



CERTIFICATE NUMBER 19-YO1938937-PDA
EFFECTIVE DATE 25-December-2019
EXPIRATION DATE 24-December-2024
ABS TECHNICAL OFFICE Yokohama Engineering Services

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

mitsubishi electric corporation

located at

NAGOYA CITY

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Frequency Converter

Model Inverter FR-A800, F800 Series

This Product Design Assessment (PDA) Certificate remains valid until 24-December-2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping


Motohiro Tamura
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

MITSUBISHI ELECTRIC CORPORATION

NAGOYA WORKS

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NAGOYA AICHI

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Web: <http://www.mitsubishielectric.co.jp/fa>

Tier: 5 - Unit Certification Required

Product: Frequency Converter

Model: Inverter FR-A800, F800 Series

Intended Service:

Electrical drives for motors installed on Marine, Offshore Vessels and Mobile Offshore Units Rules.

Description:

The Inverter FR-A800/F800 Series drives an electric motor from 0.2kW to 630kW with an output frequency from 0.2 to 590 Hz. The FR-A800/F800 Series is capable of Soft-PWM control, high carrier frequency PWM control, vector control, and PM sensorless vector control, having multiple ratings that allow optimum selection of the inverter to suit the application. The separated converter type is to be used together with a corresponding converter units whose capacity depends on the application.

Application Models are below,

1) FR-A840: Standard Model:

FR-A840-0.4K-#, FR-A840-0.75K-#, FR-A840-1.5K-#, FR-A840-2.2K-#, FR-A840-3.7K-#, FR-A840-5.5K-#, FR-A840-7.5K-#, FR-A840-11K-#, FR-A840-15K-#, FR-A840-18.5K-#, FR-A840-22K-#, FR-A840-30K-#, FR-A840-37K-#, FR-A840-45K-#, FR-A840-55K-#, FR-A840-75K-#, FR-A840-90K-#, FR-A840-110K-#, FR-A840-132K-#, FR-A840-160K-#, FR-A840-185K-#, FR-A840-220K-#, FR-A840-250K-#, FR-A840-280K-#,

2) FR-A842: Separated converter type:

FR-A842-315K-#, FR-A842-355K-#, FR-A842-400K-#, FR-A842-450K-#, FR-A842-500K-#,

3) FR-F840: Standard Model:

FR-F840-0.75K-#, FR-F840-1.5K-#, FR-F840-2.2K-#, FR-F840-3.7K-#, FR-F840-5.5K-#, FR-F840-7.5K-#, FR-F840-11K-#, FR-F840-15K-#, FR-F840-18.5K-#, FR-F840-22K-#, FR-F840-30K-#, FR-F840-37K-#, FR-F840-45K-#, FR-F840-55K-#, FR-F840-75K-#, FR-F840-90K-#, FR-F840-110K-#, FR-F840-132K-#, FR-F840-160K-#, FR-F840-185K-#, FR-F840-220K-#, FR-F840-250K-#, FR-F840-280K-#, FR-F840-315K-#,

4) FR-F842: Separated converter type:

FR-F842-355K-#, FR-F842-400K-#, FR-F842-450K-#, FR-F842-500K-#, FR-F842-560K-#,

5) FR-CC2: Converter unit:

FR-CC2-H315K-#, FR-CC2-H355K-#, FR-CC2-H400K-#, FR-CC2-H450K-#, FR-CC2-H500K-#, FR-CC2-H560K-#, FR-CC2-H630K-#,

6) FR-A846: IP55 compatible model,

FR-A846-0.4K-#2#, FR-A846-0.75K-#2#, FR-A846-1.5K-#2#, FR-A846-2.2K-#2#, FR-A846-3.7K-#2#, FR-A846-5.5K-#2#, FR-A846-7.5K-#2#, FR-A846-11K-#2#, FR-A846-15K-#2#, FR-A846-18.5K-#2#, FR-A846-22K-#2#, FR-A846-30K-#2#, FR-A846-37K-#2#, FR-A846-45K-#2#, FR-A846-55K-#2#, FR-A846-75K-#2#, FR-A846-90K-#2#, FR-A846-110K-#2#, FR-A846-132K-#2#,

7) FR-F846: IP55 compatible model:

FR-F846-0.75K-#2#, FR-F846-1.5K-#2#, FR-F846-2.2K-#2#, FR-F846-3.7K-#2#, FR-F846-5.5K-#2#, FR-F846-7.5K-#2#, FR-F846-11K-#2#, FR-F846-15K-#2#, FR-F846-18.5K-#2#, FR-F846-22K-#2#, FR-F846-30K-#2#, FR-F846-37K-#2#, FR-F846-45K-#2#, FR-F846-55K-#2#, FR-F846-75K-#2#, FR-F846-90K-#2#, FR-F846-110K-#2#, FR-F846-132K-#2#, FR-F846-160K-#2#,

Other than the above capacity designation, the current designation is also available.

Detail is listed in attached Application Model List.

mitsubishi electric corporation

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Tier: 5 - Unit Certification Required

Rating:

Input voltage 3-Phase AC 50/60Hz 380-500VAC

For separated converter type and Converter units used together, it is input voltage of Converter units.

Detail is listed in attached Application Model List.

Service Restriction:

- 1) Unit Certification is required for drive units used to control motor drives having a rated power of 100 kW (135 hp) and over intended for essential services or for services indicated in 4-8-3/Table 7.
- 2) The input voltage shall be limited to 480VAC or less for models whose capacity is 55K or less.
- 3) Except the IP55 compatible models, the product shall be contained in a metal box having enough protection degrees for each installation.
- 4) Except the IP55 compatible models, an appropriate external noise filter specified by the manufacturer shall be used for equivalent measures shall be taken for installations in "General Power Distribution Zone". For installations in "Special Power Distribution Zone" in accordance with IEC 60533, external noise filters are not necessary but appropriate measures should be taken so that safe operation is assured.
- 5) Environmental tests and approval are for hardware and firmware only.
- 6) The following requirement is applicable to computer-based frequency drive control system in accordance with 4-9-3 of the Marine Vessels Rules:
 - (a) The assigned system Category II
 - (b) The required evidence to be kept by the manufacturer in accordance with 4-9-3/Table 2
 - (c) The tests required to be witness by ABS surveyor in accordance with 4-9-3/Table 2
- 7) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. Details of each particular application including wiring diagram, location/installation of sensors are to be specifically approved by ABS.

Comments:

- 1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 2) Unless specially directed by Administration, this approval is not to be constructed as a substitute for flag Administration's approval.
- 3) Each installation onboard is to be specifically approved and drawings/schematics will need to be submitted.
- 4) Where used in machinery space (i.e. engine room, boiler room) the units are to have an ambient rating of 45°C.
- 5) The units are to have the appropriate enclosure IP rating as per 4-8-3/Table 2 based on their installed location.
- 6) Details pertaining to overload protection, running protection and motor starter disconnects are to be submitted for each installation.

Notes/Drawing/Documentation:

- 1) ABS Surveyors Report No. KO2627643 dated 5 June 2014.
- 2) Mitsubishi Electric Corporation Inverter FR-A800 Series Type Test Report No. NSH-13067-36 dated 4 July 2014.
- 3) IPS Corporation EMC Test Report No. EMC14088 dated 4 June 2014.
- 4) Dwg No.14-7E : FR-A846 product update datasheet
- 5) ABS Surveyors Report No. KO2879296 dated 11 May 2015
- 6) IB(NA)-0600493 Rev.0 : Instruction manual (up to 280K)
- 7) IB(NA)-0600534ENG Rev.0 : Instruction manual (315K or more)
- 8) IB(NA)-0600543ENG Rev.0 : Instruction manual (converter unit)
- 9) L(NA)06074 Rev.0 : FR-A800 product catalog
- 10) NSH-13067-16 Rev.0 : Test configuration for environmental tests
- 11) NSH-13067-15 Rev.0 : Test sample selection for environmental tests
- 12) NSH-13067-23 Rev.0 : Proposal for test sample for conducted emissions
- 13) NSH-13067-17 Rev.0 : Test schedule for environmental tests

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Tier: 5 - Unit Certification Required

- 14) NSH-13067-14 Rev.0 : Test specifications for environmental tests
- 15) A-071-14-B : KEC Test Report dated 13 April 2015
- 16) KL80150008 : JQA Test Report dated 11 May 2015
- 17) KL80150009 : JQA Test Report dated 11 May 2015
- 18) NSH-14061-01 : Inverter FR-A800 Series Type Test Report dated 19 May 2015
- 19) IB(NA)-0600545-C(1802)MEE : F800 instruction manual,
- 20) L(NA)06085ENG-C(1710)MEE : F800 product catalog (E)
- 21) IB(NA)-0600676ENG-B(1711)MEE : F846 instruction manual,
- 22) 17-8E : F846 new product release (E),
- 23) NSH-18053-04 : product drawings 190523,
- 24) NSH-18053-08 : application model list 1 (F800) 190517,
- 25) NSH-18053-10 : nomenclature 1 (F800) 190517,

Terms of Validity:

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Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2019 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/8, 4-9-3 and 4-9-9/13;

2019 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/8, 4-9-3 and 4-9-8/13;

2019 Steel Vessel Under 90 Meters in Length Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-4/10, 4-7-2/9, 4-7-2/17 and 4-7-4/3;

2019 Offshore Support Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/8, 4-9-3 and 4-9-8/13;

2019 High-Speed Crafts Rules 1-1-4/11.9, 1-1-A2, 1-1-A3, 4-6-4/10, 4-7-8 and 4-7-9/15;

2019 Mobile Offshore Drilling Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3;

2019 Mobile Offshore Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3;

2019 Facilities on Offshore Installations 1-1-4/9.7 1-1-A2, 1-1-A3;

National:

NA

International:

NA

Government:

NA

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Tier: 5 - Unit Certification Required

EUMED:

NA

OTHERS:

NA

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 19-YO1938937-PDA
Issue Date: 25 December 2019
Expire Date: 24 December 2024
Company: MITSUBISHI ELECTRIC CORPORATION
Factory or Works: NAGOYA WORKS
Product/Equipment: Frequency Converter
Model: Inverter FR-A800, F800 Series

Application Model List

1. FR-A840: Standard Model

SLD: Super Light Duty, LD: Light Duty, ND: Normal Duty (initial setting), HD: Heavy Duty

Model (*1) (*2)		Input Power Supply				Output											
		Voltage		Current [A]		Motor Capacity [kW]				Current [A]				Freq.	Voltage		
capacity designation	current designation	3-Phase AC 50/60Hz		SLD	LD	ND	HD	SLD	LD	ND	HD	SLD	LD	ND	HD	Hz	3-Phase AC
FR-A840-0.4K-#	FR-A840-00023-#	380-500VAC		3.2	3	2.3	1.4	0.75	0.75	0.4	0.2	2.3	2.1	1.5	0.8	0.2-590	380-500VAC
FR-A840-0.75K-#	FR-A840-00038-#	380-500VAC		5.4	4.9	3.7	2.3	1.5	1.5	0.75	0.4	3.8	3.5	2.5	1.5	0.2-590	380-500VAC
FR-A840-1.5K-#	FR-A840-00052-#	380-500VAC		7.8	7.3	6.2	3.7	2.2	2.2	1.5	0.75	5.2	4.8	4	2.5	0.2-590	380-500VAC
FR-A840-2.2K-#	FR-A840-00083-#	380-500VAC		10.9	10.1	8.3	6.2	3.7	3.7	2.2	1.5	8.3	7.6	6	4	0.2-590	380-500VAC
FR-A840-3.7K-#	FR-A840-00126-#	380-500VAC		16.4	15.1	12.3	8.3	5.5	5.5	3.7	2.2	12.6	11.5	9	6	0.2-590	380-500VAC
FR-A840-5.5K-#	FR-A840-00170-#	380-500VAC		22.5	22.3	17.4	12.3	7.5	7.5	5.5	3.7	17	16	12	9	0.2-590	380-500VAC
FR-A840-7.5K-#	FR-A840-00250-#	380-500VAC		31.7	31	22.5	17.4	11	11	7.5	5.5	25	23	17	12	0.2-590	380-500VAC
FR-A840-11K-#	FR-A840-00310-#	380-500VAC		40.3	38.2	31	22.5	15	15	11	7.5	31	29	23	17	0.2-590	380-500VAC
FR-A840-15K-#	FR-A840-00380-#	380-500VAC		48.2	44.9	40.3	31	18.5	18.5	15	11	38	35	31	23	0.2-590	380-500VAC
FR-A840-18.5K-#	FR-A840-00470-#	380-500VAC		58.4	53.9	48.2	40.3	22	22	18.5	15	47	43	38	31	0.2-590	380-500VAC
FR-A840-22K-#	FR-A840-00620-#	380-500VAC		76.8	75.1	56.5	48.2	30	30	22	18.5	62	57	44	38	0.2-590	380-500VAC
FR-A840-30K-#	FR-A840-00770-#	380-500VAC		97.6	89.7	75.1	56.5	37	37	30	22	77	70	57	44	0.2-590	380-500VAC
FR-A840-37K-#	FR-A840-00930-#	380-500VAC		115	106	91	75.1	45	45	37	30	93	85	71	57	0.2-590	380-500VAC
FR-A840-45K-#	FR-A840-01160-#	380-500VAC		141	130	108	91	55	55	45	37	116	106	86	71	0.2-590	380-500VAC
FR-A840-55K-#	FR-A840-01800-#	380-500VAC		180	144	134	108	75/90	75	55	45	180	144	110	86	0.2-590	380-500VAC
FR-A840-75K-#	FR-A840-02160-#	380-500VAC		216	180	144	110	110	90	75	55	216	180	144	110	0.2-590	380-500VAC
FR-A840-90K-#	FR-A840-02600-#	380-500VAC		260	216	180	144	132	110	90	75	260	216	180	144	0.2-590	380-500VAC
FR-A840-110K-#	FR-A840-03250-#	380-500VAC		325	260	216	180	160	132	110	90	325	260	216	180	0.2-590	380-500VAC
FR-A840-132K-#	FR-A840-03610-#	380-500VAC		361	325	260	216	185	160	132	110	361	325	260	216	0.2-590	380-500VAC
FR-A840-160K-#	FR-A840-04320-#	380-500VAC		432	361	325	260	220	185	160	132	432	361	325	260	0.2-590	380-500VAC
FR-A840-185K-#	FR-A840-04810-#	380-500VAC		481	432	361	325	250	220	185	160	481	432	361	325	0.2-590	380-500VAC
FR-A840-220K-#	FR-A840-05470-#	380-500VAC		547	481	432	361	280	250	220	185	547	481	432	361	0.2-590	380-500VAC
FR-A840-250K-#	FR-A840-06100-#	380-500VAC		610	547	481	432	315	280	250	220	610	547	481	432	0.2-590	380-500VAC
FR-A840-280K-#	FR-A840-06830-#	380-500VAC		683	610	547	481	355	315	280	250	683	610	547	481	0.2-590	380-500VAC

2. FR-A842: Separated Converter Type

Model (*1) (*2) (*3)		Input Power Supply				Output											
		Voltage		Current [A]		Motor Capacity [kW]				Current [A]				Freq.	Voltage		
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-#	430-780VDC		/	/	/	/	400	355	315	280	770	683	610	547	0.2-590	380-500VAC
FR-A842-355K-#	FR-A842-08660-#	430-780VDC		/	/	/	/	450	400	355	315	866	770	683	610	0.2-590	380-500VAC
FR-A842-400K-#	FR-A842-09620-#	430-780VDC		/	/	/	/	500	450	400	355	962	866	770	683	0.2-590	380-500VAC
FR-A842-450K-#	FR-A842-10940-#	430-780VDC		/	/	/	/	-	500	450	400	1094	962	866	770	0.2-590	380-500VAC
FR-A842-500K-#	FR-A842-12120-#	430-780VDC		/	/	/	/	-	-	500	450	1212	1094	962	866	0.2-590	380-500VAC

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 19-YO1938937-PDA
Issue Date: 25 December 2019
Expire Date: 24 December 2024
Company: MITSUBISHI ELECTRIC CORPORATION
Factory or Works: NAGOYA WORKS
Product/Equipment: Frequency Converter
Model: Inverter FR-A800, F800 Series

3. FR-F840: Standard Model

SLD: Super Light Duty, LD: Light Duty

Model (*1) (*2)		Input	Output					
		Voltage	Motor Capacity [kW]		Rated Current [A]		Freq.	Rated Voltage
Capacity Designation	Current Designation	3-Phase AC 50/60Hz	SLD	LD	SLD	LD	Hz	3-Phase AC
FR-F840-0.75K-#	FR-F840-00023-#	380-500VAC	0.75	0.75	2.3	2.1	0.2-590	380-500VAC
FR-F840-1.5K-#	FR-F840-00038-#	380-500VAC	1.5	1.5	3.8	3.5	0.2-590	380-500VAC
FR-F840-2.2K-#	FR-F840-00052-#	380-500VAC	2.2	2.2	5.2	4.8	0.2-590	380-500VAC
FR-F840-3.7K-#	FR-F840-00083-#	380-500VAC	3.7	3.7	8.3	7.6	0.2-590	380-500VAC
FR-F840-5.5K-#	FR-F840-00126-#	380-500VAC	5.5	5.5	12.6	11.5	0.2-590	380-500VAC
FR-F840-7.5K-#	FR-F840-00170-#	380-500VAC	7.5	7.5	17	16	0.2-590	380-500VAC
FR-F840-11K-#	FR-F840-00250-#	380-500VAC	11	11	25	23	0.2-590	380-500VAC
FR-F840-15K-#	FR-F840-00310-#	380-500VAC	15	15	31	29	0.2-590	380-500VAC
FR-F840-18.5K-#	FR-F840-00380-#	380-500VAC	18.5	18.5	38	35	0.2-590	380-500VAC
FR-F840-22K-#	FR-F840-00470-#	380-500VAC	22	22	47	43	0.2-590	380-500VAC
FR-F840-30K-#	FR-F840-00620-#	380-500VAC	30	30	62	57	0.2-590	380-500VAC
FR-F840-37K-#	FR-F840-00770-#	380-500VAC	37	37	77	70	0.2-590	380-500VAC
FR-F840-45K-#	FR-F840-00930-#	380-500VAC	45	45	93	85	0.2-590	380-500VAC
FR-F840-55K-#	FR-F840-01160-#	380-500VAC	55	55	116	106	0.2-590	380-500VAC
FR-F840-75K-#	FR-F840-01800-#	380-500VAC	75/90	75	180	144	0.2-590	380-500VAC
FR-F840-90K-#	FR-F840-02160-#	380-500VAC	110	90	216	180	0.2-590	380-500VAC
FR-F840-110K-#	FR-F840-02600-#	380-500VAC	132	110	260	216	0.2-590	380-500VAC
FR-F840-132K-#	FR-F840-03250-#	380-500VAC	160	132	325	260	0.2-590	380-500VAC
FR-F840-160K-#	FR-F840-03610-#	380-500VAC	185	160	361	325	0.2-590	380-500VAC
FR-F840-185K-#	FR-F840-04320-#	380-500VAC	220	185	432	361	0.2-590	380-500VAC
FR-F840-220K-#	FR-F840-04810-#	380-500VAC	250	220	481	432	0.2-590	380-500VAC
FR-F840-250K-#	FR-F840-05470-#	380-500VAC	280	250	547	481	0.2-590	380-500VAC
FR-F840-280K-#	FR-F840-06100-#	380-500VAC	315	280	610	547	0.2-590	380-500VAC
FR-F840-315K-#	FR-F840-06830-#	380-500VAC	355	315	683	610	0.2-590	380-500VAC

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 19-YO1938937-PDA
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Expire Date: 24 December 2024
Company: MITSUBISHI ELECTRIC CORPORATION
Factory or Works: NAGOYA WORKS
Product/Equipment: Frequency Converter
Model: Inverter FR-A800, F800 Series

4. FR-F842: Separated converter type

SLD: Super Light Duty, LD: Light Duty

Model (*1) (*2) (*3)		Input	Output					
		Voltage	Motor Capacity [kW]		Rated Current [A]		Freq.	Rated Voltage
Capacity Designation	Current Designation		SLD	LD	SLD	LD	Hz	3-Phase AC
FR-F842-355K-#	FR-F842-07700-#	430-780VDC	400	355	770	683	0.2-590	380-500VAC
FR-F842-400K-#	FR-F842-08660-#	430-780VDC	450	400	866	770	0.2-590	380-500VAC
FR-F842-450K-#	FR-F842-09620-#	430-780VDC	500	450	962	866	0.2-590	380-500VAC
FR-F842-500K-#	FR-F842-10940-#	430-780VDC	560	500	1094	962	0.2-590	380-500VAC
FR-F842-560K-#	FR-F842-12120-#	430-780VDC	630	560	1212	1094	0.2-590	380-500VAC

5. FR-CC2: Converter Unit

Model (*2)	Input Power Supply		Output
	Voltage	Rated Current	Rated Voltage
	3-Phase AC 50/60Hz	[A]	DC
FR-CC2-H315K-#	380-500V	610	430-780VDC
FR-CC2-H355K-#	380-500V	683	430-780VDC
FR-CC2-H400K-#	380-500V	770	430-780VDC
FR-CC2-H450K-#	380-500V	866	430-780VDC
FR-CC2-H500K-#	380-500V	962	430-780VDC
FR-CC2-H560K-#	380-500V	1094	430-780VDC
FR-CC2-H630K-#	380-500V	1212	430-780VDC

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 19-YO1938937-PDA
Issue Date: 25 December 2019
Expire Date: 24 December 2024
Company: MITSUBISHI ELECTRIC CORPORATION
Factory or Works: NAGOYA WORKS
Product/Equipment: Frequency Converter
Model: Inverter FR-A800, F800 Series

6. FR-A846: IP55 compatible model

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

Model (*1) (*4)		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

Design Assessment (DA) Certificate Attachment for Component Details

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Issue Date: 25 December 2019
Expire Date: 24 December 2024
Company: MITSUBISHI ELECTRIC CORPORATION
Factory or Works: NAGOYA WORKS
Product/Equipment: Frequency Converter
Model: Inverter FR-A800, F800 Series

7. FR-F846: IP55 compatible model

Model (*1) (*4)		Input	Output			
		Voltage	Motor Capacity [kW]	Rated Current [A]	Freq.	Rated Voltage
Capacity Designation	Current Designation	3-Phase AC 50/60Hz			Hz	3-Phase AC
FR-F846-0.75K-#2#	FR-F846-00023-#2#	380-500VAC	0.75	2.1	0.2-590	380-500VAC
FR-F846-1.5K-#2#	FR-F846-00038-#2#	380-500VAC	1.5	3.5	0.2-590	380-500VAC
FR-F846-2.2K-#2#	FR-F846-00052-#2#	380-500VAC	2.2	4.8	0.2-590	380-500VAC
FR-F846-3.7K-#2#	FR-F846-00083-#2#	380-500VAC	3.7	7.6	0.2-590	380-500VAC
FR-F846-5.5K-#2#	FR-F846-00126-#2#	380-500VAC	5.5	11.5	0.2-590	380-500VAC
FR-F846-7.5K-#2#	FR-F846-00170-#2#	380-500VAC	7.5	16	0.2-590	380-500VAC
FR-F846-11K-#2#	FR-F846-00250-#2#	380-500VAC	11	23	0.2-590	380-500VAC
FR-F846-15K-#2#	FR-F846-00310-#2#	380-500VAC	15	29	0.2-590	380-500VAC
FR-F846-18.5K-#2#	FR-F846-00380-#2#	380-500VAC	18.5	35	0.2-590	380-500VAC
FR-F846-22K-#2#	FR-F846-00470-#2#	380-500VAC	22	43	0.2-590	380-500VAC
FR-F846-30K-#2#	FR-F846-00620-#2#	380-500VAC	30	57	0.2-590	380-500VAC
FR-F846-37K-#2#	FR-F846-00770-#2#	380-500VAC	37	70	0.2-590	380-500VAC
FR-F846-45K-#2#	FR-F846-00930-#2#	380-500VAC	45	85	0.2-590	380-500VAC
FR-F846-55K-#2#	FR-F846-01160-#2#	380-500VAC	55	106	0.2-590	380-500VAC
FR-F846-75K-#2#	FR-F846-01800-#2#	380-500VAC	75	144	0.2-590	380-500VAC
FR-F846-90K-#2#	FR-F846-02160-#2#	380-500VAC	90	180	0.2-590	380-500VAC
FR-F846-110K-#2#	FR-F846-02600-#2#	380-500VAC	110	216	0.2-590	380-500VAC
FR-F846-132K-#2#	FR-F846-03250-#2#	380-500VAC	132	260	0.2-590	380-500VAC
FR-F846-160K-#2#	FR-F846-03610-#2#	380-500VAC	160	325	0.2-590	380-500VAC

(*1) There are two model designations, capacity designation and current designation; the products have no difference except its model name.

(*2) The "#" means an alphanumeric suffix that may be added.

(*3) The separated converter type FR-A842 and FR-F842 are to be used together with the corresponding converter units FR-CC2 according to the applied motor capacity.

(*4) The "-#2#" means alphanumeric suffix. The "2" means a built-in C2 class EMC filter.