

"UPS MODE" for 12V Lead-Acid / SLA Batteries

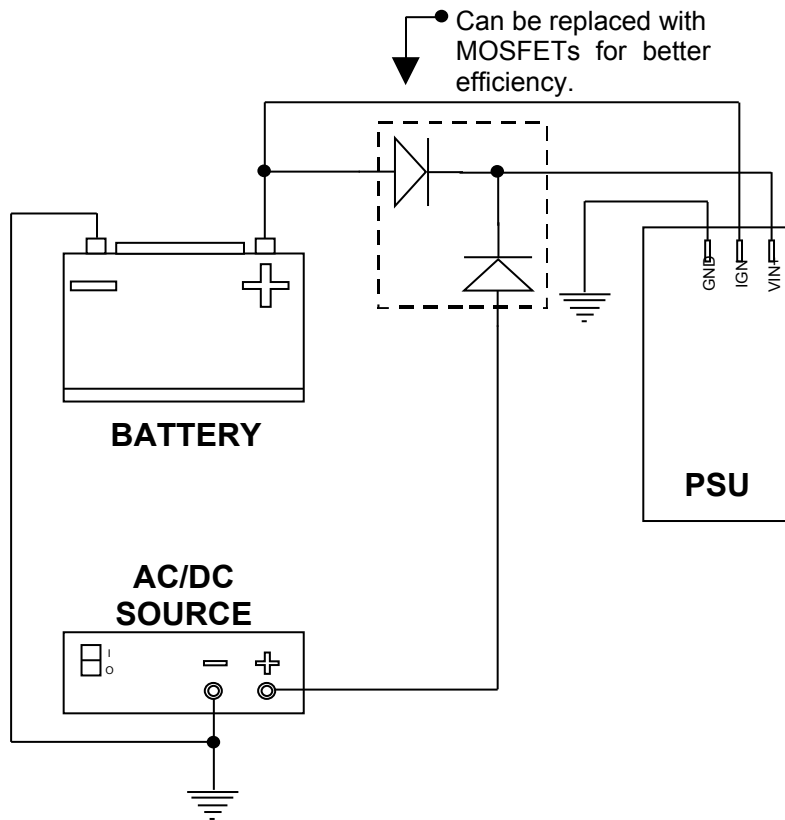
After 06/06/2008 all qualified units will have simple UPS MODE functionality. The following operating mode enabled only in the P0 mode (Regular/Dumb PSU mode).

This mode is activated **only when Ignition is connected to a battery**. If Ignition is left open, the PSU will operate as low as 6V.

In this mode, we assume that customer has the following setup:

- 1) A 12V Lead Acid battery
- 2) Ignition connected to V+ (for battery sensing)
- 3) A charger (not provided here)
- 4) AC/DC source (16V-18V recommended), Solar Battery, etc.
- 5) The battery and the AC/DC source are to be connected to the PSU via a "diode OR circuit".

(NOTE: In early 2009 we will provide a simple charger + diode OR implementation)



Turn OFF procedure

If AC/DC source is not present and if the voltage sensed by Ignition is lower than ~11.2V for more than 60 seconds the power supply will send an OFF pulse to the motherboard (PWR SW). After another 60 seconds the 5VSB rail will be turned off.

Turn ON procedure

If $V(IN) \geq 13V$ and $IGN \geq 11.75V$, the unit will send an ON pulse to the motherboard (PWR SW).

NOTE: If Ignition is left open, the PSU will start at any voltage.

$V(IN) > 13V$ and $IGN > 11.75$ condition explained:

$IGN > 11.75V$: provides a 0.55V hysteresis in between OFF and ON states.

$V(In) > 13V$: Detects presence of AC/DC source (or solar battery that has strength to charge battery)