aqua-marina.nl
electric outboards and portable boats

Version: 1.1.1

BATTERY CHARGER

20A 12V MANUAL

BATTERY CHARGER

SUPPORT

If you are experiencing technical problems and cannot find a solution in this manual,please contact Aqua-marina for further assistance.

·Call:31 227 234235

·Web:www.aqua-marina.nl

·E-mail: info@aqua-marina.nl

I.General Information

Please read the manual carefully before using the product. Please do not try to take apart the product. Any unauthorized disassembling and repair will cause failure of warranty coverage.

* The high voltage inside the box may cause electric shock. Contact customer service or find a professional engineer if the product stops working. DO NOT try to open the product by yourself.

* Keep the charger away from direct sunlight, heat, flammable items and moisture.

* Use the charger at a clean and well-ventilated location. Ensure its air outlet is not blocked.

* Put the charger at somewhere children cannot reach.

* DO NOT wash the charger with water. Clean rag soaked with alcohol is Recommended.

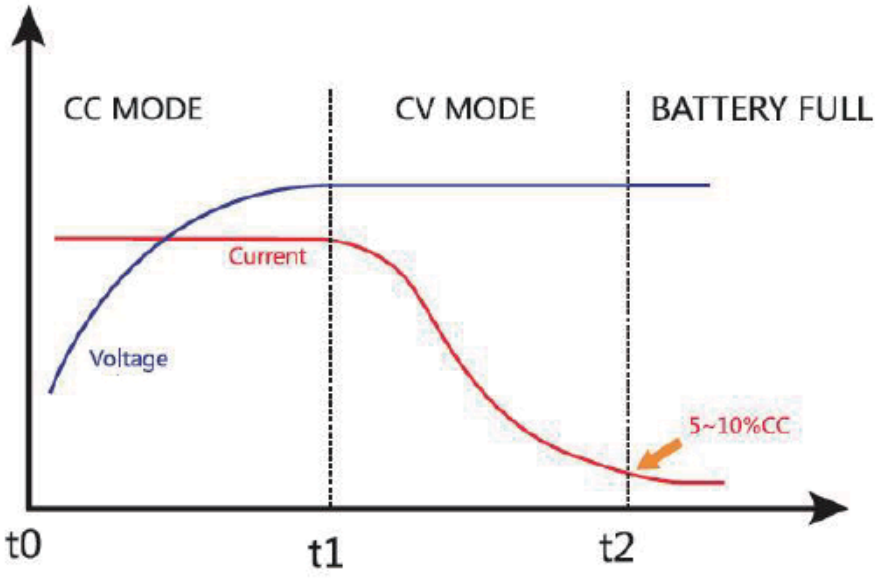
II . Product Description

Indicator	Description
	No AC input
	Power in but not turn on
	Stand by or battery is fully charged
	Charging

III. Specification

Input Voltage	90-130V/200-240V
Max. Charge Power	389W
Charging Voltage	14.6V
Max. Charge Current	20A
Charging Efficiency	80%
Ripple Voltage	200mV
Float Charging Current	1.6A
Operating Temperature	-5°C ～+40°C
Operating Humidity	5%~95% RH
Storage Temperature	-40°C ～+70°C
Storage Humidity	0%~95% RH

IV. Charging Curve



V . Protection Function

● **Over Voltage Protection**
The charging voltage over the maximum value will trigger the protection. It will release when charging voltage recovers.

● **Over Current Protection**
The charging current over the maximum value will trigger the protection. It will release when charging current recovers.

● **Short Circuit Protection**
The short-circuit on output will trigger the protection. It will release when short-circuit is removed.

VI. Security Test

● **Mean Time Between Failure (MTBF)**
30,000 hours of MTBF at 25°C with 80% load

● **Anti-vibration**
Working normally under 5mm&50Hz vibration for over 600s

● **Insulation Resistance**
Insulation resistance is more than 50MΩ with DC500V input at 25°C&70%humidity

● **High Voltage**
Working fine at 50Hz&500~1500Vac&10mA for 60S