

中国船级社 CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No. **FZ21PTB00037**

型式认可证书 CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

福建巨电新能源股份有限公司 Fujian super power new energy co, LTD

地址/Address

福建省南平市武夷新区童游工业园区F-01地块 Plot F-01, Tongyou Industrial Park, Wuyi new area, Nanping City, Fujian Province

产品名称/Product

蓄电池 Battery 电池管理系统 Battery Management System

附加标志/Notations

无/Ni1.

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》(2021)及其修改通报第4篇第1、3章、第7篇第2章 Chapter 1&3, Part Four, Chapter 2, Part Seven of China Classification Society Rules for Classification of Sea-Going Steel Ships 2021 and its Amendments

2. 中国船级社《钢质内河船舶建造规范》(2016)及其修改通报 第3篇 第1、5章、第4篇第2章 Chapter 1&5, Part Three, Chapter 2, Part Four of China Classification Society rules for classification of inland ships 2016 and

3. 中国船级社《纯电池动力电动船检验指南》(2019)第1, 2, 3, 7章

Chapter 1,2,3,7 of China Classification Society Inspection Guide for Pure Battery Powered Ships 2019

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

训书有数期至 his certificate is valid until 2026年03

zhou Branch

2026年03月24日/Mar. 24,2026

签发日期 2022年03月25日 Date Mar. 25,2022

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UTN:P022-81585809

Issued by

产品明细/Product Description

电池管理系统/Battery Management System (M0001)

| 名称/Name | 属性(值)/Value | 单位/Unit |
|--|---|---------|
| 产品名称/Product Name | 电池管理系统 Battery Management System | |
| 型号/Type | ESS SHIPPING V1.0 | |
| 系统组成/System Component | 主控模块、从控模块、显示模块 Master control module, slave control module and display module | |
| 额定工作电压(Ue)/Rated Operational Voltage | 24 | V |
| 电池类型/Battery Type | 磷酸铁锂电池 Lithium iron phosphate battery | |
| 总电压测量范围/Total Voltage Measurement Range | 0~900 | V |
| 总电流测量范围/Total Current Measurement Range | -1000 [~] +1000 | A |
| 电池组组合方式/Connections of Battery Pack. | 1P12S | |
| 系统可扩展串数/System Extensible String Number | 主控模块: 300串 从控模块: 12串 Main control module: 300 strings Slave control module: 12 strings | |
| 外壳防护等级/Degrees of Protection | IP40 | |

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No.: NP20PPP02997

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No.: (2022) MJDZ-0289 试验报告日期/ Test Report Date: 2022-03-24

认可后的产品检验方式/ Method of Product Inspection after Approval

按规范只认可不进行产品检验的产品/The product approved only in term of the rules: 认可后的产品检验由制造厂按本社批准的产品检验计划进行检验,经检验合格后由制造厂签发合格证明,并连同该产品的本社认可证书复印件一并交付用户,制造厂对产品符合公约、法规、本社规范和本社认可的标准规定负责。 After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society. Upon satisfactory inspection, and the Quality Certificate issued by the Manufacturer should be provided to the purchaser together with the copy of the approval certificate issued by the Society. The manufacturer should take responsibility for the product being in compliance with the convention, statutory regulation, the Society rules and the standard accepted by the Society.

认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后,如果产品及其重要零部件的设计、所用材料或制造方法有所改变,且影响到产品的主要特性、特征;或产品的性能指标有所更改,且超过认可的范围,则有关图纸和文件应经检验机构审批。并在检验机构认为必要时,经本社检验人员见证有关试验和进行检查,其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行,并且与认可时一致。如果质量管理体系发生改变,应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the

same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内,本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核,以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 如果属于获得型式认可B模式证书,且无需颁发船用产品证书/等效证明文件的情况,证书获得者应接受本社每年一次的定期审核,定期审核日为认可证书期满之日对应的每一周年日,检查工作应在周年日的前后三个月内进行。

If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

备注/Remarks

1. 本社已审核了产品厂无石棉声明,但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。 The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

中国船级社福州分社 CCS Fuzhou Branch