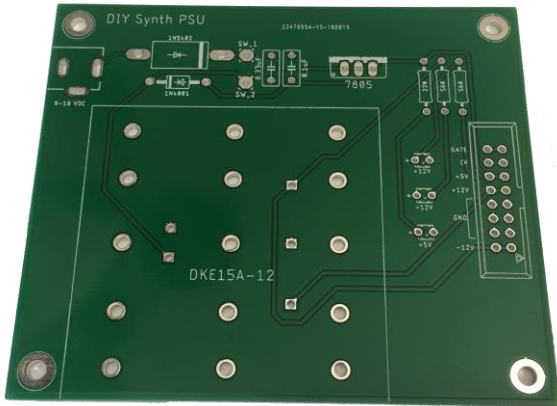


Bill of Materials

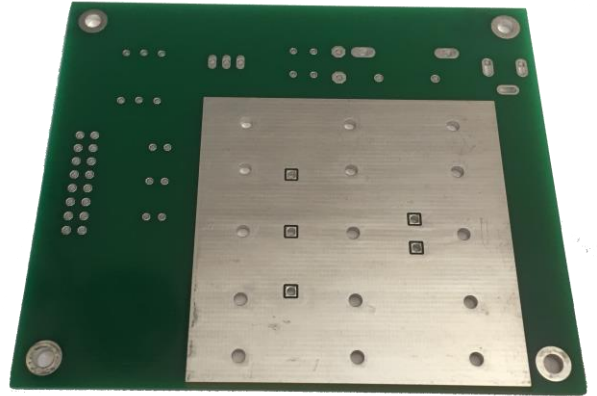
Mouser #	Mfr. #	Manufacturer	Description	Qty.
709-DKE15A-12	DKE15A-12	MEAN WELL	Isolated DC/DC Converter	1
603-CFR-25JR-52220R	CFR-25JR-52-220R	Yageo	Resistor 220ohm 5% 1/4W	1
603-CFR-50JT-52-560R	CFR-50JT-52-560R	Yageo	Resistor 560ohm 5% 1/4W	2
859-LTL-307EE	LTL-307EE	Lite-On	Red LED	3
863-1N5402RLG	1N5402RLG	ON Semiconductor	Diode 200V 3A	1
863-1N4001RLG	1N4001RLG	ON Semiconductor	Diode 50V 1A	1
810-FG24X7R1H334KNT0	FG24X7R1H334KNT00	TDK	Ceramic Capacitor 0.33uF	1
594-K104M15X7RF53L2	K104M15X7RF53L2	Vishay	Ceramic Capacitor 0.1uF	1
595-UA7805CKCT	UA7805CKCT	Texas Instruments	Linear Voltage Regulator 5V	1
710-694108301002	694108301002	Würth Electronics	DC Power Connector 5A	1
517-N2516-6002RB	N2516-6002RB	3M	Shrouded Header 1.75A	1
612-200MSP6T4B5M1QE	200MSP6T4B5M1QE	E-Switch	Toggle Switch 3A	1

Board Layout

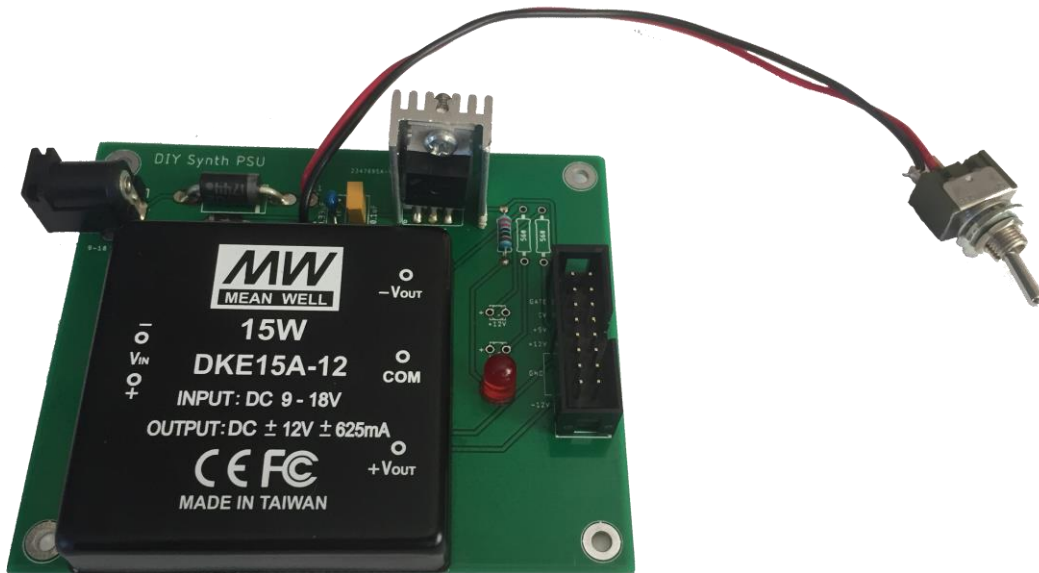
Board Top



Board Bottom



Completed Board*



*Only one LED and resistor shown

Components

Some components are optional on this board. All of the optional components can simply be left out if you don't want to use them.

Solder the components in this order (smallest - largest components).

Resistors		
All 3 resistors are optional components. Only use them if you want indicator lights for each power supply (+12V, -12V, +5V). You can choose which to include. Use the +5V indicator (220Ω resistor) if you simply want an on/off indicator light.		
Follow the traces from the LEDs you want to include to their corresponding resistor to determine which you need and where to place them. Resistors have no polarity.		
Value	Name on Board	Qty
220	220	1
560	560	2

LEDs		
All 3 LEDs are optional components. Only use them if you want indicator lights for each power supply (+12V, -12V, +5V). You can choose which to include. Use the +5V indicator if you simply want an on/off indicator light.		
Be sure to place the long lead of the LEDs into the hole marked "+" on the board.		
Value	Name on Board	Qty
RED	+12V, -12V, +5V	3

Diodes		
The larger diode (1N5402) is necessary, while the smaller diode (1N4001) is only needed if you choose to add the 5V regulator.		
Make sure to place these in the right direction, with the line on the diode matching the line on the board.		
Value	Name on Board	Qty
1N5402 (larger)	1N5402	1
1N4001 (smaller)	1N4001	1

Capacitors

Both capacitors are optional. They are only required if you choose to use the 5V regulator.

These capacitors are not polar; they can be placed any direction on the board.

Value	Name on Board	Qty
0.33u (330n)	0.33uF	1
0.1u (100n)	0.1uF	1

DC-DC Converter

This is the large brick component. It must be placed on the TOP side of the board (NOT the side with the large thermal pad), putting the leads through the small holes in the large square marked "DKE15A-12". This can be tricky to place correctly, and will be a tight fit.

Be careful when soldering to not short any of the leads to the large thermal pad on the underside. Use a multimeter to check for continuity (there should be no connections) from the leads to the thermal pad.

Value	Name on Board	Qty
DKE15A-12	DKE15A-12	1

DC Power Jack

Either a 2-lead or 3-lead jack can be used. Place on top left of board (marked "9-18 VDC"), making sure the jack is facing away from the board. Connect only 9-18 VDC to this jack.

Bus Socket

A 16-pin or 10-pin socket can be used. The key (and marked arrow) should be facing outward from the board.

5V Regulator

This is optional. Using a good heatsink is recommended. Make sure the metal part is facing outwards from the board.

Value	Name on Board	Qty
LM7805 or UA7805	7805	1

Power Switch

This is optional. A 2-state on/off switch is recommended, but others can be used. Connect the switch with two long wires to “SW_1” and “SW_2” as marked on the board. If you decide to not use a power switch, make sure to connect a jumper between “SW_1” and “SW_2”.

Final Safety Check

Before powering the device on, check for any unwanted connections between the thermal pad and the DC-DC converter leads using a multimeter. Then, make sure all of the components are in the right place/in the right direction and have solder flow through the pads to both sides of the board.

When you are absolutely sure everything is correct, plug 9-18 VDC into the power jack and turn the device on. Any LEDs should turn on. Use a multimeter to check for +12V, -12V and +5V on the bus socket (using the ground pins as reference) before using the device to power any modules. Check to see if any components get unusually warm, and power the device off immediately if they do and check the connections.

Mounting

Mount the board to a rack using standoffs in the 4 mounting holes on each corner. Note that these mounting holes are connected to the device’s ground plane.

Mount the board upside-down, with the thermal pad on the bottom facing upwards for better heat reduction.