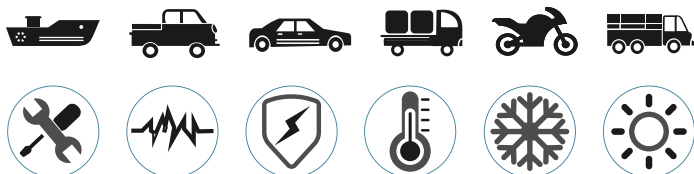


20Amp SMART CHARGER

12V/24V Battery Charger and Maintainer

USER MANUAL

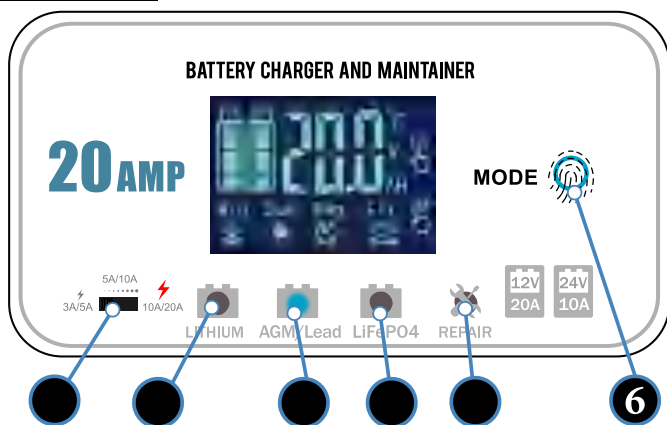
(EN/DE/FR/IT/ES)



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.

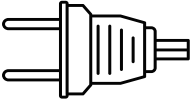
For activation or maintenance of weak, old and idle batteries.

Can not repair severely damaged batteries. Only for lead-acid batteries.

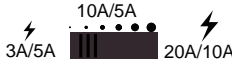
Used to select a mode

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

How to charge the battery?



AC:100-240V 50~60Hz



Step 1

1: Connect the charger to the AC power.

2: Adjust and select the appropriate charging current gear.

3: Select the corresponding mode according to the battery type.

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

Step 2

Step 3

Step 4

Note :

1. Don not charge for the lithium battery without battery protection board(BMS).

2. Charge batteries with a capacity of less than 20AH with the minimum current.

Estimated Charging Time For Different Battery Capacities.

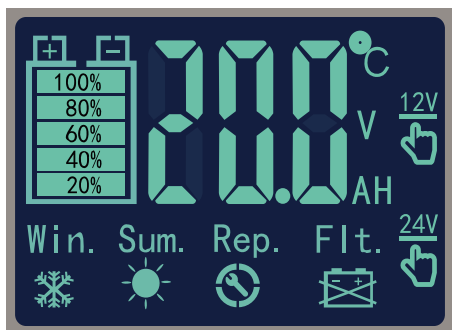
Battery Capacity (Ah)	Charging Time(H)					
	12V 5A	12V 10A	12V 20A	24V 3A	24V 5A	24V 10A
50(Ah)	6.5 H	3.1 H	/	10 H	6.5 H	3.1 H
120(Ah)	15 H	7.5 H	4.2H	25 H	15 H	7.5 H
150(Ah)	19 H	9.5 H	5.0 H	31.5 H	19 H	9.5 H
200(Ah)	25 H	12.5 H	6.5 H	/	25 H	12.5 H
400(Ah)	/	25 H	12.5 H	/	/	25 H
1000(Ah)	/	/	38 H	/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

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

Features

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

Screen Icon Description



Charge Current



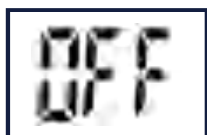
Battery Capacity



Battery Voltage



Battery Real-time Voltage



Standby



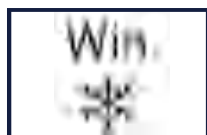
Repair process ended



Low Voltage



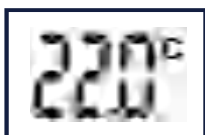
Battery Full



Winter Mode



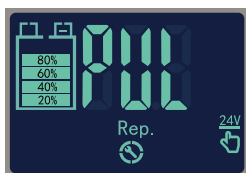
Summer Mode



Charger inside Temperature



Charge Quantity



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.



Wrong polarity, please change the connection of the clamps.

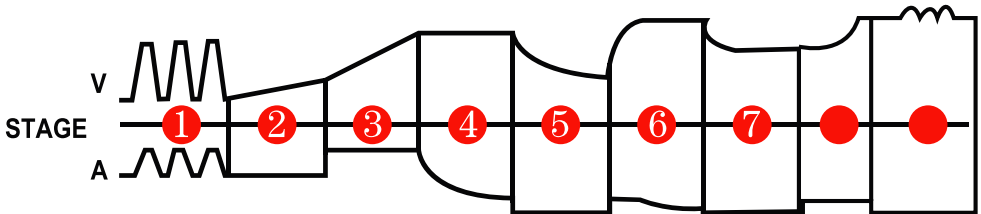


Defect battery, please let the battery be checked by a mechanic and if necessary change the battery.



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

WARNING

1. Do not charge for the lithium battery without battery protection board(BMS).
2. Charge the battery below 20AH with the minimum current.
3. The charger is designed for 12V and 24V Lithium,Lead-acid, LiFePO4 batteries.
4. Check battery specifications before using.
5. Provide ventilation to prevent flames and sparks.
6. Do not expose charger to the sun, or under high temperature environment.
7. Battery acid is corrosive. Rinse immediately with water if acid comes into contact with skin or eyes.
8. Do not charge a frozen or damaged battery.
9. Do not charge non-rechargeable batteries.
10. Do not place the charger on the battery while charging.
11. Be extra cautious to reduce risk of dropping a metal tool on the battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
12. When working with a lead-acid battery, remove personal metal items such as rings, bracelets, necklaces, watch...
13. Do not smoke or allow a spark or flame while charging.
14. In order to reduce risk of electric shock, unplug charger from AC outlet before doing any maintenance or cleaning .
15. Not intended for children and anyone unable to follow the user manual.