

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



Product Service

CERTIFICATE

No. Z10 066509 0049 Rev. 01

Holder of Certificate: **MITSUBISHI ELECTRIC CORPORATION**
Nagoya Works
5-1-14, Yada-Minami
Higashi-ku, Nagoya-shi, Aichi
461-8670 JAPAN

Certification Mark:



Product: **DC/AC inverter system**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: MN94578C

Valid until: 2025-05-21

Date, 2020-05-22

(Christian Dirmeier)



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Parameters:	Safety function	STO (Safe torque off) (SIL2, PL d, Cat 3)
	Stop category	0 (acc. to IEC/EN 60204)
	Degree of protection	IP20 (Open type)
	Rated input	200-240 V3AC, 50/60 Hz
		380-480 V3AC, 50/60 Hz
	Rated output	575 V3AC, 60 Hz
		200-240 VAC, 50/60 Hz
		100-120 VAC, 50/60 Hz
	Operating Temperature	200-240 V
		380-480 V
Humidity	575 V	
	-20 to +50 °C	
Altitude	<=90% RH (non-condensing) without circuit board coating	
	<=95% RH (non-condensing) with circuit board coating	
	FR-E820, FR-E840, FR-E820S and FR-E810W:	
	<3000m above sea level	
Protection Class	FR-E860:	
	<2000m above sea level	
	(Derate the rated current 3% per 500m above 1000m)	
Overvoltage category	I	
Pollution degree	III	
		2

Tested according to:

EN 61800-5-2:2017
 EN 61800-6-7:2015
 EN 61800-5-1:2007/A1:2017
 EN 62061:2005/A2:2015
 EN ISO 13849-1:2015
 IEC 61508-1:2010
 IEC 61508-2:2010

Factory(ies): 003783, 066509, 099227

Model(s): **FR-E800 Series, Type A**

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Nomenclature of FR-E800 Series

FR- xx - a b c [A] [B]

with:

xx

Rated Input voltage

E820	3AC 200-240V
E840	3AC 380-480V
E860	3AC 575V
E820S	AC 200-240V
E810W	AC 100-120V

a

Inverter ND rated capacity or current

-0.1K	Inverter ND rated capacity: 0.1kW
-0.2K	Inverter ND rated capacity: 0.2kW
-0.4K	Inverter ND rated capacity: 0.4kW
-0.75K	Inverter ND rated capacity: 0.75kW
-1.5K	Inverter ND rated capacity: 1.5kW
-2.2K	Inverter ND rated capacity: 2.2kW
-3.7K	Inverter ND rated capacity: 3.7kW
-5.5K	Inverter ND rated capacity: 5.5kW
-7.5K	Inverter ND rated capacity: 7.5kW
-0008	Inverter ND rated current: 0.8A
-0015	Inverter ND rated current: 1.5A
-0030	Inverter ND rated current: 3A
-0050	Inverter ND rated current: 5A
-0080	Inverter ND rated current: 8A
-0110	Inverter ND rated current: 11A
-0175	Inverter ND rated current: 17.5A
-0240	Inverter ND rated current: 24A
-0330	Inverter ND rated current: 33A
-0016	Inverter ND rated current: 1.6A
-0026	Inverter ND rated current: 2.6A
-0040	Inverter ND rated current: 4A
-0060	Inverter ND rated current: 6A
-0095	Inverter ND rated current: 9.5A
-0120	Inverter ND rated current: 12A
-0170	Inverter ND rated current: 17A
-0017	Inverter ND rated current: 1.7A
-0027	Inverter ND rated current: 2.7A
-0040	Inverter ND rated current: 4A
-0061	Inverter ND rated current: 6.1A
-0090	Inverter ND rated current: 9A
-0120	Inverter ND rated current: 12A

b

Functional safety / Communication spec

Blank	SIL2, PLd, Cat.3 / RS485
E	SIL2, PLd, Cat.3 / Ethernet

c

Communication / Monitor spec

-1	RS485 / Pulse train output
-4	RS485 / Analog output Voltage (DCV)

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-5 RS485 / Analog output Voltage (DCV)
PA Ethernet Group1 / None
PB Ethernet Group2 / None
PC Ethernet Group3 / None

[A] Coating spec

Blank No coating
-60 With circuit board coating

[B] Special specification for customer (non-safety related)

May or may not be followed by Hyphen and combination of up to 3 alphanumeric letters

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Zertifizierungsvertrag

Grundlage für die Zertifikatserteilung ist die Prüf- und Zertifizierungsordnung von TÜV SÜD Product Service.

Mit Erhalt des Zertifikates erkennt der Zertifikatsinhaber die jeweils gültige Fassung der Prüf- und Zertifizierungsordnung an (www.tuev-sued.de/ps_regulations) und wird somit Partner im Zertifiziersystem von TÜV SÜD Product Service.

Certification contract

Certification is based on the TÜV SÜD Product Service Testing and Certification Regulations. On receipt of the certificate the certificate holder agrees to the current version of the Testing and Certification Regulations (www.tuv-sud.com/ps_regulations) and thus becomes partner in the TÜV SÜD Product Service Certification System.

认证合约

认证基于 TÜV SÜD 产品服务《测试及认证准则》。获得证书即表明证书持有者接受当前版本的《测试及认证准则》（见 www.tuv-sud.com/ps_regulations）并成为 TÜV SÜD 产品服务认证系统内的合作伙伴。

認証契約

認証は TÜV SÜD Product Service の試験認証規約に基づく。認証書保持者は認証書を受領することにより最新の試験認証規約(www.tuv-sud.com/ps_regulations)に同意したものとする。その結果、TÜV SÜD Product Service 認証システムのパートナーとなる。

Contrato de certificação

A certificação se baseia nos Regulamentos de Testes e Certificação do Grupo TÜV SÜD. Ao receber o certificado, o Fornecedor, titular do certificado concorda com a versão atual dos Regulamentos de Testes e Certificação do Grupo TÜV SÜD (www.tuv-sud.com/ps_regulations) e assim, torna-se parceiro no Sistema de Certificação de Produtos e Serviços TÜV SÜD.

Prinzipielle Voraussetzung für die Gültigkeit des Zertifikates:

- Gültigkeit der zitierten normativen Prüfgrundlage(n) ist gegeben und zusätzlich bei Zertifikaten mit Berechtigung zur Verwendung eines Prüfzeichens bzw. bei Zertifikaten für QM-Systeme:
- Voraussetzungen für vorschriftsmäßige Fertigung werden eingehalten.
- Die Fertigungs- bzw. Betriebsstätten werden regelmäßig überwacht.

Requirements for the validity of the certificate in principle:

- Validity of the quoted test standard(s) In addition, for certificates with the right to use a certification mark and for QM certificates:
- Conditions for an adequate manufacturing are maintained
- Regular surveillance of the facility is performed

维持证书有效性的原则要求：

- 认证所依据标准的有效性
- 此外，对于授权可使用认证标志的证书和质量管理体系证书：
- 保持充分的生产条件
 - 生产场地通过定期的监督

認証書の有効性に関する原則的な要求事項

- 引用している試験規格が有効である
- さらに認証マークの使用を許諾された認証書や品質マネジメント認証書は：
- 適切な製造の条件を維持している
 - 定期的な工場監査を実施している

Requisitos para a validade do certificado (em princípio):

- Validade da(s) norma(s) de ensaio(s) referenciada(s).
- Adicionalmente, para os certificados com o direito ao uso da marca de certificação e para certificados de SG:
- Condições de fabricação adequada estão mantidas.
 - Auditoria de monitoração realizada regularmente.