



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
SW20PTA00002\_02

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

VACON LTD

地址/Address

Runsorintie 7, FI-65380 Vaasa, Finland

产品名称/Product

直流母联快速隔离设备  
Fast DC Bus-Tie Breaker  
控制器  
Control Box

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》（2018）及其修改通报第4篇第2、3章  
Chapter 2&3, Part Four of China Classification Society Rules for Classification of Sea-going Steel Ships 2018 and its Amendments

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

产品明细/Product Description

控制器/Control Box (M0001)

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Fast DC Bus-Tie Breaker	
型号/Type	Vacon DCGuard (Unit type: NXP)	
额定电压/Rated Voltage	DC 465 - 1100 V	

证书有效期至/This Certificate is valid until 2024年06月14日/ Jun. 14,2024

发证机构/Issued by 中国船级社 斯德哥尔摩办事处  
CCS Stockholm Office 签发日期/Date 2020年07月06日  
Jul. 06,2020

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: Q01.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P020-36570376

**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : NP18A00794

**产品认可试验报告/ Approval Test Report**

试验报告编号/ Test Report No. : 10347418  
 试验报告日期/ Test Report Date : 2006-07-31  
 试验单位/ Laboratory: Vacon Oy  
 试验单位地址/ Test Address: Runsorintie 7, FI-65380 Vaasa, Finland

试验报告编号/ Test Report No. : VTT-S-00992-09  
 试验报告日期/ Test Report Date : 2020-06-24  
 试验单位/ Laboratory: VTT  
 试验单位地址/ Test Address: P.O. BOX 1000, FI-02044 Espoo Finland

试验报告编号/ Test Report No. : 10368261  
 试验报告日期/ Test Report Date : 2006-09-25  
 试验单位/ Laboratory: CENTRIA  
 试验单位地址/ Test Address: PL 62, Vierimaantie 7, FI-84101 Ylivieska Finland

试验报告编号/ Test Report No. : 228338-1  
 试验报告日期/ Test Report Date : 2003-05-16  
 试验单位/ Laboratory: SGS Fimko Oy  
 试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : 234713-1  
 试验报告日期/ Test Report Date : 2004-09-23  
 试验单位/ Laboratory: SGS Fimko Oy  
 试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : 231330-1  
 试验报告日期/ Test Report Date : 2004-02-12  
 试验单位/ Laboratory: SGS Fimko Oy  
 试验单位地址/ Test Address: Särkiniementie 3 P.O.Box 30, FIN-00210 Helsinki Finland

试验报告编号/ Test Report No. : 14454195, 14454404  
 试验报告日期/ Test Report Date : 2016-06-06  
 试验单位/ Laboratory: Vacon Oy  
 试验单位地址/ Test Address: Runsorintie 7, FI-65380 Vaasa, Finland

试验报告编号/ Test Report No. : 00738584  
 试验报告日期/ Test Report Date : 2017-11-28  
 试验单位/ Laboratory: Norwegian Electric systems.  
 试验单位地址/ Test Address: Godvik, Norway

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

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，本社在文件审核合格后颁发船用产品证书。  
 After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society, and the Marine Product Certificate is issued by the Society upon satisfactory documents review.

**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. 型式认可A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。

Those who have obtained the certificate of type approval A 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

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.

本证书由原工厂认可证书 (No. SW18Q00002\_02) 换新并替代原证书。

This certificate is renewed from and supersedes the previous Works Approval Certificate No. SW18Q00002\_02.

1. Alternative manufacturing site:

Name: Vacon (China) Drives Co., Ltd. Haiyan Branch

Address: Building 6-7, No.339, North Xinqiao Road, Wuyuan Street, Haiyan County, 314300, Jiaying City, Zhejiang Province, China.

2. Vacon DCGurad basic configuration consists of:

- aR supply fuses in each DC supply line, according to NXP inverter manual.
- Vacon NXP inverter. (Type approved with separate certificate No.SW20PTA00002\_01)
- di/dt filter, with ca 2% inductance.
- Vacon DCGuard application software, named: ADFIF102.

For specific product description of certain type designation, please refer to Vacon DCGuard Peer to Peer Topology Technical data(Document ID.00738653) approved by CCS (No.NP18A00794).

3. Limitation:

The DCGuard is a directional, fault current suppressor based on current interruption by switching of IGBT transistors. This type approval is applicable for a directional and bi-directional peer-to-peer configuration. The device is used for fault current suppression and does not replace circuit breakers or switches for isolation. The system design of a specific application needs to be approved on a case by case basis.

4. aR fuse and di/dt filter are not included in this type approval certificate.

5. To ensure safe disconnection of the VACON DCGuard, a mechanical disconnecter is required in front of each VACON DCGuard.

6. 额定电流/Rated Current is 3 - 4140 A

额定功率/Rated Power is 2 - 3410 kW

冷却方式/Cooling way is Air-cooled or Liquid cooled

中国船级社斯德哥尔摩办事处  
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