

Small Tripp-lite 300W UPS

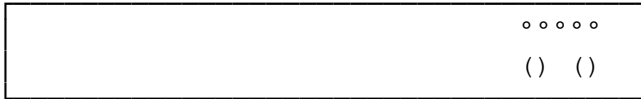
By G8MNY

(New Jul 17)

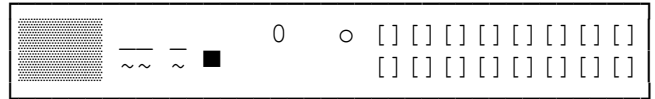
(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

This is a small 1U rack mounted SmartPro UPS. Its backup power is from a 50Hz pulse width stepped square wave mains inverter all from 2 small 7AH 6V batteries when in backup mode (e.g. 35A @ 11V ?) It features step up voltage conditioning & over voltage shutdown to invert mode.

FRONT

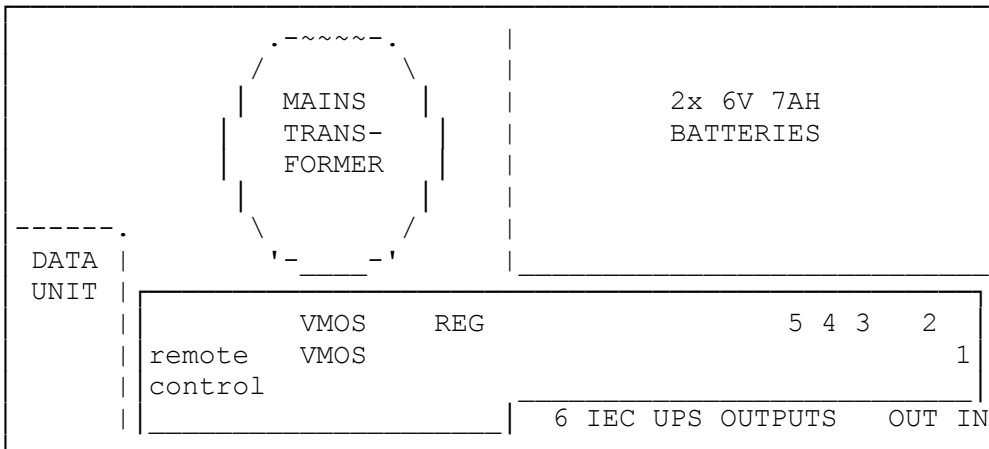


REAR



Card 232 USB trip gnd ----UPS---- OutIn

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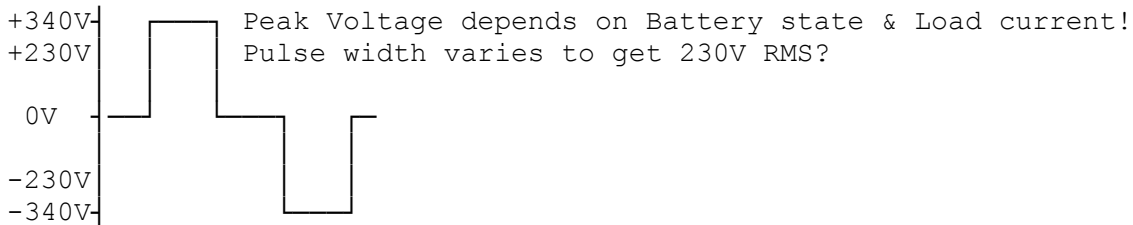
- Relay1 Mains In
2 In Volts
3 O/P
4 Sw O/P1
5 Sw O/P2 opt

232 USB epo Trip gnd

DESCRIPTION

The transformer has tapped primary & 3 secondaries, one centre tapped on the +12V to the inverter VMOS. Another one for the control supply & the 3rd for remote control features. IEC outputs 1 remotely switched eg. hard reboot (2nd optional on PCB), & 1 non UPS O/P for surge loads (eg. CRT display).

INVERTER OUTPUT WAVEFORM with load (ringy from transformer & filter)



USES

Mainly for computerised kit, that might suffer file corruption, or even HDD damage on some power fails. But note a "non on line" UPS can still be fooled by bad "brown outs", where the mains voltage does not go straight out, but has a few cycles close to the kit's PSU safe minimum voltage (e.g. drops to 150V for 1 second while someone is blowing a fuse & then out!) So kit PSU becomes desperate for power & the UPS does not "cut in" in time to stop the kit's PSU giving illegal & corrupting voltages especially to CPUs, memories, & HDDs.

REMOTE

As the remote feature was not wanted, & just power it down unfortunately "switched off" the UPS. So I investigated & found a short (solder blob) on the 2nd opto isolator under the "power trip" stopped this, & the isolated transformer power for the remote could then be left out OK.

CONCLUSION

These 3 mods results in a UPS that comes back on automatically, even when the battery is exhausted (not flat). And when the UPS function is "switched off" it still gives voltage step up output if needed from good valid mains.

Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP