



SKYWAY INTERNATIONAL

Mini UPS Product Specification Sheet
Mini UPS

Mini UPS WGP103

1. Summary:

This is an on-line uninterruptible storage power supply. UPS interior adopts the safe and environmental 18650 lithium cells、DC-DC boost mould、the professional IC、smart charging BMS IC, they could be provided the trickle、constant-current、constant-voltage charging etc function. The ups could be automatically adjusts the charging current which based on the external adapter input voltage changeful. The DC output is 9V1A and 12V 1A,5V USB output 5V 1A. The circuit adopts hardware and software etc multi-protective function steps, it has completed over-charged、over-discharged、over-current、short-circuit etc protective function.



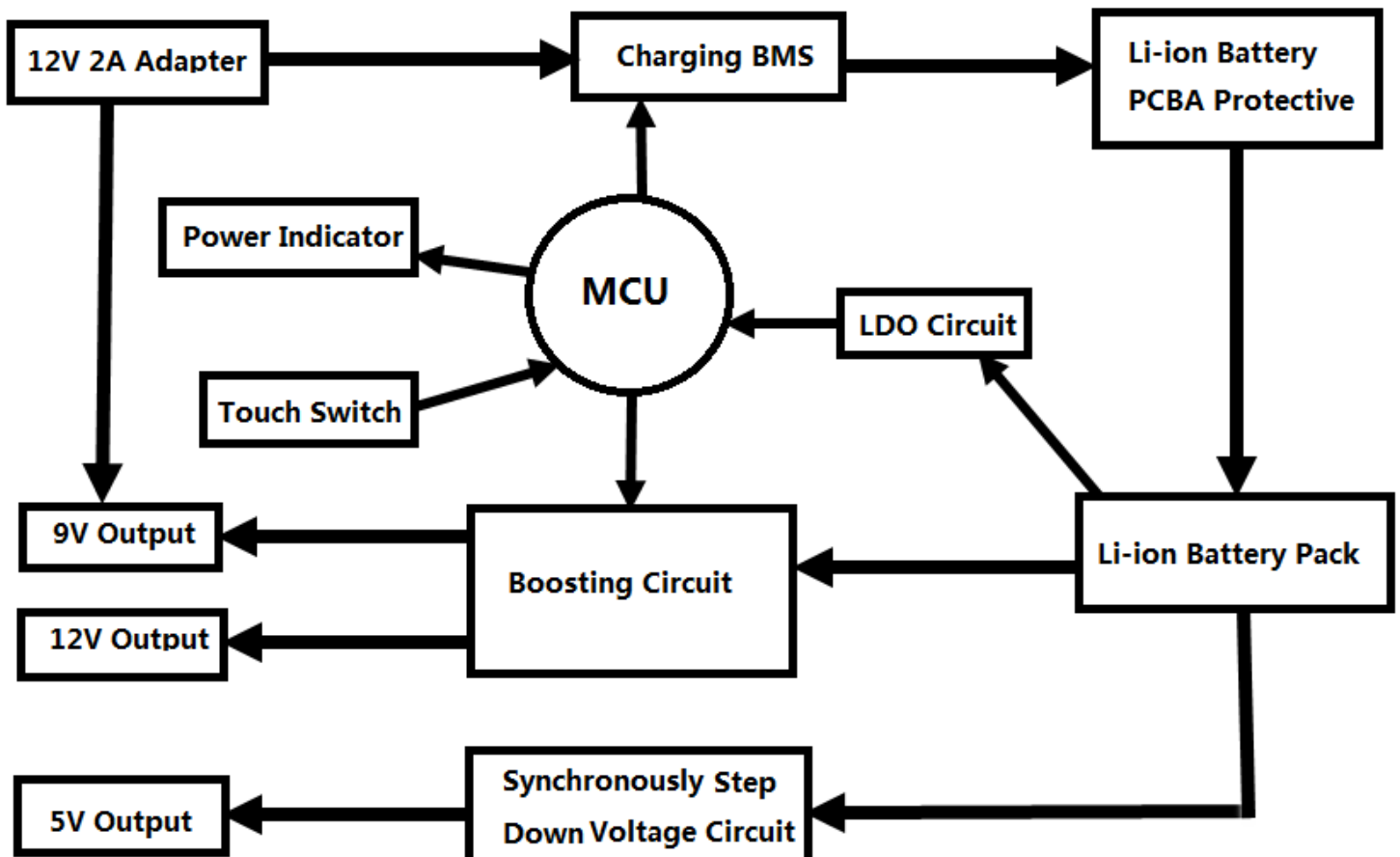
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2. Main Spec:

● Feature

1. Small switching change, short transfer Time;
2. UPS max charging current is 0.8A, as automatically recognize the adapter charging ability, it based on voltage step-down to adjust the charging current;
3. Multi-output 5V 1A, 9V 1A and 12V 1A;
4. Circuit adopts the hardware、 software etc multi-protective function steps;
5. UPS has low capacity indicator、 adapter input indicator、 battery working indicator、 charging indicator;
6. UPS interior has prefer over-charged、 over-discharged、 over-current、 short-circuit etc multi-protective function.

● Function Diagram:



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3. Electrical characteristics:

| 1. INPUT JACK FEATURE | | | | |
|--|---|------------|----------|-----------|
| No. | Item | Mini Value | Standard | Max Value |
| 1.1 | Rated Input voltage | - | 12V | - |
| 1.2 | Input Voltage Range | 11.6V | 12V | 13V |
| 1.3 | Charging current | -- | 0.6A | 0.8A |
| 1.4 | Discharging transfer efficiency | -- | ≥80% | -- |
| Remark: When the input voltage less than 12V, the circuit will follow the voltage dropping to turn down the current; when the input voltage less than 11.4V, no input current anymore. | | | | |
| 2. 5V OUTPUT JACK FEATURE | | | | |
| 2.1 | 5V output jack voltage | 4.6V | 5V | 5.3V |
| 2.2 | 5V output jack current | - | 0.8A | 1A |
| 2.3 | 5V output over-current and step down protective unit | - | 1A | 1.2A |
| 2.4 | 5V Discharging transfer efficiency | - | 88% | - |
| 3. 9V OUTPUT JACK FEATURE | | | | |
| 3.1 | 9V output jack voltage | 8.5V | 9V | 9.2V |
| 3.2 | 9V output jack current | - | 0.8A | 1A |
| 3.3 | 9V output over-current and step down protective unit | - | 1A | 1.2A |
| 3.4 | 9V Discharging transfer efficiency | - | 85% | - |
| 4. 12V OUTPUT JACK FEATURE | | | | |
| 4.1 | 12V output jack voltage | 10.5V | 12V | 12.2V |
| 4.2 | 12V output jack current | - | 0.8A | 1A |
| 4.3 | 12V output over-current and step down protective unit | - | 1A | 1.2A |
| 4.4 | 12V Discharging transfer efficiency | - | 85% | - |

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4. Li-ion Battery with PCB characteristics:

| Item | Symbol | Content | Standard |
|---------------------------|-------------|-------------------------------------|---|
| Over Charged Protection | V_{DET1} | Over charge detected voltage | $4.30 \pm 0.025V$ |
| | tV_{DET1} | Over charge detection delay time | 500~1500ms |
| | V_{REL1} | Over charge release voltage | $4.15 \pm 0.08V$ |
| Over discharge protection | V_{DET2} | Over discharge detection voltage | $2.7 \pm 0.2V$ |
| | tV_{DET2} | Over discharge detection delay time | 50~150ms |
| Over current protection | V_{DET3} | Over current detection voltage | $0.20 \pm 0.025V$ |
| | I_{DP} | Over current detection current | 12A~20A |
| | tV_{DET3} | Detection delay time | 5~15ms |
| | | Release condition | Cut load |
| Short protection | | Detection condition | Exterior short circuit |
| | T_{SHORT} | Detection delay time | $\leq 12\mu s$ |
| | | Release condition | Cut short circuit |
| Interior resistance | R_{DS} | Main loop electrify resistance | $V_C=3.7V$; $R_{DS} \leq 60m\Omega$ |
| Current consumption | I_{DD} | Current consume in normal operation | $I_{DD} \leq 30.0\mu A$ |

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5. Touch Switch Indicate Feature:

| No. | Item | Power Mode | Description |
|-----|------------------------------|-----------------|--|
| 5.1 | Touch Switch | --- | <ul style="list-style-type: none"> - Double Click- switch on ups and indicator lighting up - Click once-switch off ups and indicator off |
| 5.2 | Discharging Indicator Status | Almost no power | LED twinkle 3 times, ups turns off |
| | | >25% | LED1 stay lighting, LED2,LED3 LED4 off |
| | | 25%~50% | LED1, LED2 stay lighting, LED3 and LED4 off |
| | | 50%~75% | LED1, LED2, LED3 stay lighting, LED4 off |
| | | 75%-100% | LED1, LED2, LED3, LED4 stay lighting, |
| 5.3 | Charging Indicator Status | >25% | LED1 to LED4 turns twinkle |
| | | 25%~50% | LED1 stay lighting, LED2 to LED4 turns twinkle |
| | | 50%~75% | LED1, LED2 stay lighting, LED3 to LED4 turns twinkle |
| | | 75%~99% | LED1, LED2, LED3 stay lighting, LED4 turns twinkle |
| | | 100% | LED1, LED2, LED3, LED4 stay lighting, |

6. Applications:

This multi-ouput mini ups widely use for fingerprint attendance machine, Fire safety system, security monitoring system, wireless camera, CCTV camera ,personal treatment system, Door security system, personal data assistant, emergency lighting, Alarm system, personal communication systems, radio, digital cameras, camcorders, video camera, Bluetooth devices, CD players, MD players, portable DVD, MP3 players, smart cards.

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Mini UPS Working Condition:

- Charging: 0°C~55°C
- Discharging: -20°C~65°C
- Storage 30days: -20°C~~45°C
- Storage 90days: -20°C~35°C
- Should store the mini UPS under the pleasantly cool and arid place if long time don't use it. Otherwise poor performance may occur due to the poor connection with the equipment.

7. Storage:

When stored, the UPS will self-discharge at a rate that is greatly affected by the ambient temperature. UPS should therefore be fully charged before being put into storage and if they are to be stored for a long period they should be recharged periodically to prevent them from losing their original capacity. As a guide, the UPS should not be stored for longer than the periods shown below without being recharged:

- 6 months at 20 °C
- 3 months at 30 °C
- 2 months at 35 °C
- If long time did not use this mini UPS, suggest to charge it once every 3~5months

8. Safety Warning:

- Do not expose the mini UPS in the rain or snow;
- Do not use or leave the mini UPS near a heating source as fire or heater;
- Do not connect the DC cable in wrong way;
- Do not use the wrong voltage adapter;
- Devices voltage must matching with the mini UPS voltage
- Please leave away this mini UPS from children