



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
FZ20PTB00023

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

利莱森玛电机科技(福州)有限公司
Leroy Somer Electro-technique (Fuzhou) Company Limited

地址/Address

中国福建省福州市仓山区盖山镇艾默生路1号
No.1 Emerson Road Gaishan Town, Cangshan District, Fuzhou, Fujian P.R.China

产品名称/Product

发电机Generator
Generator

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3章
Chapter 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

发电机/Generator (M0001)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	TAL-A44 (C;D;E;H;J;K;L;M)	
额定电压/Rated Voltage	480	V
额定电流/Rated Current	435	A

证书有效期至/This Certificate is valid until 2021年09月10日/ Sep. 10,2021

发证机构/China Classification Society
Issued by CCS Fuzhou Branch

签发日期 2020年04月01日
Date Apr. 01,2020

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Form No: T01.

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>)



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额定功率/Rated Power	179.2	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0002)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM46.2(M3;M5;L6;L9;VL12)	
额定电压/Rated voltage	690	V
额定电流/Rated current	550	A
额定功率/Rated Power	272.8/343.2	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0003)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM47.2(VS2;S4;S5;M7;L9)	
额定电压/Rated voltage	690	V
额定电流/Rated current	1200	A
额定功率/Rated Power	528/660	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min

相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0004)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSAM50. 2 (S4;M6;L7;L8;VL10)	
额定电压/Rated voltage	690	V
额定电流/Rated current	1800	A
额定功率/Rated Power	1440/1670	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0005)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSA54 (M65;M70;M75;M80;UL90;UL95;UL105)	
额定电压/Rated voltage	690	V
额定电流/Rated current	4500	A
额定功率/Rated Power	3280/3840	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	

防护等级/Degree of protection	IP23;IP44	
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发电机/Generator (M0006)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSA53 (LSA53. 1) (S60;S65;S70;S75;M80;M85;L75;L90;L95)	
额定电压/Rated voltage	690	V
额定电流/Rated current	3500	A
额定功率/Rated Power	2464/2920	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0007)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSAM51. 2 (S55;M60;L70;VL85)	
额定电压/Rated voltage	690	V
额定电流/Rated current	2500	A
额定功率/Rated Power	2200/2640	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0008)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSAM52. 3 (S5;S6;S7;L9;L12;UL16)	

额定电压/Rated voltage	690	V
额定电流/Rated current	4063	A
额定功率/Rated Power	1892/2252	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0009)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSA56VL70	
额定电压/Rated voltage	690	V
额定电流/Rated current	4500	A
额定功率/Rated Power	2610.4	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50	Hz
额定转速/Rated speed	1000	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0010)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSA53L75	
额定电压/Rated voltage	11000	V
额定电流/Rated current	100	A
额定功率/Rated Power	1120	kW
功率因数/Power factor	0.8	

额定频率/Rated frequency	50	Hz
额定转速/Rated speed	1000	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0011)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM44.3(S2;S3;S4;S5;M6;M8;L10)	
额定电压/Rated voltage	690	V
额定电流/Rated current	300	A
额定功率/Rated Power	149/181	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0012)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	TAL-A49(B;C;D;E)	
额定电压/Rated voltage	480	V
额定电流/Rated current	1700	A
额定功率/Rated Power	1100	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	

工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0013)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSAM44. 2 (VS3;VS45;S7;S75;M95;L12)	
额定电压/Rated voltage	690	V
额定电流/Rated current	300	A
额定功率/Rated Power	140/180	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0014)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSAM43. 2 (S1;S15;S25;S35;M45;L65;L8)	
额定电压/Rated voltage	480	V
额定电流/Rated current	150	A
额定功率/Rated Power	70.4/85.6	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0015)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM52.2(S55;M60;M65;L70;L75;VL80;VL85)	
额定电压/Rated voltage	690	V
额定电流/Rated current	2800	A
额定功率/Rated Power	2200/2640	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0016)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM40(VS1;VS2;S3;S4;M5;L7)	
额定电压/Rated voltage	690	V
额定电流/Rated current	50	A
额定功率/Rated Power	20.4/24.8	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0017)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM42.3(VS1;VS2;VS3;S4;S5;M7;M8;L9)	
额定电压/Rated voltage	690	V
额定电流/Rated current	150	A

额定功率/Rated Power	52.8/66	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0018)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM46.3(S2;S3;S4;S5;M7;M8;L10;L11)	
额定电压/Rated voltage	690	V
额定电流/Rated current	650	A
额定功率/Rated Power	266/310	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0019)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM49.3(S4;M6;M8;L9;L10)	
额定电压/Rated voltage	690	V
额定电流/Rated current	1700	A
额定功率/Rated Power	904/1100	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min

相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0020)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM49.1(S4;M6;M75;L9;L11)	
额定电压/Rated voltage	690	V
额定电流/Rated current	1700	A
额定功率/Rated Power	880/1100	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

发电机/Generator (M0021)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	LSAM44.3(L12;VL13;VL14)	
额定电压/Rated voltage	480	V
额定电流/Rated current	664	A
额定功率/Rated Power	220	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	

防护等级/Degree of protection	IP23; IP44	
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发电机/Generator (M0022)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	TAL-A47 (A;B;C;D;E;F)	
额定电压/Rated voltage	480	V
额定电流/Rated current	2190	A
额定功率/Rated Power	728	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23; IP44	

发电机/Generator (M0023)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	TAL-A46 (A;B;C;D;E;F;G;H)	
额定电压/Rated voltage	480	V
额定电流/Rated current	1170	A
额定功率/Rated Power	384	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23; IP44	

发电机/Generator (M0024)

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	LSA53. 2 (VS6;M7;M9;M11;M12;L14)	

额定电压/Rated voltage	690	V
额定电流/Rated current	3608	A
额定功率/Rated Power	1673/2000	kW
功率因数/Power factor	0.8	
额定频率/Rated frequency	50/60	Hz
额定转速/Rated speed	1500/1800	r/min
相数/No. of phases	3	
绝缘等级/Insulation class	H	
工作定额/Ration	S1	
极数/Number of poles	4	
防护等级/Degree of protection	IP23;IP44	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : 详见备注/See Remarks

产品认可试验报告/ Approval Test Report

试验报告编号/Test Report No. : TR72697001 05
 试验报告日期/Test Report Date : 2020-03-30
 试验报告编号/Test Report No. : TR732163001 05
 试验报告日期/Test Report Date : 2020-03-30
 试验报告编号/Test Report No. : 20100901
 试验报告日期/Test Report Date : 2010-10-26
 试验报告编号/Test Report No. : CCS2013002TT
 试验报告日期/Test Report Date : 2013-10-30
 试验报告编号/Test Report No. : ET2005-6-605
 试验报告日期/Test Report Date : 2005-06-13
 试验报告编号/Test Report No. : AT05238
 试验报告日期/Test Report Date : 2005-06-27
 试验报告编号/Test Report No. : 2014-LSAM44. 3
 试验报告日期/Test Report Date : 2014-09-09
 试验报告编号/Test Report No. : TR094035003
 试验报告日期/Test Report Date : 2015-09-17
 试验报告编号/Test Report No. : TR724491001
 试验报告日期/Test Report Date : 2019-09-20
 试验报告编号/Test Report No. : LSFZ2016021301
 试验报告日期/Test Report Date : 2016-03-30
 试验报告编号/Test Report No. : 05034
 试验报告日期/Test Report Date : 2005-06-24
 试验报告编号/Test Report No. : WT05-024
 试验报告日期/Test Report Date : 2005-06-24
 试验报告编号/Test Report No. : AT05193
 试验报告日期/Test Report Date : 2005-06-08
 试验报告编号/Test Report No. : TR059762001
 试验报告日期/Test Report Date : 2014-07-10
 试验报告编号/Test Report No. : LSFZ2016092701
 试验报告日期/Test Report Date : 2016-10-26
 试验报告编号/Test Report No. : TR726207001
 试验报告日期/Test Report Date : 2019-04-25

试验报告编号/Test Report No. : TR725386001
 试验报告日期/Test Report Date : 2019-04-25
 试验报告编号/Test Report No. : TR725369001
 试验报告日期/Test Report Date : 2019-04-25
 试验报告编号/Test Report No. : 20100801
 试验报告日期/Test Report Date : 2010-09-27
 试验报告编号/Test Report No. : CCS2013001TT
 试验报告日期/Test Report Date : 2013-10-30
 试验报告编号/Test Report No. : TR721853001
 试验报告日期/Test Report Date : 2018-12-29

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

按照规范每批抽样检验的产品/The product inspected by sampling in term of the rules:
 认可后的产品检验应由本社验船师根据本社规范规定每批抽样按批准的产品检验计划进行检验, 经检验合格后由本社颁发船用产品证书。

After approval, product inspection should be carried out by sampling by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

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, 本社验船师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, 检查工作可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 periodical audit should be carried out within 3 months before and after the anniversary date which corresponds to the date of expiry of the relevant.

备注/Remarks

1. 产品型号与图纸批准号对应关系如下: LSAM43. 2: NP10A01942; LSAM44. 2: SHA04210507; LSAM46. 2: SHA04210507; LSAM47. 2: SHA04210507; LSAM49. 1(除L11): SHA04210507; LSAM49. 1L11: NP13A00676; LSAM50. 2: NP10A00812; LSAM51. 2: NP10A00812; LSAM40: NP13A00676; LSAM42. 3: NP13A00676; LSAM44. 3(除L12;VL13;VL14): NP14A01898; LSAM46. 3: NP16A01473; LSAM49. 3: NP15A03763; LSA52. 2: NP13A00676; LSA53(LSA53. 1): NP13A00676; LSA53L75: NP15A02568; LSA54: NP13A00676; LSA56VL70: NP14A01462; TAL-A49:NP18A03501;FZ19PPP00012;TAL-A44(C;D;E;H;J;K):FZ19PPP00012;TAL-A44(L;M):FZ19PPP00042;TAL-A46:FZ19PPP00012;TAL-A47:FZ19PPP00012;LSAM44. 3(L12;VL13;VL14):NP19PPP02386; LSAM52. 3: NP19PPP04791;LSAM53. 2: NP20PPP00030.

The corresponding relationship between product type and drawing approval number is as follows:LSAM43.2: NP10A01942; LSAM44.2: SHA04210507; LSAM46.2: SHA04210507; LSAM47.2: SHA04210507; LSAM49.1(except L11) : SHA04210507; LSAM49.1L11: NP13A00676; LSAM50.2: NP10A00812; LSAM51.2: NP10A00812; LSAM40: NP13A00676; LSAM42.3: NP13A00676; LSAM44.3 (except L12;VL13;VL14) : NP14A01898; LSAM46.3: NP16A01473; LSAM49.3: NP15A03763; LSA52.2: NP13A00676; LSA53(LSA53.1): NP13A00676; LSA53L75: NP15A02568; LSA54: NP13A00676; LSA56VL70: NP14A01462; TAL-A49:NP18A03501;FZ19PPP00012;TAL-A44(C;D;E;H;J;K):FZ19PPP00012;TAL-A44(L;M):FZ19PPP00042;TAL-A46:FZ19PPP00012;TAL-A47:FZ19PPP00012; LSAM44.3(L12;VL13;VL14):NP19PPP02386;LSAM52.3: NP19PPP04791;LSAM53.2: NP20PPP00030.

2. 本证书由原型式认可证书 (No. FZ19PTB00011) 变更并替代原证书。

This Certificate is modified from and supersedes the previous Type Approval Certificate No. FZ19PTB00011.

3. 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.

4. 应客户要求, TAL系列发电机产品仅限渔船使用。

At the request of customers, TAL series generator products are only used by fishing vessels.

中国船级社福州分社
CCS Fuzhou Branch