

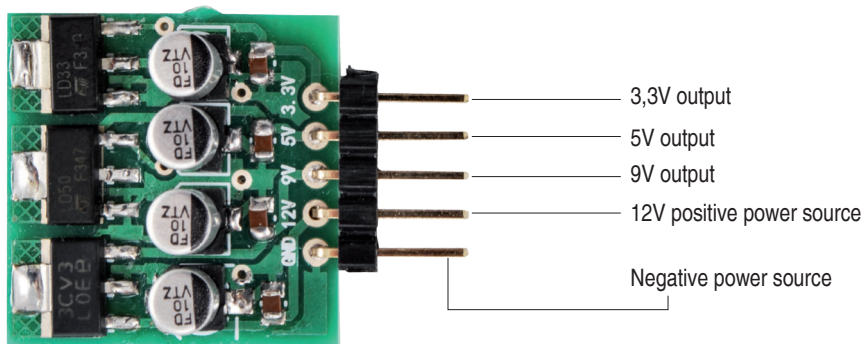
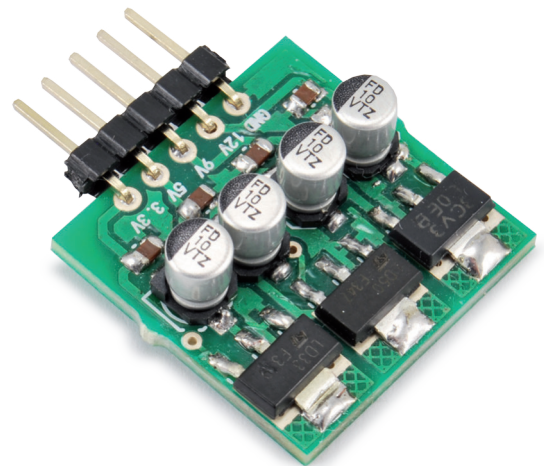
USER MANUAL

AUGUST 2016

3.3 / 5 / 9 V POWER SUPPLY BOARD

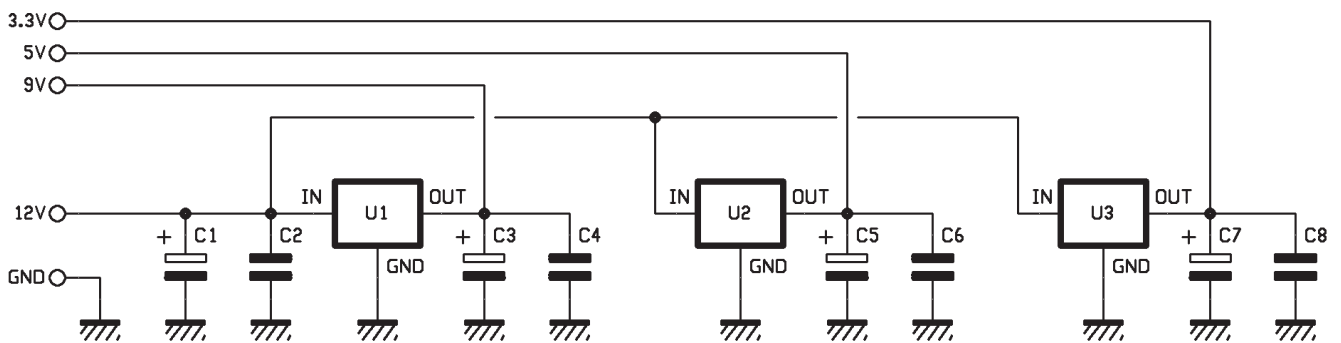
MM108

This is a board containing integrated regulators, thanks to which - from a basis given by a direct voltage of 12±15 V - we may obtain three stabilized voltages that are still continuous, respectively at 3.3, 5 and 9 volts. The three regulators that have been used are: LM2940IMP-9.0/NOBP (U1), LD1117S50CTR (U2) and LD1117S33CTR (U3). The three regulators are all linear ones and of the series kind, that is to say, they keep the difference between the voltage supplied and the one applied to them, in the area between the output and the input end. The circuit is typically powered at 12 V, via the 12V and GND clamps (that are, respectively, positive and negative power supplies). The power absorbed is always equal to the sum of those that are supplied by the three outputs, thus if 30mA are supplied at the 3.3.V output, and 50 mA are supplied at the 5V output, and 100 mA are supplied at the 9V output, the total absorption is $30+50+100 \text{ mA} = 180 \text{ mA}$. The input power supply is cleaned - by means of the C1 and C2 capacitors - of the possible residual current from the alternating one (which is a useful thing if we get our power source from a simple capacitive filter power supply) and of pulse noises that the connection wires may bring to the circuit. All the three voltage stabilizers are of the kind using three terminals (an input one, an output one and a ground reference) and they operate almost without external components.



From the circuit diagram, it is possible to see that the three regulators are connected in a parallel configuration, that is to say that the input of each one of them is in parallel with the other ones; thus all three are powered by the voltage applied between the 12 V and GND (ground) contacts. All the contacts (inputs and outputs) are placed on the borders for an easier wiring, and are repeated on a line of spacing 2.54 mm bonding pads, that enables the assembling of a pin-strip.

VOLTAGE outputs	CURRENT outputs
3,3V	130mA
5V	160mA
9V	1000mA



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