



Product Service

# CERTIFICATE

No. Z10 16 05 22021 654

**Holder of Certificate:** Yaskawa Electric Corp.  
Tokyo Plant  
480 Kamifujisawa, Iruma  
Saitama 358-8555  
JAPAN

**Certification Mark:**



**Product:** AC servo systems  
AC Servo Amplifier (SERVOPACK)

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.:** YF87680T

**Valid until:** 2021-05-18



**Date,** 2016-05-19 ( Dr.-Ing. Peerasan Supavatanakul )

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**CERTIFICATE**

No. Z10 16 05 22021 654

**Model(s):**

**Sigma-V-SD series**  
**CACR-JU\*\*\*A2B\*\*\*\*\***  
**CACR-JU\*\*\*D2B\*\*\*\*\***  
**CACR-JU\*\*\*A2B\*Y\*\*\*\*\***  
**CACR-JU\*\*\*D2B\*Y\*\*\*\*\***  
**(For nomenclature see attachment)**

**Parameters:**

Rated Voltage: 200VAC, 270VDC  
400VAC, 540VDC  
Rated Power: 3.7/2.2kW ... 45/37kW  
3.7/2.2kW ... 22/18.5kW  
Safety Function:  
STO (acc. to IEC 61800-5-2(ed.1) / EN 61800-5-2:2007)  
Stop Category 0 (acc. to IEC 60204-1(ed.5);am1 /  
EN 60204-1:2006/A1:2009)

**Tested  
according to:**

2006/42/EC  
IEC 61508-1(ed.2) (SIL 3)  
IEC 61508-2(ed.2) (SIL 3)  
IEC 61508-4(ed.2) (SIL 3)  
EN 61508-1:2010 (SIL 3)  
EN 61508-2:2010 (SIL 3)  
EN 61508-4:2010 (SIL 3)  
IEC 62061(ed.1);am1 (SILCL 3)  
EN 62061:2005/A1:2013 (SILCL 3)  
ISO 13849-1:2006 (Cat. 3, PL e)  
EN ISO 13849-1:2008/AC:2009 (Cat. 3, PL e)  
IEC 61800-3(ed.2);am1  
EN 61800-3:2004/A1:2012  
IEC 61800-5-1(ed.2)  
IEC 61800-5-2(ed.1)  
EN 61800-5-1:2007  
EN 61800-5-2:2007  
IEC 61326-3-1(ed.1)  
EN 61326-3-1:2008

**Factory(ies):**

42802, 77204, 48921, 23987



## ATTACHMENT TO CERTIFICATE

No. Z10 16 05 22021 654

### Nomenclature for Drive unit/1 axis (Standard)

CACR-JU    \*\*\*    \*    \*    \*    \*    \*\*    \*\*    \*  
**A**        **B**    **C**    **D**    **E**    **F**    **G**    **H**    **I**

**A: Series name, Sigma-V-SD Series Drive Unit**

**B: Continuous output current**

Group	Output current			Output capacity			Input voltage	Output voltage		
	Spindle		Servo rated	Spindle		Servo rated				
	Rated	50%ED		Rated	50%ED					
028	22A	31A	23.8A	2.2kW	3.7kW	3kW	270Vdc	200V3ac		
	28A	34A		3.7kW	5.5kW					
036	36A	46A	32.9A	5.5kW	7.5kW	5kW			540Vdc	400V3ac
065	45A	60A	46.9A	7.5kW	11kW	6kW				
	65A	82A		11kW	15kW					
084	84A	100A	54.7A	15kW	18.5kW	7.5kW				
102	102A	116A	58.6A	18.5kW	22kW	11kW				
125	125A	160A	78.0A	22kW	30kW	15kW				
196	196A	240A	110A	37kW	45kW	22kW				
014	11A	15.5A	11.9A	2.2kW	3.7kW	3kW				
	14A	17A		3.7kW	5.5kW					
018	18A	23A	16.5A	5.5kW	7.5kW	5kW				
033	22.5A	30A	20.8A	7.5kW	11kW	6kW				
	32.5A	41A		11kW	15kW					
042	42A	50A	25.7A	15kW	18.5kW	7.5kW				
051	51A	58A	28.1A	18.5kW	22kW	11kW				
098	98A	120A	52A	37kW	45kW	22kW				

**C: Input/Output voltage**

Group	Input voltage	Output voltage	Unit type
A	270Vdc	200V3ac	Drive
D	540Vdc	400V3ac	Drive

**D: Model**

Group	Model
2	MECHATROLINK-III I/F



**ATTACHMENT TO CERTIFICATE**  
**No. Z10 16 05 22021 654**

**E: Design revision order**

B	Functional Safety SIL3
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**F: Mounting method**

Blank	Duct-ventilated
B	Base-mounted

**G: Option specification of hardware**

Group	Option specification of hardware	Difference from standard model
Blank	Standard	--
00	Standard	Software and/or parameters are changed.
02	External DB resistor type or without DB type	Specification of which the terminal for DB resistor outside was added.
04	Counter measures for vibration	Put a fixture for weak parts of mechanical vibration by resin material.

**H: Option specification of software**

Group	Option specification of software	Difference from standard model
Blank	Standard	--
00	Standard	Hardware is exactly same as standard model.

**I: Option specification of parameter setting**

Group	Option specification of parameter setting	Difference from standard model
Blank	Standard	--
0	Standard	Hardware is exactly same as standard model.



**ATTACHMENT TO CERTIFICATE**  
**No. Z10 16 05 22021 654**

**Nomenclature for Drive unit/1 axis (Y-Specification)**

**CACR-JU**   \*\*\*   \*   \*   \*   \*   Y\*\*\*\*\*  
**A**   **B**   **C**   **D**   **E**   **F**   **G**

**A: Series name, Sigma-V-SD Series Drive Unit**

**B: Continuous output current**

Group	Output current			Output capacity			Input voltage	Output voltage		
	Spindle		Servo rated	Spindle		Servo rated				
	Rated	50%ED		Rated	50%ED					
028	22A	31A	23.8A	2.2kW	3.7kW	3kW	270Vdc	200V3ac		
	28A	34A		3.7kW	5.5kW					
036	36A	46A	32.9A	5.5kW	7.5kW	5kW				
065	45A	60A	46.9A	7.5kW	11kW	6kW				
	65A	82A		11kW	15kW					
084	84A	100A	54.7A	15kW	18.5kW	7.5kW				
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196	196A	240A	110A	37kW	45kW	22kW				
014	11A	15.5A	11.9A	2.2kW	3.7kW	3kW			540Vdc	400V3ac
	14A	17A		3.7kW	5.5kW					
018	18A	23A	16.5A	5.5kW	7.5kW	5kW				
033	22.5A	30A	20.8A	7.5kW	11kW	6kW				
	32.5A	41A		11kW	15kW					
042	42A	50A	25.7A	15kW	18.5kW	7.5kW				
051	51A	58A	28.1A	18.5kW	22kW	11kW				
098	98A	120A	52A	37kW	45kW	22kW				

**C: Input/Output voltage**

Group	Input voltage	Output voltage	Unit type
A	270Vdc	200V3ac	Drive
D	540Vdc	400V3ac	Drive

**D: Model**

Group	Model
2	MECHATROLINK-III I/F



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**E: Design revision order**

B	Functional Safety SIL3
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**F: Mounting method**

Blank	Duct-ventilated
B	Base-mounted

**G: Specification of Y-number**

Group	Specification	Difference from standard model
Y4****	Software and/or parameters are changed.	Hardware is exactly same as standard model.
Y5****	Software and/or parameters are changed.	Hardware is exactly same as standard model.
Y6****	Software and/or parameters are changed.	Hardware is exactly same as standard model.
Y7****	Software and/or parameters are changed.	Hardware is exactly same as standard model.
Y8****	Software and/or parameters are changed.	Hardware is exactly same as standard model.
Y9****	Software and/or parameters are changed.	Hardware is exactly same as standard model.

Department: TR-RA/MUC  
Date: 2016-05-19

## 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](http://www.tuev-sued.de/ps_regulations)) und wird somit Partner im Zertifiziersystem von TÜV SÜD Product Service.

### 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.

## 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.tuev-sued.de/ps\\_regulations](http://www.tuev-sued.de/ps_regulations)) and thus becomes partner in the TÜV SÜD Product Service Certification System.

### 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

Akkreditierungen / Benennungen (Status 14.10.2013) /  
Accreditations / notifications (as of 2013-10-14)

## Deutschland / Germany

Produktsicherheitsgesetz (ProdSG) /  
Product Safety Act (ProdSG)

## Europa / Europe

- Niederspannungsrichtlinie 2006/95/EG
- Spielzeugrichtlinie 2009/48/EG
- Richtlinie für aktive medizinische Implantate 90/385/EWG
- Richtlinie für Medizinprodukte 93/42/EWG
- Richtlinie für In-vitro-Diagnostika 98/79/EG
- Richtlinie für Gasverbrauchseinrichtungen 2009/142/EG
- Richtlinie für persönliche Schutzausrüstungen 89/686/EWG
- EMV-Richtlinie 2004/108/EG
- Richtlinie für Sportboote 94/25/EG + 2003/44/EG
- Richtlinie für Maschinen 2006/42/EG
- Richtlinie für Ex-Schutz Geräte 94/9/EG
  
- Low Voltage Directive 2006/95/EC
- Toys Directive 2009/48/EC
- Directive for Active Implantable Medical Devices 90/385/EEC
- Directive for Medical Devices 93/42/EEC
- Directive on In Vitro Diagnostic Medical Devices 98/79/EC
- Directive for Gas Appliances 2009/142/EC
- Directive for Personal Protective Equipment 89/686/EEC
- EMC Directive 2004/108/EC
- Directive for Recreational Craft 94/25/EC + 2003/44/EC
- Directive for Machinery 2006/42/EC
- Directive for Ex Safe Equipment 94/9/EC
  
- ENEC Agreement for luminaires, household and IT equipment

## USA

- Nationally Recognized Testing Laboratory (NRTL) to 29 CFR 1910.7 by OSHA
- Accredited for FDA 510(k) Third Party Review
- Conformity Assessment Body to the MRA for Medical Devices; FDA QSR Inspections, FDA 510(k) Third Party Review

## Asien-Pazifik Region / Asia Pacific

- Recognized Certification Body to Electrical Products (Safety) Regulation; Hong Kong
- Konformitätsbewertungsstelle / Conformity Assessment Body to the MRA for Medical Devices; Australien / Australia
- Konformitätsbewertungsstelle / Conformity Assessment Body to the MRA for Medical Devices; Neuseeland / New Zealand

## Weltweit / Worldwide

- NCB im CB-Scheme des IECCE / NCB in the CB Scheme of IECCE
- ExCB im IECEx-Scheme des IECCE / ExCB in the IECEx Scheme of IECCE
- Zertifizierstellen durch DAkkS akkreditiert  
DE-ZE-11321-01, DE-ZM-11321-09 und DE-ZM-11321-01.  
Certification Bodies accredited by DAkkS  
DE-ZE-11321-01, DE-ZM-11321-09 and DE-ZM-11321-01.