



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
DB23PTB00004

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

Mitsubishi Electric Corporation Nagoya Works

地址/Address

5-1-14 Yada-Minami Higashi-ku, Nagoya, Aichi, Japan

产品名称/Product

电源变换装置  
Power Conversion Device  
变频器  
Frequency Converter

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》（2022）及变更通报第4篇第1、2、3章  
Chapter 1&2&3, Part Four of China Classification Society Rules for Classification of Sea-Going Steel Ships 2022 and its Change Notices

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

证书有效期至/This Certificate is valid until 2027年03月16日/ Mar. 16, 2027

发证机构 中国船级社大阪分社  
Issued by CCS Osaka Branch

签发日期 2023年03月29日  
Date Mar. 29, 2023

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，可以向我社检验机构咨询。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: 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>)



UTN:P023-17600374

**产品明细/Product Description****变频器/Frequency Converter (M0001)**

名称/Name	属性 (值) /Value	单位/Unit
型号/Type	FR-A800 Series Inverter	
规格/Specification	Refer to attached page	

**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : NP14A03322, NP15A03137

**产品认可试验报告/ Approval Test Report**

试验报告编号/ Test Report No. : EMC14088  
 试验报告日期/ Test Report Date : 2014-06-04  
 试验单位/ Laboratory: IPS Corporation  
 试验单位地址/ Test Address: 1878-1, Ono, Tatsuno-machi, Kamiina-gun, Nagano,399-0601, Japan

试验报告编号/ Test Report No. : NSH-13067-36  
 试验报告日期/ Test Report Date : 2014-07-04  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya,461-8670, Japan

试验报告编号/ Test Report No. : EMC14130  
 试验报告日期/ Test Report Date : 2014-07-23  
 试验单位/ Laboratory: IPS Corporation  
 试验单位地址/ Test Address: 1878-1, Ono, Tatsuno-machi, Kamiina-gun, Nagano,399-0601, Japan

试验报告编号/ Test Report No. : NSH-14023-01  
 试验报告日期/ Test Report Date : 2014-07-31  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya,461-8670, Japan

试验报告编号/ Test Report No. : NSH-14046-12  
 试验报告日期/ Test Report Date : 2015-03-10  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya,461-8670, Japan

试验报告编号/ Test Report No. : A-071-14-B  
 试验报告日期/ Test Report Date : 2015-04-13  
 试验单位/ Laboratory: KEC Electronic Industry Development Center  
 试验单位地址/ Test Address: 3-2-2, Hikari-dai, Seika-cho, Soraku-gun, Kyoto, 619-0237, Japan

试验报告编号/ Test Report No. : KL80150008, KL80150009  
 试验报告日期/ Test Report Date : 2015-05-11  
 试验单位/ Laboratory: Japan Quality Assurance Organization  
 试验单位地址/ Test Address: 7-3-10, Saito-asagi, Ibaraki-shi, Osaka 567-0085, Japan

试验报告编号/ Test Report No. : NSH-14061-01  
 试验报告日期/ Test Report Date : 2015-05-19  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya,461-8670, Japan

试验报告编号/ Test Report No. : NSH-15014-10  
 试验报告日期/ Test Report Date : 2016-01-25  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya,461-8670, Japan

试验报告编号/ Test Report No. : DB19PTB00014  
 试验报告日期/ Test Report Date : 2019-03-15  
 试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya, 461-8670, Japan

试验报告编号/ Test Report No. : DB21PTB00062  
 试验报告日期/ Test Report Date : 2021-06-29



试验单位/ Laboratory: Mitsubishi Electric Corporation Nagoya Works  
 试验单位地址/ Test Address: 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya, 461-8670, Japan

试验报告编号/ Test Report No.: LIC 12-21-140 (IACS UR E10 Rev.8)  
 试验报告日期/ Test Report Date: 2021-11-10  
 试验单位/ Laboratory: Labotech International Co., Ltd.  
 试验单位地址/ Test Address: 1-16, Fukazu-cho, Nishinomiya-shi, Hyogo, 663-8203 Japan

试验报告编号/ Test Report No.: DB23PTB00004  
 试验报告日期/ Test Report Date: 2023-03-10  
 试验单位/ Laboratory: MITSUBISHI ELECTRIC CORPORATION NAGOYA WORKS  
 试验单位地址/ Test Address:

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

按照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. 本证书由原型式认可证书 (No. DB21PTB00062) 换新并替代原证书。  
 This certificate is renewed from and supersedes the previous Type Approval Certificate No. DB21PTB00062.



2. 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.

中国船级社大阪分社  
**CCS Osaka Branch**

注：本证书含有附页，共3页  
Note: The certificate is attached with additional 3 page(s)



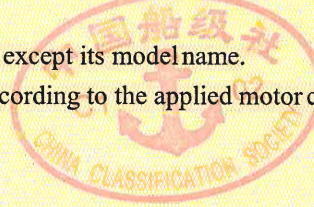
No. 22576956

### Product Description

**Inverters whose capacity is up to 280K (Standard model)**

Model		Input Power Supply				Output										
		Voltage (V)	Current (A)				Motor Capacity (kW)				Current (A)				Freq.	Voltage (V)
capacity designation	current designation	3-Phase AC 50/60 Hz	SLD	LD	ND	HD	SLD	LD	ND	HD	SLD	LD	ND	HD	(Hz)	3-Phase AC
FR-A840-0.4K-#	FR-A840-00023-#		3.2	3	2.3	1.4	0.75	0.75	0.4	0.2	2.3	2.1	1.5	0.8		
FR-A840-0.75K-#	FR-A840-00038-#		5.4	4.9	3.7	2.3	1.5	1.5	0.75	0.4	3.8	3.5	2.5	1.5		
FR-A840-1.5K-#	FR-A840-00052-#		7.8	7.3	6.2	3.7	2.2	2.2	1.5	0.75	5.2	4.8	4	2.5		
FR-A840-2.2K-#	FR-A840-00083-#		10.9	10.1	8.3	6.2	3.7	3.7	2.2	1.5	8.3	7.6	6	4		
FR-A840-3.7K-#	FR-A840-00126-#		16.4	15.1	12.3	8.3	5.5	5.5	3.7	2.2	12.6	11.5	9	6		
FR-A840-5.5K-#	FR-A840-00170-#		22.5	22.3	17.4	12.3	7.5	7.5	5.5	3.7	17	16	12	9		
FR-A840-7.5K-#	FR-A840-00250-#		31.7	31	22.5	17.4	11	11	7.5	5.5	25	23	17	12		
FR-A840-11K-#	FR-A840-00310-#		40.3	38.2	31	22.5	15	15	11	7.5	31	29	23	17		
FR-A840-15K-#	FR-A840-00380-#		48.2	44.9	40.3	31	18.5	18.5	15	11	38	35	31	23		
FR-A840-18.5K-#	FR-A840-00470-#		58.4	53.9	48.2	40.3	22	22	18.5	15	47	43	38	31		
FR-A840-22K-#	FR-A840-00620-#		76.8	75.1	56.5	48.2	30	30	22	18.5	62	57	44	38		
FR-A840-30K-#	FR-A840-00770-#		97.6	89.7	75.1	56.5	37	37	30	22	77	70	57	44		
FR-A840-37K-#	FR-A840-00930-#		115	106	91	75.1	45	45	37	30	93	85	71	57		
FR-A840-45K-#	FR-A840-01160-#		141	130	108	91	55	55	45	37	116	106	86	71		
FR-A840-55K-#	FR-A840-01800-#		180	144	134	108	75/90	75	55	45	180	144	110	86		
FR-A840-75K-#	FR-A840-02160-#		216	180	144	110	110	90	75	55	216	180	144	110		
FR-A840-90K-#	FR-A840-02600-#		260	216	180	144	132	110	90	75	260	216	180	144		
FR-A840-110K-#	FR-A840-03250-#		325	260	216	180	160	132	110	90	325	260	216	180		
FR-A840-132K-#	FR-A840-03610-#		361	325	260	216	185	160	132	110	361	325	260	216		
FR-A840-160K-#	FR-A840-04320-#	432	361	325	260	220	185	160	132	432	361	325	260			
FR-A840-185K-#	FR-A840-04810-#	481	432	361	325	250	220	185	160	481	432	361	325			
FR-A840-220K-#	FR-A840-05470-#	547	481	432	361	280	250	220	185	547	481	432	361			
FR-A840-250K-#	FR-A840-06100-#	610	547	481	432	315	280	250	220	610	547	481	432			
FR-A840-280K-#	FR-A840-06830-#	683	610	547	481	355	315	280	250	683	610	547	481			

- \* There are two model designations, capacity designation and current designation; the products have no difference except its model name.
- \* The separated converter type beginning with "FR-A842" is to be used together with any of the converter units according to the applied motor capacity.
- \* "SLD"= Super Light Duty "LD"= Light Duty "ND"= Normal Duty (initial setting) "HD"= Heavy Duty
- \* "-#" means alphanumeric suffix that may be added.



**Inverters whose capacity is 315K or more (Separated converter type)**

Model		Input Power Supply					Output									
		Voltage (V)	Current (A)				Motor Capacity (kW)				Current (A)				Freq.	Voltage (V)
capacity designation	current designation	DC	SLD	LD	ND	HD	SLD	LD	ND	HD	SLD	LD	ND	HD	(Hz)	3-Phase AC
FR-A842-315K-#	FR-A842-07700-#	430-780	/	/	/	/	400	355	315	280	770	683	610	547	0.2-590	380-500
FR-A842-355K-#	FR-A842-08660-#		450	400	355	315	866	770	683	610						
FR-A842-400K-#	FR-A842-09620-#		500	450	400	355	962	866	770	683						
FR-A842-450K-#	FR-A842-10940-#		--	500	450	400	1094	962	866	770						
FR-A842-500K-#	FR-A842-12120-#		--	--	500	450	1212	1094	962	866						

**Converter Units**

Model	Input Power Supply		Output
	Voltage (V)	Current	Voltage (V)
	3-Phase AC 50/60 Hz	(A)	DC
FR-CC2-H315K-#	380-500	610	430-780
FR-CC2-H355K-#		683	
FR-CC2-H400K-#		770	
FR-CC2-H450K-#		866	
FR-CC2-H500K-#		962	



## Inverters (IP55 compatible model)

LD: Light Duty, ND: Normal Duty (initial setting)

Model		Input Power Supply			Output					
		Voltage	Current [A]		Motor Capacity [kW]		Current [A]		Freq.	Voltage
Capacity Designation	Current Designation		3-Phase AC 50/60Hz	LD	ND	LD	ND	LD	ND	Hz
FR-A846-0.4K-#2#	FR-A846-00023-#2#	380-500VAC	2.1	1.5	0.75	0.4	2.1	1.5	0.2-590	380-500VAC
FR-A846-0.75K-#2#	FR-A846-00038-#2#	380-500VAC	3.5	2.5	1.5	0.75	3.5	2.5	0.2-590	380-500VAC
FR-A846-1.5K-#2#	FR-A846-00052-#2#	380-500VAC	4.8	4	2.2	1.5	4.8	4	0.2-590	380-500VAC
FR-A846-2.2K-#2#	FR-A846-00083-#2#	380-500VAC	7.6	6	3.7	2.2	7.6	6	0.2-590	380-500VAC
FR-A846-3.7K-#2#	FR-A846-00126-#2#	380-500VAC	11.5	9	5.5	3.7	11.5	9	0.2-590	380-500VAC
FR-A846-5.5K-#2#	FR-A846-00170-#2#	380-500VAC	16	12	7.5	5.5	16	12	0.2-590	380-500VAC
FR-A846-7.5K-#2#	FR-A846-00250-#2#	380-500VAC	23	17	11	7.5	23	17	0.2-590	380-500VAC
FR-A846-11K-#2#	FR-A846-00310-#2#	380-500VAC	29	23	15	11	29	23	0.2-590	380-500VAC
FR-A846-15K-#2#	FR-A846-00380-#2#	380-500VAC	35	31	18.5	15	35	31	0.2-590	380-500VAC
FR-A846-18.5K-#2#	FR-A846-00470-#2#	380-500VAC	43	38	22	18.5	43	38	0.2-590	380-500VAC
FR-A846-22K-#2#	FR-A846-00620-#2#	380-500VAC	57	44	30	22	57	44	0.2-590	380-500VAC
FR-A846-30K-#2#	FR-A846-00770-#2#	380-500VAC	70	57	37	30	70	57	0.2-590	380-500VAC
FR-A846-37K-#2#	FR-A846-00930-#2#	380-500VAC	85	71	45	37	85	71	0.2-590	380-500VAC
FR-A846-45K-#2#	FR-A846-01160-#2#	380-500VAC	106	86	55	45	106	86	0.2-590	380-500VAC
FR-A846-55K-#2#	FR-A846-01800-#2#	380-500VAC	144	110	75	55	144	110	0.2-590	380-500VAC
FR-A846-75K-#2#	FR-A846-02160-#2#	380-500VAC	180	144	90	75	180	144	0.2-590	380-500VAC
FR-A846-90K-#2#	FR-A846-02600-#2#	380-500VAC	216	180	110	90	216	180	0.2-590	380-500VAC
FR-A846-110K-#2#	FR-A846-03250-#2#	380-500VAC	260	216	132	110	260	216	0.2-590	380-500VAC
FR-A846-132K-#2#	FR-A846-03610-#2#	380-500VAC	325	260	160	132	325	260	0.2-590	380-500VAC

