

1. Input characteristics:

- 1.1 Input voltage range: 90Vac ~ 264Vac;single phase.
- 1.2 Input normal voltage: 100Vac~127Vac/200Vac~240Vac .
- 1.3 Input frequency range: 47 Hz to 63 Hz.
- 1.4 Max. input AC current: 3.5A rms max.@ 100Vac full load; 2A rms max. @ 200Vac full load;
- 1.5 Efficiency: 70% min. at input 115Vac/230Vac and output full load.
- 1.6 Inrush current: No hazard shall be occur or components damage.
- 1.7 **Current Harmonic:** The harmonics of the power line and neutral currents shall not exceed the limits of the EN61000-3-2 when measured from 75W(Input) to 200W(Output) at AC input 115V/60Hz ;230V/50Hz
- 1.8 Output At 115 Vac, while in standby mode with a 100mA load on the 5V_{sb} the supply shall draw less than 1 Watts of true input power.
- 2.1 Static output characteristics: (Table 1)

Output Voltage	Load Range		Regulation (%)	Ripple & Noise Max. mV p-p
	Min.	Max.		
1. +5V	0.3A	12A	+5% -5%	50mV
2. +12V	1.0A	12A	+5% -5%	120mV
4. -12V	0 A	0.5A	+10% -10%	120mV
5. +3.3V	0.3 A	11A	+5% -5%	50mV
6. +5VSB	0.00A	2.0A	+5% -5%	50mV

Total continue power output: 200W.

Note:

- 1. Noise test: Noise bandwidth is from dc to 20 MHz.
- 2. Add 0.1uF capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple & noise measurements.
- 3. Total combined power on +3.3V & +5V rails are 65W maximum.
- 4. Total combined power on +3.3V&+5V&+12V rails are 190W maximum.
- 5. The maximum continuous power rating of supply is 200W at 25°C. De-rate 2W/°C from 50°C to 25°C to yield a maximum continuous power rating of 150W at 50°C. Each output max load decrease in proportion..



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DELTA ELECTRONICS, INC.

DESCRIPTION :
電氣規格 (Electrical Specification)

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MODEL NO. :
GPS-200AB A

Date	Drawn	Design (EE)	Design (ME)
07/13/07	陳嘉玲	孫占羸	曾吉生

DOCUMENT NO. :
ES-200AB A

REV.
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6. Cross regulation load current is defined as follows: (Table 2)

# Load	5 V CURRENT	3.3V CURRENT	12 V CURRENT	-12 V CURRENT	5Vsb CURRENT
1	0.3	0.3	1	0	0
2	6	0.3	1	0.5	2
3	2.74	11	2	0.5	2
4	2	0.3	12	0.5	2
5	12	1.5	9.9	0.5	2
6	5.74	11	9.9	0.5	2
7	4	3	12	0.5	2
8	Stand-by	Stand-by	Stand-by	Stand-by	0
9	Stand-by	Stand-by	Stand-by	Stand-by	2
10					

7. Main output shall be enabled by pulled “remote” pin to TTL low level and disabled by pulled “remote” pin to TTL high level.

2.2 Dynamic output characteristics:

2.2.1 Rise time: Any outputs rise from 10% to 90% of normal voltage should be within 0.1 to 20ms.

2.2.2 Turn-on delay time: 500ms maximum at nominal line full load.(Remote on)

2.2.3 Hold up time: 17ms min. for all outputs at 115Vac 230Vac, full load.


2.2.4 Overshoot: Any overshoot at turn on or turn off shall be less than 10% of the normal value.

2.3 Output transient response. (Table 3)

Parameter	Output range	Max. Step	Voltage range	Min. Volt.	Max. Volt.	Cap[μ F]
+12Vdc	1A to 12A	40%	$\pm 5\%$	+11.40	+12.60	4700
+5Vdc	0.3A to 12A	30%	$\pm 5\%$	+4.75	+5.25	5600
+3.3Vdc	0.3A to 11A	30%	$\pm 5\%$	+3.135	+3.465	5600
-12Vdc	0A to 0.5A	0.1A	$\pm 10\%$	-10.80	-13.20	330
+5VSB	0. 1A to 2A	0.5A	$\pm 5\%$	+4.75	+5.25	330

Note: Load change repetition rate: 50Hz to 1KHz.

Load slew rate: 1A/uS max.

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3. Protections:

3.1 Over voltage protection:

- +5V: 7V maximum.
- +12V: 15.60V maximum.
- +3.3V: 4.50V maximum.

3.2 Short circuit protection: A short circuit placed between DC return and output (approximately 0.03 ohm) shall cause no damage and the main output shall shutdown and latch off, but only the +5VSB shall recover automatically.

3.3 Over current protection: The power supply output shall not exceed 240VA otherwise, unit shutdown.

3.4 Cooling: Fan speed control.

3.5 No load operation: No components damaged on power supply.

4. Production line test :

4.1 Dielectric withstand voltage: (10mA DC cut-off current)

Primary to secondary: 1800Vac for 1 second.

Primary to safety ground: 1800Vac for 1 second.

4.2 Insulation resistance: Primary to safety ground: 500Vac, 5M ohms min.

4.3 Leakage current: Shell not exceed 0.75 mA at 230Vac/50Hz.

4.4 Earth grounding test: 25A/0.1 ohm maximum, 2 second.

5. Conducted EMI: Internal filter can meet under limited 4dB margins.

5.1 CISPR22 (EN55022) Class B

5.2 FCC PART 15 Class B

6. Product safety: This power supply is designed to meet the following safety standards.

6.1 C-UL

6.2 UL

6.3 NEMKO

6.4 CB

6.5 CE

6.6 BSMI

6.7 CCC

6.8 TUV



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7. Environment:

7.1 Operating temperature: +10°C to +50°C.

7.2 Operating relative humidity: 20% to 90%.

7.3 Storage temperature: -20 to +60°C.

7.4 Storage relative humidity: 5% to 95%.

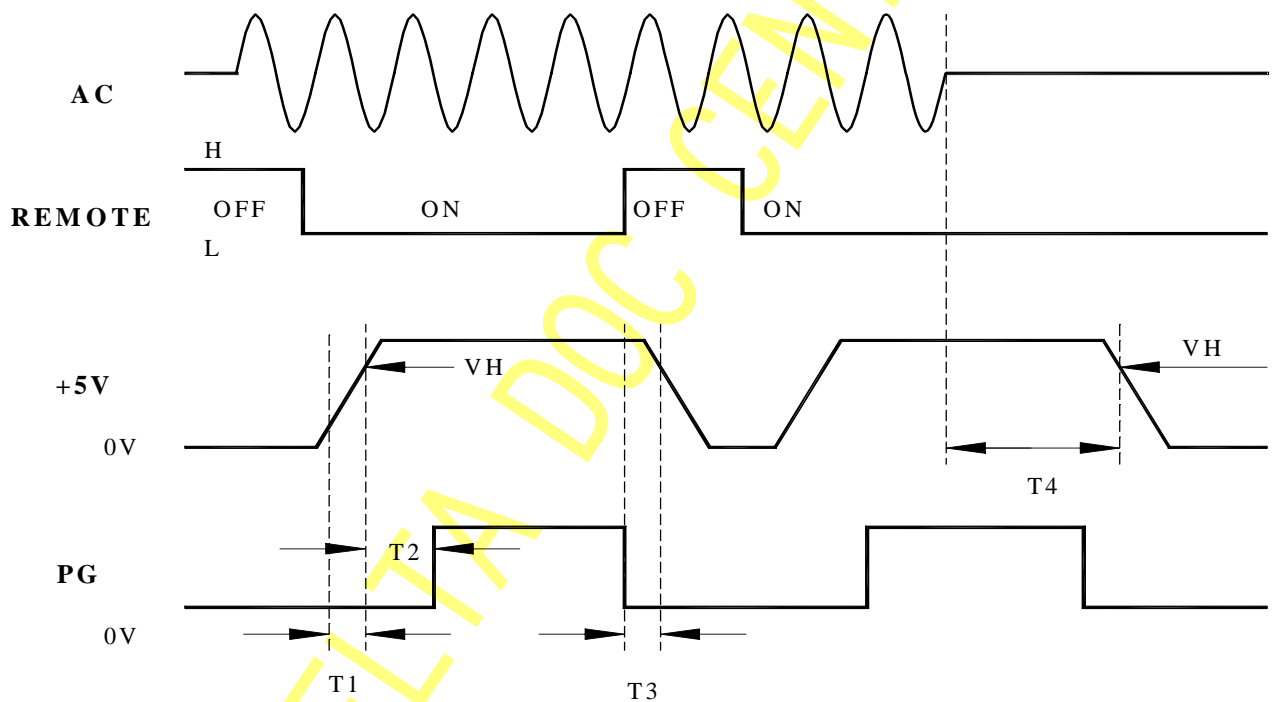
7.5 Altitude: Operate properly at any altitude between 0 to 6,500 feet and storage 50,000 feet maximum.

7.6 Mechanical shock: (non-operation):50G trapezoidal wave,velocity change=170 in/sec.


Three drops in each of six directions are applied to each of the samples.

7.7 Random Vibration(non-operation):0.01g² per Hz at 5 Hz, sloping to 0.02 g² per Hz at 20Hz, and maintaining 0.02g² per Hz from 20Hz to 500Hz. The area under the PSD curve is 3.13gRMS. The duration shall be 10 minutes per axis for all three axes on all samples.

8. Power-good signal:




Note:

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- (1) T1: Rise time ($0.1\text{ms} < T1 < 20\text{ms}$).
- (2) T2: Power good signal turn on delay time ($100\text{ms} < T2 < 500\text{ms}$).
- (3) T3: Power good signal turn off delay time ($T3 \geq 1\text{ms}$, at 115Vac 60Hz/230Vac 50Hz).
- (4) T4: Power hold-on time ($T4 \geq 17\text{ms}$).
- (5) Power good rise time $\leq 10\text{ms}$.
- (6) VH: +4.75V for +5V.
- (7) When the supply is turned off for a minimum of 1 second and turned on, the power good signal will be generated.

9. M.T.B.F: 100k hours minimum while tempered at 25°C ambient, 115Vac input line voltage and full load.

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