

# Mini UPS 不间断电源 30W

## 1. Summary:

This is an on-line uninterruptible storage power supply. UPS interior adopts the safe and environmental 18650 lithium cells、 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 rated output is 12V 2.5A, the max output could be 12V 3A, The over-current protection is  $3.5A \pm 0.5A$ . 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.



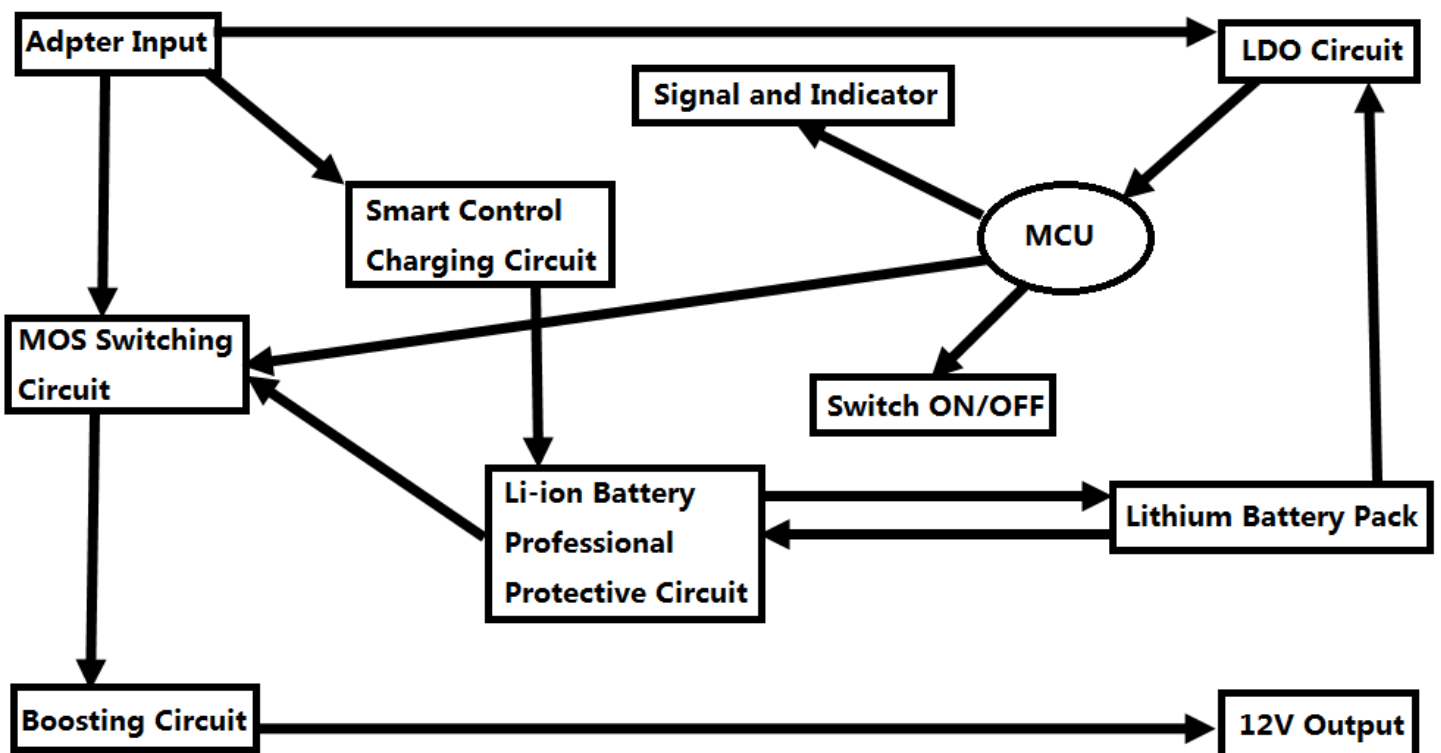
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## 2. Main Spec:

### ● 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. Rated output 12V 2.5A, with over-current adjustable function;
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.
7. Light weight as around 260g、 small volume as only 138\*60\*24mm.

### ● Function Diagram:



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## 3. Electrical characteristics:

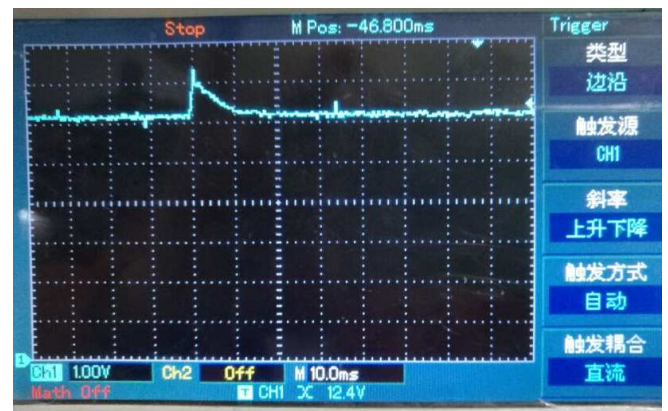
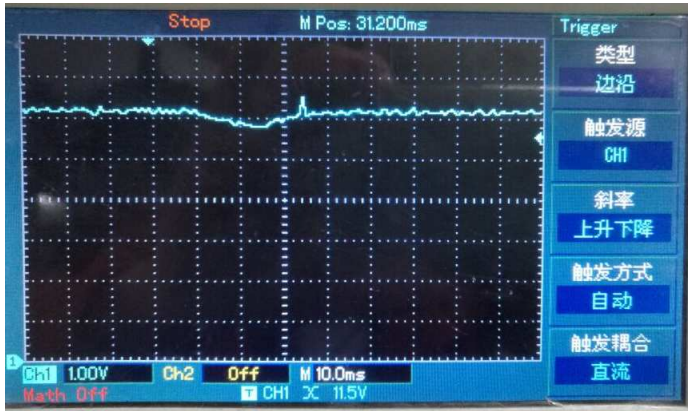
No.	Item	Mini Value	Standard	Max Value
1	Input voltage	11.8V	12.3V	12.5V
2	Input current	--	0.65A	--
3	Charging current	--	0.8A	--
4	No-load voltage range	--	12.2V	--
5	Output current range	--	2.5A	3.0A
6	Discharging transfer efficiency	--	≥88%	--

## 4. Li-ion Battery with PCB characteristics:

Item 项目	Symbol 符号	Content 详细内容	Standard
Over Charged Protection 过充保护	$V_{DET1}$	Over charge detected voltage 过充电检测电压	4.30±0.025V
	$tV_{DET1}$	Over charge detection delay time 过充电检测延迟时间	500~1500ms
	$V_{REL1}$	Over charge release voltage 过充电解除电压	4.15±0.08V
Over discharge protection 过放保护	$V_{DET2}$	Over discharge detection voltage 过放电检测电压	2.7±0.2V
	$tV_{DET2}$	Over discharge detection delay time 过放电检测延迟时间	50~150ms
Over current protection 过流保护	$V_{DET3}$	Over current detection voltage 过电流检测电压	0.20±0.025V
	$I_{DP}$	Over current detection current 过电流保护电流	12A~20A
	$tV_{DET3}$	Detection delay time 检测延迟时间	5~15ms
		Release condition 保护解除条件	Cut load 断开负载
Short protection 短路保护		Detection condition 保护条件	Exterior short circuit 外部电路短路
	$T_{SHORT}$	Detection delay time 检测延迟时间	≤12us
		Release condition 保护解除条件	Cut short circuit 断开短路电路
Interior resistance 内阻	$R_{DS}$	Main loop electrify resistance 主回路通态电阻	$V_C=3.7V$ ; $R_{DS}≤60m\Omega$
Current consumption 消耗电流	$I_{DD}$	Current consume in normal operation 工作时电路内部消耗	$I_{DD}≤30.0\mu A$

## 5. Output voltage oscillogram when switching

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Using 12V/2A router to test, when pull out adapter, almost have no change; when plug adapter, there will be 5ms the voltage at 13V.

## 6. Applications:

This smart 12V 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.

## 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.

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## 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

## 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