RACERN

Jupiter

Product Introduction

RS-J317AF-001 is a Jupiter series product that features an optimal structural design, outstanding energy density. It is a DNV type approved and air cooling marine battery system that is not only high-performance but also modular and scalable. With a maximum operating voltage reaching up to DC1000V and modules capable of drawing currents up to 200A, it proves itself suitable for high-capacity energy solutions. Our products are equipped with a three-level architecture BMS that monitors all functions and technical parameters through seamless communication, providing an additional layer of safety against potential failures. RS-J317AF-001 is well-suited for applications requiring both high energy and power output, efficiently transferring large amounts of energy at a low lifetime cost per kWh.

Battery System

1. BMBOX: Battery Module Box (with a BCU & ITMU)
2. BSBOX: Battery String Box (with a BSMU, ITPU & HVSU)
3. BABOX: Battery Array Box (with a BAMU & EMU)
4. HMI
5. MSD
6. E-Stop
7. Power Cable
8. Communication Cable

Battery Module

1. BAT +
2. BAT -
3. COM IN
4. COM OUT
5. Fire Coupling

Typical Vessel Types

- Ferries
- Wind Farms Service
- Offshore Vessels
- Merchant Vessels
- Cruise Ships
- Tugs
- RoRo / RoPax
- Yachts
- Fishing Vessels
- Sightseeing Vessels
- Containerized ESS
- Shore Charging
- Fishing Farms
- Canal Boats
- Tourist Vessels

Features and Benefits

- LFP cell from CATL
- Light weight
- Modular design
- Flexible installation
- Low lifecycle cost
- Scalable capacity and voltage
- Three-level BMS architecture
- No thermal propagation
- Independent temperature protection
- Enhanced mechanical design
- Independent fire extinguishing system
- Remote monitoring and diagnosis

Technical Specifications

Battery Module Specifications

Nominal Capacity	317Ah (@25℃±2, 1C)
Nominal Voltage	77.28V
Nominal Energy	24.5kWh
Charge Cut-off Voltage	87.6V
Discharge Cut-off Voltage	60V
Standard Charge/Discharge Current	158.5A
Maximum Continuous Charge/Discharge Current	200A
Ingress Protection	IP67
Short-circuit Protection	Fuse in modules
Cycle Life	≥6000 cycles@0.5C, 80%SOH, 100%DOD
Cooling Method	Air Cooling
Dimensions	L685*W790*H250mm
Weight	172kg
Gravimetric Energy Density	**142Wh/kg**
Volumetric Energy Density	**181Wh/L**

Battery System Specifications (14 battery modules in series)

Nominal Voltage	1081.92V
Voltage Range	974.4~1209.6V
Nominal Energy	343kWh
Standard Charge/Discharge Current	158.5A
Maximum Continuous Charge/Discharge Current	200A
Operating Temperature	Charge: 0℃~60℃ | Discharge: -20℃~60℃
Storage Requirements	Temperature: -35℃~60℃ | Humidity: 10%～85% A dry, ventilated, and cool environment to avoid direct sunlight, high temperature, corrosive gas, violent vibration, and mechanical impact.
External Communication Port	CAN / RS485 / LAN

Battery String Specifications

Battery modules in series	Voltage	Energy
1	80V	24kWh
4	300V	98kWh
8	600V	196kWh
14	1000V	343kWh

Battery Array Specifications

Strings	80V	300V	600V	920V
1	24kWh	98kWh	196kWh	343kWh
2	48kWh	196kWh	392kWh	686kWh
3	72kWh	294kWh	588kWh	1029kWh
4	96kWh	392kWh	784kWh	1372kWh
5	120kWh	490kWh	980kWh	1715kWh
6	144kWh	588kWh	1176kWh	2058kWh

Safety Specifications

Thermal Runaway Anti-propagation	No propagation between cell inside of module
Short Circuit Protection	Fuse in each module and BSBOX
Class Compliance	DNV
Ingress Protection	BMBOX: IP67, BSBOX: IP67, BABOX: IP44

☎ +86 755 8317 7476
Shenzhen, China
overseas@racern.com
Shenzhen Racern Technology Co., Ltd.

Disclaimer: As classification society rules and International Maritime Organization (IMO) regulations are subject to continuous updates, the technical parameters, configurations and performance indicators contained in this document only reflect the status at the time of release and do not constitute a final delivery commitment. We reserve the right to make technical modifications without prior notice and shall not be liable for any direct or indirect losses arising from the misuse of information in this document or reliance on outdated technical parameters. The specific product delivery standards shall be subject to the officially signed purchase orders, technical agreements and factory inspection reports between the two parties.

☎ +86 755 8317 7476
Shenzhen, China
overseas@racern.com

Shenzhen Racern Technology Co., Ltd.