

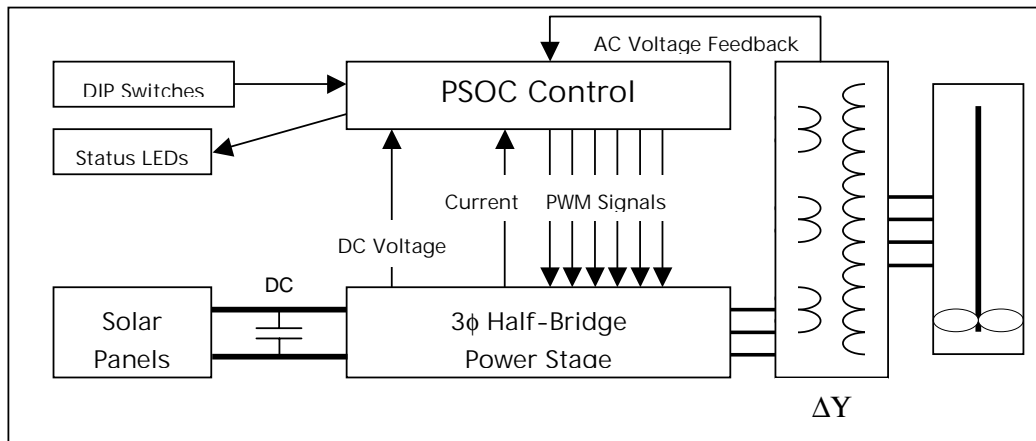


## CONTEST ENTRY C2982

### Solar Pump Controller

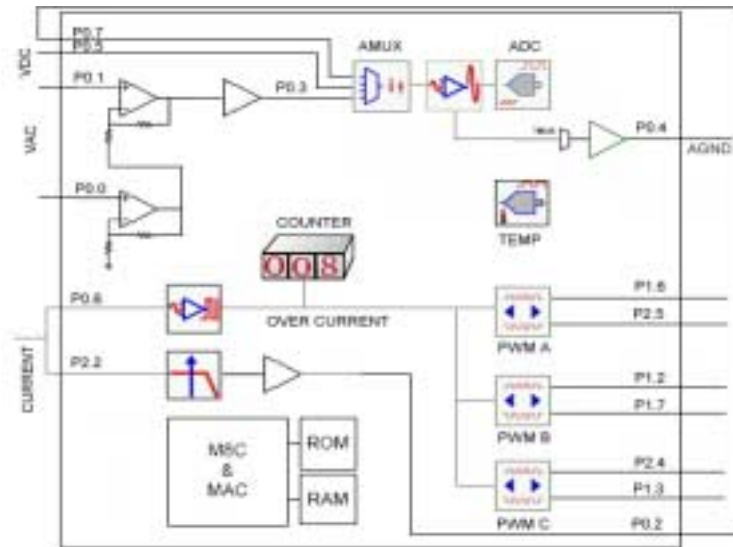
#### ABSTRACT

This project uses a PSOC mixed-signal array to control a three-phase motor drive, capable of operating a submersible water pump directly from solar panels. The PSOC is responsible for 3 $\phi$  PWM generation, signal conditioning, over-current and fault protection, temperature monitoring, constant voltage-to-frequency control, and maximizing the power from the solar array.



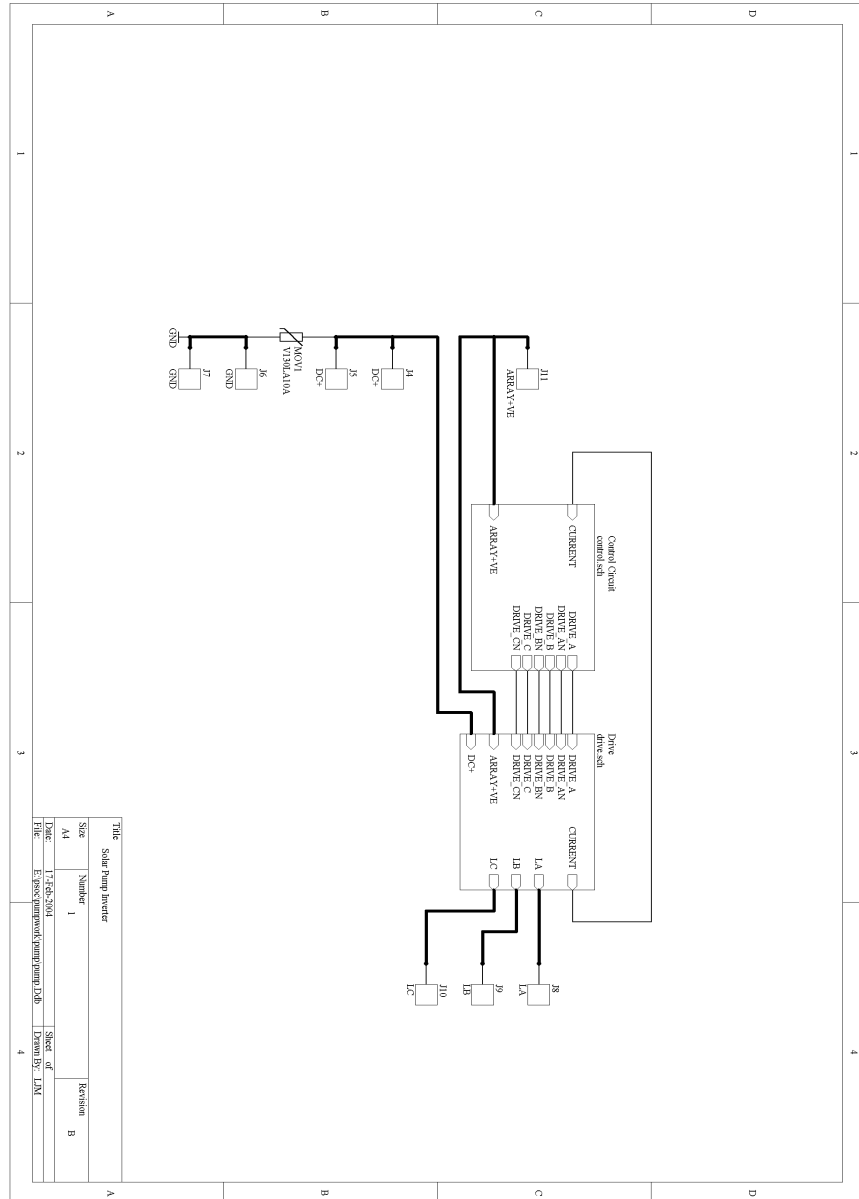
System Block Diagram



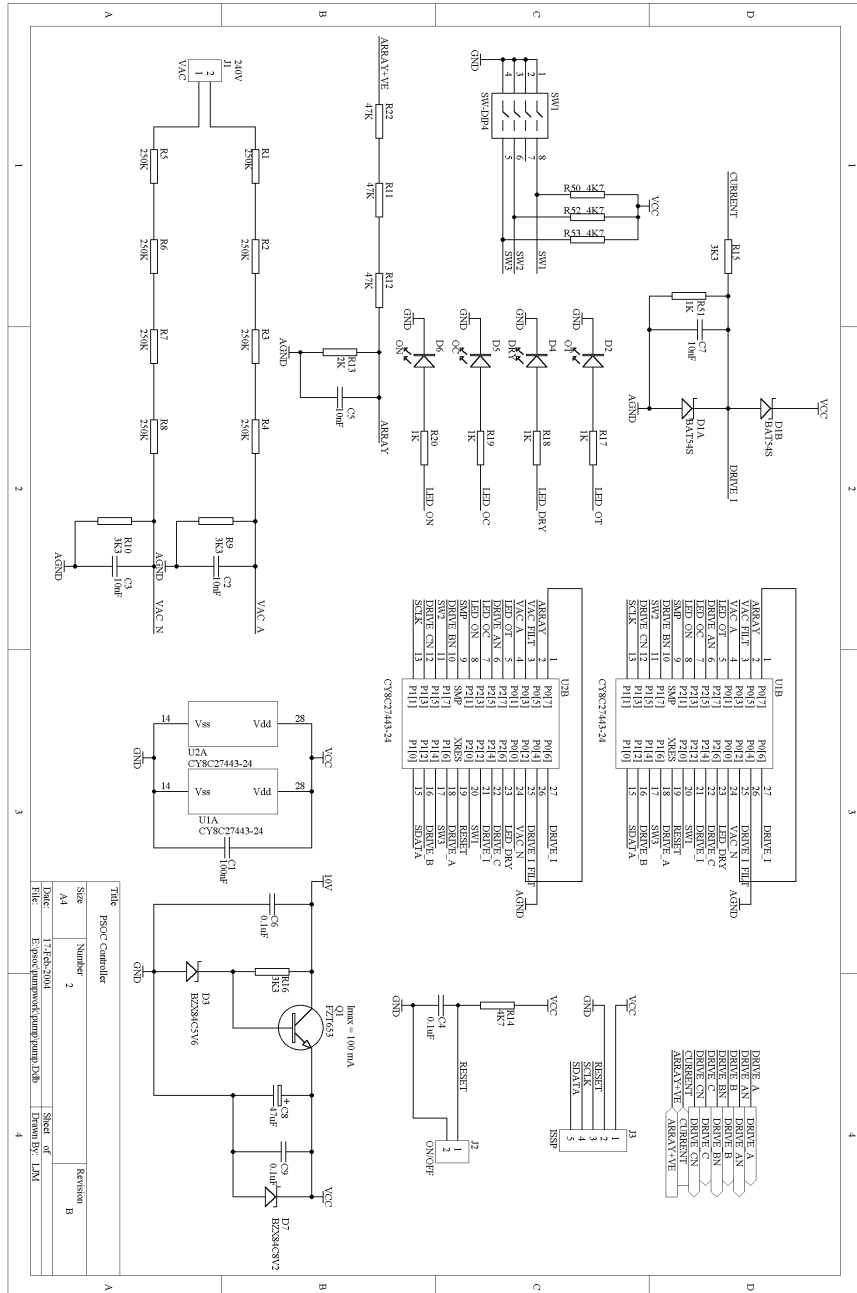


PSOC Internal Block Diagram

SCHEMATICS



Top-level connection schematic





PHOTO



Prototype PCB

(Power stage left, PSOC right bottom, power-supply right top)