

# EU-Type Examination Certificate

No. E6A 022021 0755 Rev. 08

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

**Product:** **AC Servo Systems**  
**AC Servo Amplifier "SERVOPACK"**

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**Evaluation Report No.:** 73587967

**Date,** 2021-08-11



( Volker Albrecht )



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**Model(s):** **Sigma-7 Series**  
**SGD7S-\*\*\*\*\***,  
**SGD7W-\*\*\*\*\***,  
**SGD7C-\*\*\*\*\***,  
**JEPMC-OP3C01\*\*\*-E**

### 1. Nomenclature

Standard Spec., Hardware Option Spec., EX Spec. and FT Spec.

<u>SGD7*</u> -	<u>***</u>	<u>*</u>	<u>**</u>	<u>*</u>	<u>***</u>	<u>*</u>	<u>**</u>	<u>*</u>
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>
Ex:	Standard spec.			SGD7*- * * * * *				
	Hardware Option Spec.			SGD7*- * * * * * * *				
	EX Spec.			SGD7*- * * * * * * * E * * *				
	FT Spec.			SGD7*- * * * * * * * F * * *				

A: Model

Group	Model	Note
SGD7S	Sigma-7 series SERVOPACK Sigma-7S model	Control of 1 axis
SGD7W	Sigma-7 series SERVOPACK Sigma-7W model	Control of 2 axes
SGD7C	Sigma-7 series SERVOPACK Sigma-7C model	Control of 2 axes

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B+C: Continuous Output Current Type for SGD7S

Group	Rated input power			Rated output power		Note	
	Input voltage	Number of phase	Input current	Output current	Output power		
R70 F	AC100V	Single	1.5[A]	0.66[A]	0.05kW		
R90 F		Single	2.5[A]	0.91[A]	0.1kW		
2R1 F		Single	5[A]	2.1[A]	0.2kW		
2R8 F		Single	10[A]	2.8[A]	0.4kW		
R70 A	AC200V	Three	0.4[A]	0.66[A]	0.05kW		
		Single	0.8[A]				
R90 A		Three	0.8[A]	0.91[A]	0.1kW		
		Single	1.6[A]				
1R6 A		Three	1.3[A]	1.6[A]	0.2kW		
		Single	2.4[A]				
2R8 A		Three	2.5[A]	2.8[A]	0.4kW		
		Single	5.0[A]				
3R8 A		Three	3.0[A]	3.8[A]	0.5kW		
5R5 A		Three	4.1[A]	5.5[A]	0.75kW		
		Single	8.7[A]				
7R6 A		Three	5.7[A]	7.6[A]	1.0kW		
120 A		Three	7.3[A]	11.6[A]	1.5kW		
		Single	16[A]				
180 A		Three	10[A]	18.5[A]	2.0kW		
200 A		Three	15[A]	19.6[A]	3.0kW		
330 A		Three	25[A]	32.9[A]	5kW		
470 A		Three	29[A]	46.9[A]	6kW		
550 A		Three	37[A]	54.7[A]	7.5kW		
590 A		Three	54[A]	58.6[A]	11kW		
780 A		Three	73[A]	78.0[A]	15kW		
1R9 D		AC400V	Three	1.4[A]	1.9 [A]	0.5kW	
3R5 D			Three	2.9[A]	3.5 [A]	1.0kW	
5R4 D			Three	4.3[A]	5.4 [A]	1.5kW	
8R4 D			Three	5.8[A]	8.4 [A]	2.0kW	
120 D			Three	8.6[A]	11.9 [A]	3.0kW	
170 D			Three	14.5[A]	16.0[A]	5.0kW	
210 D			Three	17.4[A]	20.8[A]	6.0kW	
260 D	Three		21.7[A]	25.7[A]	7.5kW		
280 D	Three		31.8[A]	28.1[A]	11kW		
370 D	Three		43.4[A]	37.2[A]	15kW		

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B+C: Continuous Output Current Type for SGD7W and SGD7C

Group	Rated input power			Rated output power at 1-axis		Note
	Input voltage	Output current	Output current	Output current	Output power	
1R6 A	AC200V	Three	2.5[A]	1.6[A]	0.2kW	
		Single	5.5[A]			
2R8 A		Three	4.7[A]	2.8[A]	0.4kW	
		Single	11[A]			
5R5 A		Three	7.8[A]	5.5[A]	0.75kW	
		Single	12[A]			
7R6 A	Three	11[A]	7.6[A]	1.0kW		
2R6 D	AC400V	Three	4.4[A]	2.6[A]	0.75kW	
5R4 D		Three	8.6[A]	5.4[A]	1.5kW	

C: Rated Input/Output Voltage Type

Group	Rated Voltage Type		Note
	Input Voltage	Output Voltage	
A	200V3ac,ac	200V3ac	
D	400V3ac	400V3ac	
F	100Vac	200V3ac	

D: Interface Type

Group	Interface Type	Note
00	Analog & Pulse I/F	Sigma-7S model only.
10	MECHATROLINK-II I/F	Sigma-7S model only.
20	MECHATROLINK-III I/F	
30	MECHATROLINK-III(RJ45) I/F	
40	MECHATROLINK-4 I/F	Sigma-7S model 200V input only.
A0	EtherCAT I/F	Sigma-7S model and Sigma-7W model 400V input only
C0	PROFINET I/F	Sigma-7S model only.
E0	Command Option I/F	Sigma-7S model only.
MA	BUS I/F (Standard)	Sigma-7C model only.
M0	Sigma-7Siec I/F	SGD7S-xxxxA0x based with PLC function
Q0	SigmaLogic 7 Compact I/F	SGD7S-xxxxA0x based with Ethernet/IP protocol
R0	SigmaLogic 7 Modbus I/F	SGD7S-xxxxA0x based with Modbus protocol (General protocol)

E: Design Order

Group	Design Order	Note
A	Standard	
B	Standard	AC400V input only.
	Air flow Change	AC200V input only
C	Air flow Change and Re-engineering	Air flow Change and Re-engineering

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F: Hardware Option Type

Group	Hardware Option Type	Note
Blank	Standard	Standard specification only.
000	Standard	In case of Software Option only.
001	Rack mount type	
002	Varnish coating	
004	Measures for vibration	
006	Group# 002 and 004	Sigma-7S and Sigma-7W model only.
008	200Vac(Single phase) input type	SGD7S-120A*** only.
00A	Group# 002 and 008	
010	Open collector output of Encoder pulse	
020	External DB resistor type or Without DB	
021	DI power supply DC12V	
022	Zone output	
023	Analog Voltage FB input type	
024	Group# 002 and 020	
025	Group# 001 and 023	
026	Add the Holding Break(SBC) function	Voltage type D only.
027	Group# 020 and 021	
029	Group# 002 and 022	
030	Group# 008 and 022	SGD7S-120A*** only.
031	Group# 002 and 023	
032	Group# 001 and 002 and 023	
033	Group# 002 and 008 and 023	SGD7S-120A*** only.
034	Group# 008 and 020	SGD7S-120A*** only.
035	Group# 020 and 022	
036	Group# 026 and 002	Voltage type D only.
037	Group# 008 and 020 and 022	SGD7S-120A*** only.
100	Pulse encoder interface and analog input for Thermistor on CN9. CN8(Safety Connector) eliminated.	SGD7S-***A30* only.
101	Group# 100 and 001	SGD7S-***A30* only.
102	Group# 100 and 002	SGD7S-***A30* only.
104	Group# 100 and 004	SGD7S-***A30* only.
108	Group# 100 and 008	SGD7S-120A3* only.
110	Group# 100 and 010	SGD7S-***A30* only.
120	Group# 100 and 020	SGD7S-***A30* only.
121	Group# 100 and 021	SGD7S-***A30* only.
122	Group# 100 and 022	SGD7S-***A30* only.
124	Group# 100 and 024	SGD7S-***A30* only.
202	Reinforced Varnish Coating	
206	Group# 004 and 202	
20A	Group# 008 and 202	SGD7S-120A*** only.
224	Group# 020 and 202	
229	Group# 022 and 202	
231	Group# 023 and 202	
232	Group# 001 and 023 and 202	
233	Group# 008 and 023 and 202	SGD7S-120A*** only.
302	Group# 100 and 202	SGD7S-***A30* only.

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306	Group# 104 and 202	SGD7S-***A30* only.
30A	Group# 108 and 202	SGD7S-***A30* only.
324	Group# 120 and 202	SGD7S-***A30* only.
700	Add the HWBB(STO) function	Sigma-7W and Sigma-7C model only.
701	Group# 001 and 700	
702	Group# 002 and 700	
704	Group# 004 and 700	
70A	Group# 00A and 700	
710	Group# 010 and 700	
720	Group# 020 and 700	
721	Group# 021 and 700	
722	Group# 022 and 700	
723	Group# 023 and 700	
724	Group# 024 and 700	
725	Group# 025 and 700	
727	Group# 027 and 700	
731	Group# 031 and 700	
732	Group# 032 and 700	

G: Specification Type

Group	Specification Type	Note
Blank	Standard or Hardware Option Spec.	
0	BTO order	For Standard spec. and Hardware Option Spec.
E	EX specification	
F	FT specification	Except F40. (see Note.1)

Note.1: F40 are cannot use a Safety Module SGD7S-OSA01A.

G+H: Software Option Type

Group	Difference from Standard		Note
	Hardware	Software	
Blank	Same	Same	Standard or Hardware Option Spec. only.
000	Same or Diff.	Same	BTO order for Standard spec. and Hardware Option Spec
E**	Same or Diff.	Diff.	Except E9* and F9*. (see Note.1)
F**	Same or Diff.	Diff.	Customised for non-safety related Software. Hardware is defines of "Hardware Option Type".

Note.1: E9\* and F9\* are customized the safety related Software.

I: Order Type

Group	Order Type	Note
Blank	Standard order	
B	BTO order	

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2. Y Spec.

$\frac{\text{SGD7*}}{\text{A}}$        $\frac{\text{***}}{\text{B}}$        $\frac{*}{\text{C}}$        $\frac{\text{**}}{\text{D}}$        $\frac{*}{\text{E}}$        $\frac{\text{Y}}{\text{F}}$        $\frac{\text{*****}}{\text{G}}$

Ex: Y spec.

SGD7\* - \*\*\* \*\* \* Y \*\*\*\*\*

A: Model

Group	Model	Note
SGD7S	Sigma-7 series SERVOPACK Sigma-7S model	Control of 1 axis
SGD7W	Sigma-7 series SERVOPACK Sigma-7W model	Control of 2 axes
SGD7C	Sigma-7 series SERVOPACK Sigma-7C model	Control of 2 axes

B+C: Continuous Output Current Type for SGD7S

Group	Rated input power			Rated output power		Note
	Input voltage	Number of phase	Input current	Output current	Output power	
R70 F	AC100V	Single	1.5[A]	0.66[A]	0.05kW	
R90 F		Single	2.5[A]	0.91[A]	0.1kW	
2R1 F		Single	5[A]	2.1[A]	0.2kW	
2R8 F		Single	10[A]	2.8[A]	0.4kW	
R70 A	AC200V	Three	0.4[A]	0.66[A]	0.05kW	
		Single	0.8[A]			
R90 A		Three	0.8[A]	0.91[A]	0.1kW	
		Single	1.6[A]			
1R6 A		Three	1.3[A]	1.6[A]	0.2kW	
		Single	2.4[A]			
2R8 A		Three	2.5[A]	2.8[A]	0.4kW	
		Single	5.0[A]			
3R8 A		Three	3.0[A]	3.8[A]	0.5kW	
5R5 A		Three	4.1[A]	5.5[A]	0.75kW	
		Single	8.7[A]			
7R6 A		Three	5.7[A]	7.6[A]	1.0kW	
120 A		Three	7.3[A]	11.6[A]	1.5kW	
		Single	16[A]			
180 A		Three	10[A]	18.5[A]	2.0kW	
200 A		Three	15[A]	19.6[A]	3.0kW	
330 A		Three	25[A]	32.9[A]	5kW	
470 A		Three	29[A]	46.9[A]	6kW	
550 A		Three	37[A]	54.7[A]	7.5kW	
590 A		Three	54[A]	58.6[A]	11kW	
780 A	Three	73[A]	78.0[A]	15kW		
1R9 D	AC400V	Three	1.4[A]	1.9 [A]	0.5kW	
3R5 D		Three	2.9[A]	3.5 [A]	1.0kW	
5R4 D		Three	4.3[A]	5.4 [A]	1.5kW	
8R4 D		Three	5.8[A]	8.4 [A]	2.0kW	
120 D		Three	8.6[A]	11.9 [A]	3.0kW	
170 D		Three	14.5[A]	16.0[A]	5.0kW	
210 D		Three	17.4[A]	20.8[A]	6.0kW	
260 D		Three	21.7[A]	25.7[A]	7.5kW	
280 D		Three	31.8[A]	28.1[A]	11kW	
370 D		Three	43.4[A]	37.2[A]	15kW	

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B+C: Continuous Output Current Type for SGD7W and SGD7C

Group	Rated input power			Rated output power at 1-axis		Note
	Input voltage	Output current	Output current	Output current	Output power	
1R6 A	AC200V	Three	2.5[A]	1.6[A]	0.2kW	
		Single	5.5[A]			
2R8 A		Three	4.7[A]	2.8[A]	0.4kW	
		Single	11[A]			
5R5 A		Three	7.8[A]	5.5[A]	0.75kW	
		Single	12[A]			
7R6 A	Three	11[A]	7.6[A]	1.0kW		
2R6 D	AC400V	Three	4.4[A]	2.6[A]	0.75kW	
5R4 D		Three	8.6[A]	5.4[A]	1.5kW	

C: Rated Input/Output Voltage Type

Group	Rated Voltage Type		Note
	Input Voltage	Output Voltage	
A	200V3ac	200V3ac	
D	400V3ac	400V3ac	
F	100Vac	200V3ac	

D: Interface Type

Group	Interface Type	Note
00	Analog & Pulse I/F	Sigma-7S model only.
10	MECHATROLINK-II I/F	Sigma-7S model only.
20	MECHATROLINK-III I/F	
30	MECHATROLINK-III(RJ45) I/F	
40	MECHATROLINK-4 I/F	Sigma-7S model 200V input only.
A0	EtherCAT I/F	Sigma-7S model and Sigma-7W model 400V input only
C0	PROFINET I/F	Sigma-7S model only.
E0	Command Option I/F	Sigma-7S model only.
MA	BUS I/F (Standard)	Sigma-7C model only.
M0	Sigma-7Siec I/F	SGD7S-xxxxA0x based with PLC function
Q0	SigmaLogic 7 Compact I/F	SGD7S-xxxxA0x based with Ethernet/IP protocol
R0	SigmaLogic 7 Modbus I/F	SGD7S-xxxxA0x based with Modbus protocol (General protocol)

E: Design Order

Group	Design Order	Note
A	Standard	
B	Standard	400V input only.
	Air flow change	200V input only
C	Air flow change and Re-engineering	200V input only, EtherCAT I/F only.



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F: Specification Type

Group	Specification Type	Note
Y	Y Specification	

F+G: Y Specification Type

Group	Difference from Standard		Note
	Hardware	Software	
Y0400*	Diff.	Diff.	Customised for the case. The combination of this model and Safety module is not possible.
Y*5***	Same	Diff.	Customised for non-safety related parameters and software. The combination of this model and Safety module is not possible.
Y*6***	Same	Diff.	Customised for non-safety related parameters and software. The combination of this model and Safety module is not possible.
Y*7***	Same	Diff.	Customised for non-safety related parameters and software. The combination of this model and Safety module is possible.
Y*8***	Same	Diff.	Customised for non-safety related parameters and software. The combination of this model and Safety module is not possible.
Y*9***	Same	Diff.	Customised for non-safety related parameters and software. The combination of this model and Safety module is not possible.
Y2101*	Diff.	Diff.	Sigma-7Siec with customer controlled fan SGD7S-5R5A *** only

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### 3. Option Base Unit

Option Base Unit for Sigma-7C model

<u>JEPMC-</u>	<u>**</u>	<u>**</u>	<u>**</u>	<u>***</u>	<u>-E</u>
A	B	C	D	E	F

#### A: Family

Group	Family	Note
JEPMC-	A unit of Machine controller	Sigma-7C is possible to install the optional unit of the machine controller.

#### B: Unit Type

Group	Unit Type	Note
OP	Optional Unit	

#### C: Compatible Products Type

Group	Compatible Products Type	Note
3C	for Sigma-7-Series AC Servo Drive (Sigma-7C model)	

#### D: Model-Specific code

Group	Model-Specific code	Note
01	1 slot Base Unit	

#### E: for Special Customer code

Group	for Special Customer code	Note
Blank	Standard	
Y** T** N G	for Special Customer (**):Number)	Y** : (**):Number from 0 to 99) T** : (**):Number from 0 to 99) Blank means standard

#### F: for RoHS

Group	for RoHS	Note
-E	RoHS Compliance	



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## Description of Object:

Rated Voltage: 100 - 120 VAC (1 Phase),  
 200 - 240 VAC (1 Phase, 3 Phase),  
 380 - 480 VAC (3 Phase)  
 24 VDC (JEPMC-OP3C01\*\*\*-E)  
 Rated Power: 50 W - 15 kW  
 Remark: All aspects of the essential requirements  
 were assessed.

## Tested according to:

EN 55011:2016/A11:2020 (Group 1, Class A)  
 EN 61800-3:2004/A1:2012 (Category C2, Second environment)  
 EN 61000-6-2:2005  
 EN 61000-6-4:2007/A1:2011