

# 20Amp SMART CHARGER

## 12V/24V Battery Charger and Maintainer

### USER MANUAL

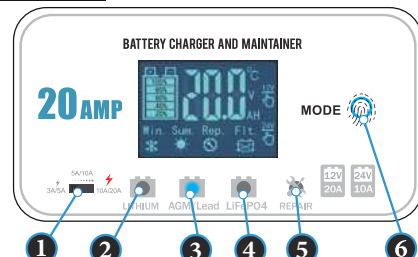
(EN/DE/FR/IT/ES)



#### Technical Specifications

Model: P20/20AMP/N20  
 AC Input Voltage: 100-240V~50/60Hz  
 Applicable battery type: Lithium, LiFePO4, Lead-acid (AGM, GEL, EFB,MF, FLOODED, VRLA, SLA, WET, etc.)  
 Applicable battery voltage: 12V,24V  
 Charging Current: Max 20A(12V),Max 10A(24V)  
 Minimum Start Volt: 2V  
 Input Power with Load: Max 280W  
 Net weight: 470g  
 Dimension: 158\*90\*50mm

#### Interface description



- Charge current switch. 3 levels are optional: 5A(12V)/3A(24V), 10A(12V)/5A(24V), 20A(12V)/10A(24V).
- For charging 12V or 24V Lithium batteries, for batteries used on Battery Management Systems(BMS) only.
- For ordinary lead-acid batteries/maintenance-free batteries including AGM, GEL, SLA, WET, DEEP CYCLE, EFB, Calcium, etc.
- For charging 12V or 24V LiFePO4 batteries.
- For activation or maintenance of weak, old and idle batteries. Can not repair severely damaged batteries. Only for lead-acid batteries.
- Used to select a mode

**Auto-Memory :**The charger has a memory function and will automatically select the last mode.

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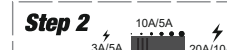
#### How to charge the battery?



Connect the charger to the AC power.  
**AC:100-240V 50~60Hz**



Select the corresponding mode according to the battery type.



Adjust and select the appropriate charging current gear.



Connect the charger and battery. (The charger automatically recognizes the battery voltage and selects 12V or 24V.)

#### Estimated Charging Time For Different Battery Capacities.

Battery Capacity (Ah)	Charging Time(H)					
	12V 5A	12V 10A	12V 20A	24V 3A	24V 5A	24V 10A
50(Ah)	6.5 H	3.1 H	/	10 H	6.5 H	3.1 H
120(Ah)	15 H	7.5 H	4.2H	25 H	15 H	7.5 H
150(Ah)	19 H	9.5 H	5.0 H	31.5 H	19 H	9.5 H
200(Ah)	25 H	12.5 H	6.5 H	/	25 H	12.5 H
400(Ah)	/	25 H	12.5 H	/	/	25 H
1000(Ah)	/	/	38 H	/	/	76 H

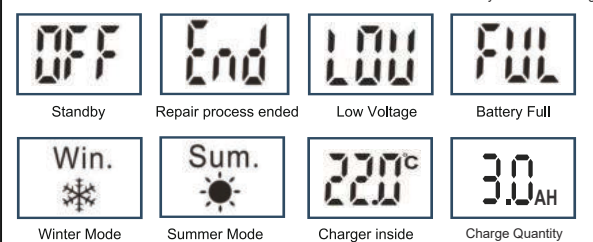
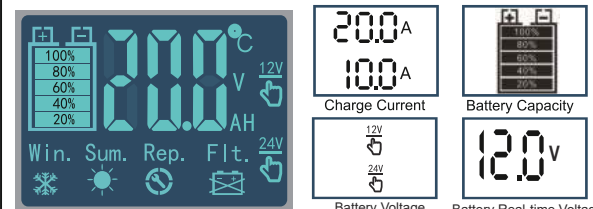
The estimated charging time is for reference only, please refer to the actual time.

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#### Features

- Supports Lithium,Lead-acid(AGM,GEL,SLA,Flooded,WET,EFB,etc.) and LiFePo4 battery.
- Fully automatic microprocessor control. 9-stage charging program provides the best and most efficient battery charging.
- Charging voltage automatically adapts to temperature to prevent over-or under-charging.
- With repair function to repair old, weak and idle batteries.
- With overcharge protection, reverse polarity protection, short circuit protection, sparks free contact, etc.
- With LCD screen showing voltage, current, battery power,temperature etc.
- Charge current can be selected.
- The charger has auto-memory function and will return to the last mode when connected.

#### Screen Icon Description



**Repair Mode**  
 Repair Mode. An advanced battery recovery mode for repairing and storing old, idle, damaged, stratified and sulfated batteries. The maximum repair time is 24 hours. Only for lead-acid batteries. Can not repair badly damaged batteries.

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Wrong polarity, please change the connection of the clamps.

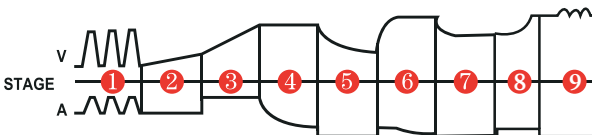


Defect battery, please let the battery be checked by a mechanic and if necessary change the battery.



Bad connection, please check the connection between the charger and the battery.

#### 9-stage charging process optimizing battery power precisely and gently.



- 1:Battery desulfation
- 2:Soft start charging
- 3:Bulk charging
- 4:Absorption charging
- 5:Trickle charge
- 6:Battery test
- 7:Recondition charging
- 8:Float & maintenance charging
- 9:Small current to maintain charging

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#### WARNING

- For 12V & 24V Lithium,Lead-acid and Lifepo4 batteries charging only, do not attempt to charge any other type of battery. Charging other battery chemistries may result in injury, death or property damage.
- CAN NOT charge totally dead batteries. Do not charge a battery if you are unsure of the battery's specific chemistry or voltage.
- This battery charger is not waterproof.
- Contact the seller for replacement if you found the charger is abnormal or the plug and clips are damaged or cracked.
- Stop charging if the battery is damaged or liquid overflow around the battery.
- Keep ventilation to prevent flames and sparks, do not expose the charger and battery to the sun or in high-temperature environment.
- Do not put the charger on the battery while charging, avoid any metal tool dropping on the battery. It might spark or short-circuit the battery which may cause an explosion.
- Remove personal metal items such as rings, bracelets, necklaces, watch when charging the battery.
- Unplug the charger from outlet before doing any maintenance or cleaning to reduce the risk of electric shock.
- Unplug the charger in time after the battery is fully charged.
- Make sure someone is watching while charging.

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#### Full Voltage of Different Batteries

Battery type	Full of voltage
12V LITHIUM	Max 14.7V/ 12.6V
24V LITHIUM	Max 29.4V/ 25.2V
12V Lead-acid (AGM, GEL, EFB,MF, FLOODED, VRLA, SLA, WET, etc...)	Max 14.7V
24V Lead-acid (AGM, GEL, EFB,MF, FLOODED, VRLA, SLA, WET, etc...)	Max 29.4V
12V LIFEPO4	Max 14.6V
24V LIFEPO4	Max 29.2V

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 Made in China

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