

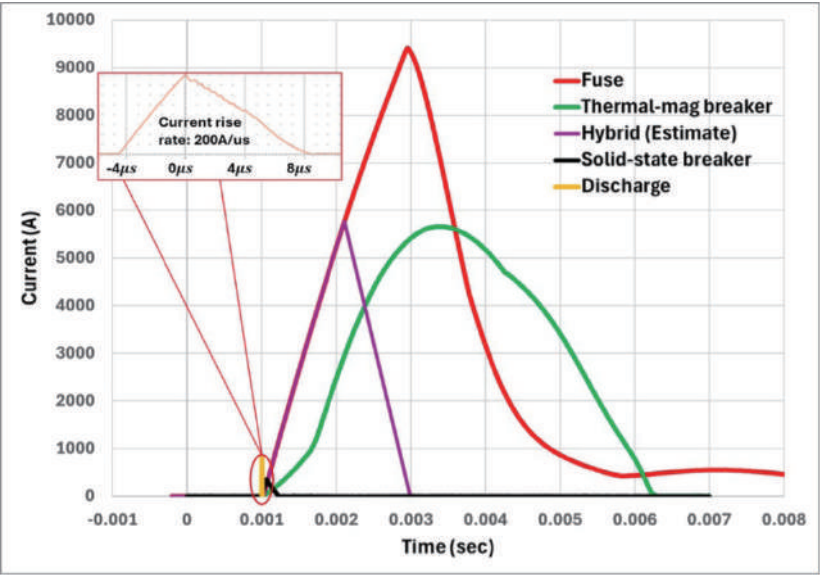
技术参数

Technical Parameter

型号 Model	HSB1-2500	
极数Poles	1P 双向 (2P可定制) 1P Bidirectional (2P Customizable)	
额定电压Rated voltage	1000Vdc	
额定电流Rated current	500A、630A、800A、1000A、1250A、1600A、2000A、2500A	
分断时间Breakdown time	10us	
导通压降Conduction voltage drop	≤ 3.0V	
电能效率Electrical energy efficiency	99.3%	
电气寿命Electrical lifespan	100万次 Thousand times	
双重电气保护Dual electrical protection	有	
测量精度Measurement accuracy	电压 0.2%FS Voltage: 0.2% FS 电流 0.5%FS Current: 0.5% FS 功率 1.0%FS Power: 1.0% FS 电能 1.0 级 Energy: 1.0 class	
通信接口 Communication interface	RS-485 MODBUS-RTU、Ethernet、4G	
显示屏Display screen	TFT触摸显示屏 Touchscreen display	
尺寸 Size	540*706*994mm	
散热 Heat dissipation	液冷 Liquid cooling	

SSCB，在μs级分断，快速断开故障电流

SSCB, with μs-level interruption, quickly disconnects fault current



HSB1-2500

Solid-State Circuit Breaker

核心特点

Characteristic

- 无触点 Noncontacting
- 微秒级分断时间 μ second level breaking
- 无电弧 No arc
- 百万次寿命 Million life



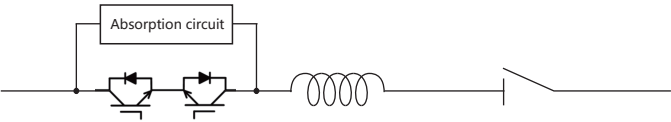
功能应用

Function

- 过载、短路电流保护 Overload, short-circuit current protection
- 机械隔离开关 Mechanical Isolating Switch
- 电压、电流监控与保护 Voltage and current monitoring and protection
- 远程监控，分合闸 Remote monitoring, opening and closing of circuit breaker
- 母线防雷功能 Busbar lightning protection function
- 支持以太网，RS485,4G通信 Supports Ethernet, RS485, and 4G communication.

产品拓扑

Product Topology Structure



全电推进船舶应用

1、电力容量持续扩容

全电推进船舶普及，船上用电负荷增长(推进系统、动力设备、储能、船载智能化设备、岸电系统)

2、安全、能效、智能化要求升级倒逼配电设备与架构迭代。

海事规范对短路保护、电能质量、运维便捷性、降噪节能、空间利用率提出更高标准，

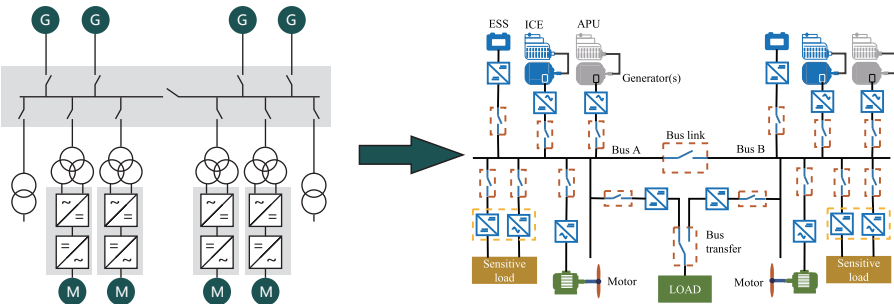
Application of all-electric propulsion vessels

1. Continuous expansion of power capacity

The widespread adoption of all-electric propulsion vessels has led to a significant increase in on-board electrical load (propulsion system, power equipment, energy storage, onboard intelligent equipment, shore power system)

2. Upgrade of safety, energy efficiency and intelligence requirements drives the iteration of power distribution equipment and architecture.

Maritime regulations have set higher standards for short-circuit protection, power quality, ease of operation and maintenance, noise reduction and energy conservation, and space utilization.



Authentic certification by
China Classification Society (CCS)



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
CQ25PTB00088_01

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

浙江和诚智能电气有限公司
ZHEJIANG HECHENG SMART ELECTRIC CO.,LTD.

地址/Address

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Building 2, No.1125,Zhixing Road Qiaonan Development Zone, Xiaoshan Economic and Technological Hangzhou, China

产品名称/Product

固态开关
Solid State Switch

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》第4篇第3章
Chapter 3, Part Four of China Classification Society Rules for Classification of Sea-Going Steel Ships
2. 中国船级社《船舶直流综合电力系统检验指南》(2023)第2章
Chapter 2 of China Classification Society Guidelines for Ship DC integrated power systems 2023
3. 中国船级社《船舶应用混合动力系统指南》(2024)第2、3章
Chapter 2 and 3 of China Classification Society Guidelines for Hybrid Power Systems in Ship Applications 2024
4. 中国船级社《船舶应用电池动力规范》第1章
Chapter 1 of China Classification Society Rules for Ships Using Battery-Power
5. 中国船级社《船舶设备与系统可靠性验证指南》(2023)第4、5章
Chapter 4 and 5 of China Classification Society Guidelines for Reliability Verification of Ship Equipment &System 2023

用于/Intended for

船舶/Ships

产品明细/Product Description

断路器/Circuit Breaker(BS001)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	HSB1-2500	
额定工作电压 (Ue) /Rated Operational Voltage	DC 1000	V
额定电流 (In) /Rated Current	2500	A

证书有效期至 This Certificate is valid until 2031年04月26日 Apr. 26,2031

发证机构/ISSUING ORGANIZATION

浙江和诚智能电气有限公司

Issue by/ISSUING ORGANIZATION

浙江和诚智能电气有限公司

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2026年04月27日

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本证书的有效性依赖于制造厂的质量管理体系。所有证书均为一个整体，应同时使用。纸质证书和电子证书具有同等效力。本证书的有效性依赖于制造厂的质量管理体系。所有证书均为一个整体，应同时使用。纸质证书和电子证书具有同等效力。本证书的有效性依赖于制造厂的质量管理体系。所有证书均为一个整体，应同时使用。纸质证书和电子证书具有同等效力。



Page No.: 001

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第1页共3页/Page1 of 3

依托电力电子核心拓扑与智能化控制算法，适配船舶直流配电系统、数据中心，储能系统、动力控制系统提供高可靠、高性能的核心保护解决方案。

HSB1-2500固态断路器符合CCS船级社权威认证，覆盖主流船舶电气化配套需求：

*船舶直流配电系统:直流母线母联开关，适配船舶低压直流母线、分区配电柜核心保护单元，

*适配数据中心800Vdc直流电源保护，微秒断开故障电路

Based on the core topology of power electronics and intelligent control algorithms, it provides high-reliability and high-performance core protection solutions for ship DC power distribution systems, data centers, energy storage systems, and power control systems.

The HSB1-2500 solid-state circuit breaker complies with the authoritative certification of CCS Classification Society and meets the mainstream electrical requirements for ships: · Ship DC power distribution system:

DC busbar bus tie switch, suitable for low-voltage DC busbars of ships, zone distribution cabinets as the core protection unit,

suitable for 800Vdc DC power supply protection in data centers, microsecond disconnection of faulty circuits

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