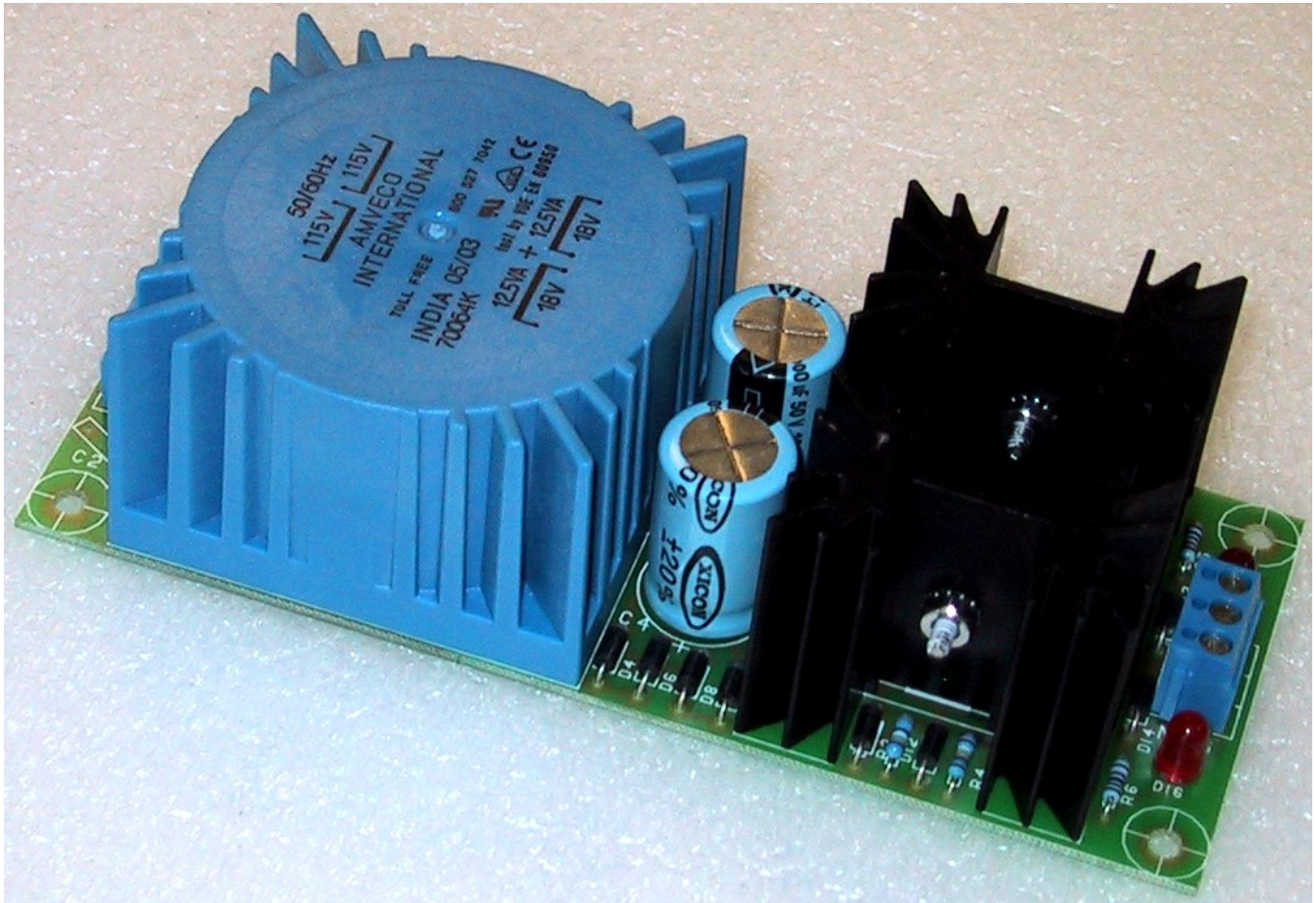


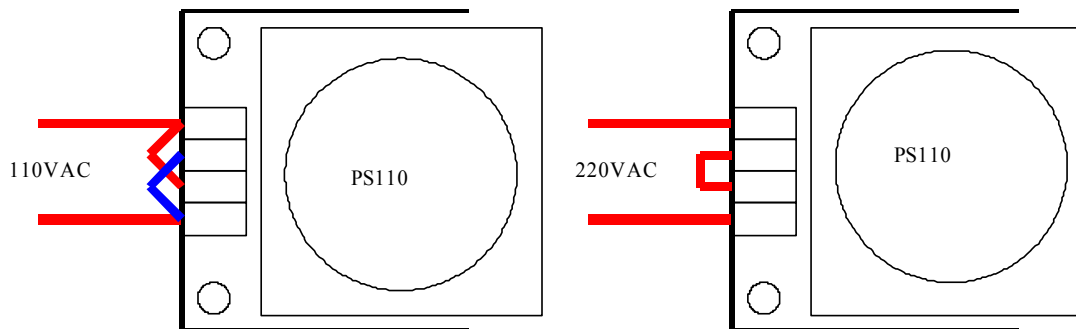
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PS110 Instructions; Revision 1206



PS110 Jumper selection for 110 VAC or 220VAC operation



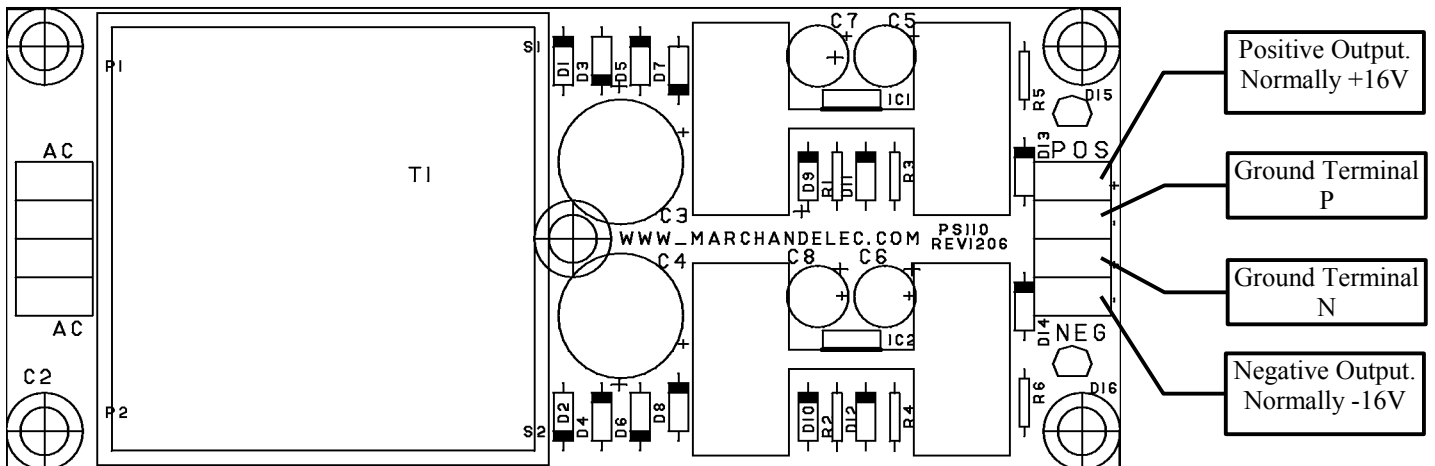
## PS110/310 Part List

|     |              |                      |
|-----|--------------|----------------------|
| R1  | 100 Ohm      | 1%, 1/4W, Metal Film |
| R2  | 100 Ohm      | 1%, 1/4W, Metal Film |
| R3  | 1K18         | 1%, 1/4W, Metal Film |
| R4  | 1K18         | 1%, 1/4W, Metal Film |
| R5  | 10.0K        | 1%, 1/4W, Metal Film |
| R6  | 10.0K        | 1%, 1/4W, Metal Film |
| R7  |              | not used             |
| C1  |              | not used             |
| C2  |              | not used             |
| C3  | 2200 uF, 35V | Electrolytic         |
| C4  | 2200 uF, 35V | Electrolytic         |
| C5  | 10 uF, 50V   | Electrolytic         |
| C6  | 10 uF, 50V   | Electrolytic         |
| C7  | 10 uF, 50V   | Electrolytic         |
| C8  | 10 uF, 50V   | Electrolytic         |
| D1  | 1N4937       | 1A Diode             |
| D2  | 1N4937       | 1A Diode             |
| D3  | 1N4937       | 1A Diode             |
| D4  | 1N4937       | 1A Diode             |
| D5  | 1N4937       | 1A Diode             |
| D6  | 1N4937       | 1A Diode             |
| D7  | 1N4937       | 1A Diode             |
| D8  | 1N4937       | 1A Diode             |
| D9  | 1N4937       | 1A Diode             |
| D10 | 1N4937       | 1A Diode             |
| D11 | 1N4937       | 1A Diode             |
| D12 | 1N4937       | 1A Diode             |

|     |        |           |
|-----|--------|-----------|
| D13 | 1N4937 | 1A Diode  |
| D14 | 1N4937 | 1A Diode  |
| D15 |        | Red LED   |
| D16 |        | Red LED   |
| IC1 | LM317  | Regulator |
| IC2 | LM317  | Regulator |

### Summary

|    |                                      |                        |
|----|--------------------------------------|------------------------|
| 2  | 100 Ohm                              | 1%, 1/4W, Metal Film   |
| 2  | 1.18K                                | 1%, 1/4W, Metal Film   |
| 2  | 10.0K                                | 1%, 1/4W, Metal Film   |
| 2  | 2200 uF, 35V                         | Electrolytic           |
| 4  | 10 uF, 50V                           | Electrolytic           |
| 14 | 1N4937                               | 1A Hi Efficiency Diode |
| 2  |                                      | Red or Amber LED       |
| 2  | LM317                                | Regulator              |
| 2  | 4/40*3/8 machine screw               |                        |
| 2  | #4 locknut                           |                        |
| 2  | TO220 Heatsink                       |                        |
| 1  | Toroidal transformer, 18V+18V        |                        |
| 1  | M4 x 10 metric screw for transformer |                        |
| 1  | #8 split lockwasher                  |                        |
| 2  | 4 position terminal block            |                        |
| 1  | Bag of heatsink compound             |                        |
| 1  | PS110 circuit board                  |                        |



Note: Ground terminal N and Ground terminal P are internally connected and are the same; use either one

Selecting output voltage.

The output voltage of the positive regulator is set by R3 and the output voltage of the negative regulator is set by R4. The value is calculated as follows:

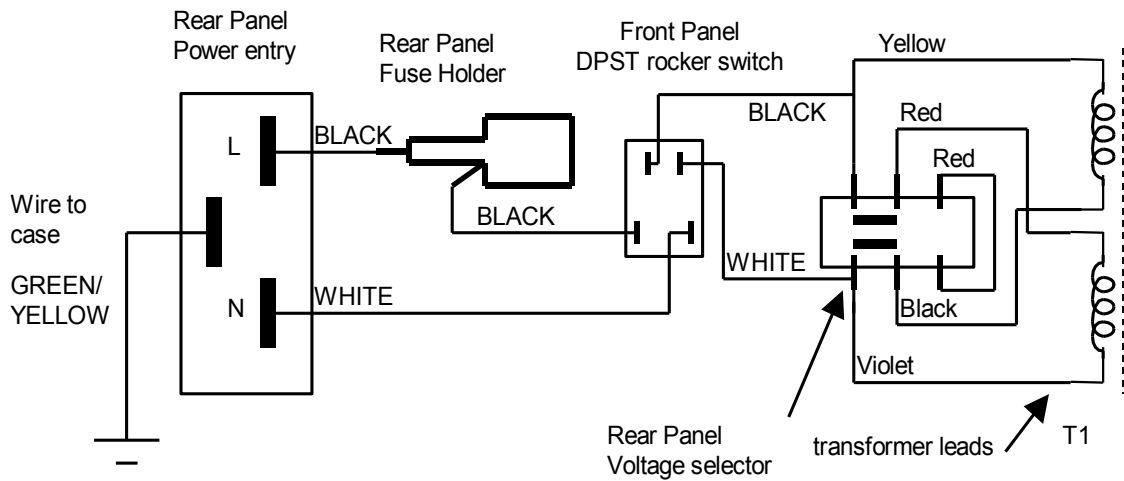
$$R3 = (V_{out} - 1.25) * R1 / 1.25$$

$$R4 = (V_{out} - 1.25) * R2 / 1.25$$

The table shows resistor values using the value of 100 Ohms for R1, R2  
 \*\*\* transformer with 22V + 22V secondary needed.

| <b>Output voltage</b> | <b>R3(V+) or R4(V-)</b> |
|-----------------------|-------------------------|
| 24V ***               | 1K82                    |
| 18V                   | 1K34                    |
| 16V                   | 1K18                    |
| 15V                   | 1K10                    |
| 14V                   | 1K02                    |
| 12V                   | 860                     |

Typical hookup of PS110 power supply w. voltage selector switch and fuse.



With the PS310 power supply board the transformer is not mounted on the circuit board itself. In a typical application (XM44) the primary transformer leads are connected as shown above.

The secondary leads from the transformer are connected to the blue terminal blocks as shown below:

