YASKAWA

Sigma-7 Series

AC Servo Drives

www.yaskawa.eu.com

Quick. Fast. Reliable.

The development of the new Sigma-7 series focused on three main goals: consistently fast commissioning, high production output and maximum operational reliability. The series offers a powerful response to today‘s market requirements for both machine constructors and final customers in the production industry. Sigma-7 offers particularly great potential for packaging plants, semiconductor manufacturing, wood processing and digital printing machines.

200 V Series

400 V Series

Quick Setup in just 3 Minutes

Presets in the amplifier software simplify commissioning. A ‚tuning-less‘ function allows immediate use of the Sigma-7 without the need for complex parametrisation or special knowledge of control equipment, while an auto-tuning function ensures quick adjustment.

Space Savings

New book-style housing supports gap-free, side-by-side installation of amplifiers even in small spaces. This makes it possible to realize a high performance density inside a cabinet. The needed space is reduced to a minimum, allowing it and the drive electronics to be integrated in the machine.

Eco Friendly

Sigma-7 motor efficiency reduces heat generation by up to 20 %. The possible DC Power coupling of axes allows energy sharing and energy savings of up to 30 %.

Cost Savings

Sigma-7 reduces the overall costs by providing faster machine setup, higher throughput with more products in less time and reduced machine downtimes due to the high reliability of our products.

Seven Reasons for Sigma-7

Sigma-7 Servo Drives provide you with the ultimate experience in seven key areas and delivers the optimal solution that only Yaskawa can offer.

1 Comprehensive Motor and Amplifier Power Range

Wide Power Range

- Very compact motors from 50 W to 15 kW
- Linear motors iron core and ironless with a peak force up to 7,560 N
- Direct drives with torques from 2 Nm up to 600 Nm

2 Savings through Performance

Lower Production Costs

- Speed loop bandwidth of 3.1 kHz
- Shorter settling time, reduced positioning time, higher throughput

Higher Performance

- Overload 350 % for 3 – 5 seconds
- High peak torque, fast acceleration

Energy Savings and higher Productivity

- High peak torque, fast acceleration, no amplifier oversizing
- Lightweight mechanics

3 Safety Features

Smooth Integration of mandatory Legal Safety Standards

- The STO function is implemented by default in all Sigma-7 series servo amplifiers
- Build safer machines - Sigma-7 safety modules satisfy the requirements of SIL3/PLe (Cat. 3)
- The functions SS1, SS2, SOS and SLS are standard in each safety module
- 3 different option modules are available with up to 14 safety functions

4 High Efficiency

Very low Heat Generation

- Optimized magnetic circuit improves motor efficiency
- Improved motor efficiency reduces heat generation by about 20 %
- Ambient temperature from -5 to 55 °C (max. 60 °C with derating)

5 High Accuracy

Next level 24-Bit Absolute Encoder for maximum Accuracy

- Resolution of 16 million pulses per revolution for extremely precise positioning

6 Impressive System Performance

Very high Precision teamed up with fast, smooth Operation

- Ripple compensation for highest demands in smoothness and dynamics
- Even for machines for which speed loop gains cannot be set high

7 Outstanding Reliability

Even more Reliability for your Production

- More than 18 million servo systems in the field
- Improved machine reliability, reduced service and maintenance costs, less downtime

Next Generation Servo Systems

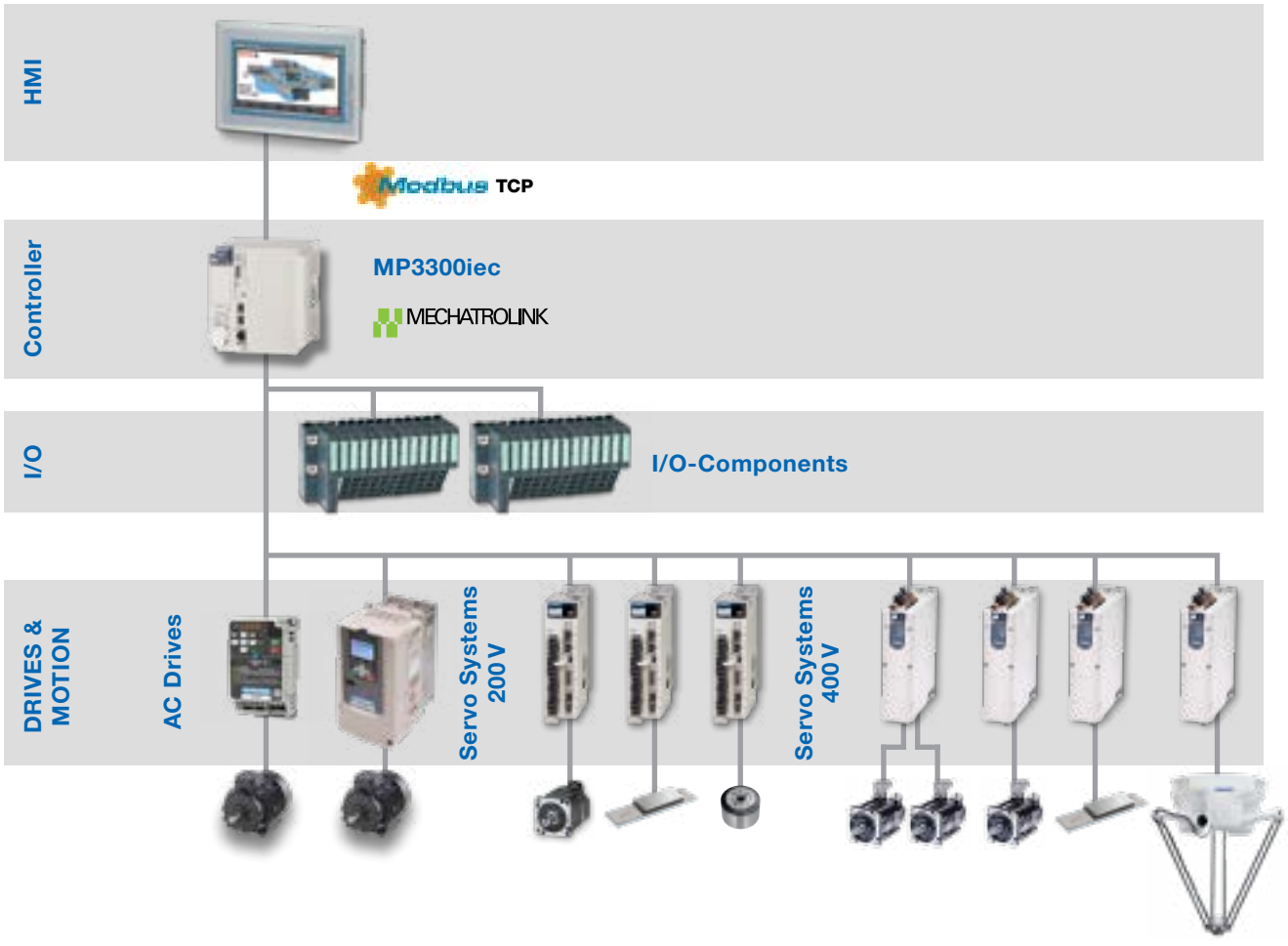
With more than 18 million servo systems in the field, we have a lot of experience and technical know-how in motion and control. The Result: Excellent performance and an extremely low fault rate. With the new Sigma-7 series, we managed to create a masterpiece in reliable precision performance. Thanks to its new features, start-up is possible in just a few minutes. Quick, application specific drive adjustments and maximised product output are guaranteed.

SERVOPACKs

- Single & dual axis amplifier
- One amplifier for linear & rotary motors
- SIL 3 for STO, PL-e CAT 3
- Speed frequency response: 3.1 kHz
- Advanced safety functions SS1, SS2, SLS
- Feedback options
- Ripple compensation, vibration suppression, etc.

Servomotors

- 24-bit high-resolution encoder installed
- High efficiency, low heat generation
- Three motor models available
  - » Low inertia SMG7A up to 7 kW
  - » Medium inertia SGM7J up to 1.5 kW
  - » Medium inertia SGM7G up to 15 kW



Bundles and Individual Components

We can offer our customers bundles as well as individual components for many applications in the automation industry.

Machine Controller MP3300iec

High performance machine controller for automation technology. Yaskawa machine controllers manage complex systems with servo and AC drives. High-speed communication provides high-performance and high-accuracy motion control, even for complex movements.

- Up to 62 axes
- Communication: Modbus TCP/IP, MECHATROLINK-III, Ethernet (100 Mbps)
- PLCopen function blocks
- Reusable code library

MPP 3 & MPK Series Pick & Place Robots + MP3300 with IEC Robot Control

The 4-axis high-speed robot MOTOMAN MPP3 with parallel kinematic system combines the speed of the delta design with a high payload capacity and a large working range.
The MOTOMAN MPK is a high-speed, 5-axis picking robot that provides superior performance and reliability for food handling, picking, packing and other high-speed material handling applications.

- Minimal footprint
- Fast acceleration and high speed increase productivity
- Optional vision and conveyor tracking for maximum flexibility
- Manage every system component with one software package, running on one motion controller.
- Migrate a motion axis from servos to robots and back again, without changing the application code.
- Do it all with the same IEC 61131-3 programming format that your team is already skilled and comfortable with utilizing.

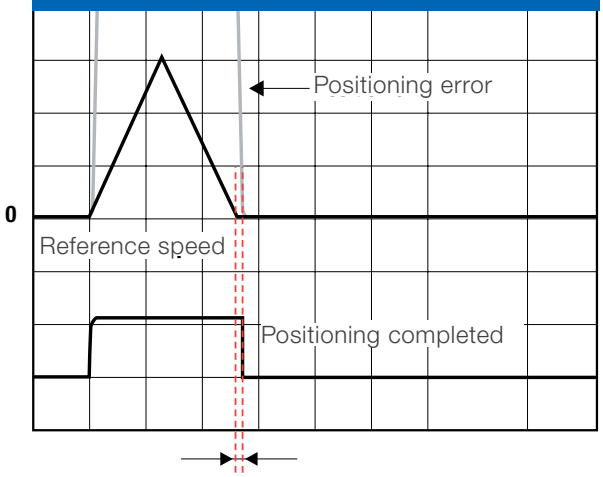
VIPA Touch Panels

VIPA professional touch panels with display sizes from 4.3“ to 12.1“, operating system Windows Embedded CE 6.0 and Runtime Movicon 11 can be used universally. VIPA eco panels in 4 different display sizes from 4.3“ to 15“ are designed for maximum reliability and flexibility, as well as longevity and quality.

Savings through Performance

With a best in class frequency response of 3.1 kHz, Sigma-7 SERVOPACKs can reduce settling time to less than 4 ms. Compared to a standard system with for example 40 ms settling time, a pick & place unit based on Sigma-7 components can save a significant amount of money.

Servo adjustment example



Settling time 0 to 4 ms! (Sigma-7)

Form, fill and seal machine

Shorter Settling Time increases your Revenue

Pick & place example with 40 ms settling time

Axis length	Move	Settle	Move	Settle	Time per part	Parts per minute	Parts per hour	Price per part	Revenue per hour
X = 200 mm	0.5 s	0.04 s	0.5 s	0.04 s					
X = 200 mm	0.2 s	0.04 s	0.2 s	0.04 s	1.56 s	38.46	2,307	€ 0.1	230.77 €
Total	0.7 s	0.08 s	0.7 s	0.08 s					

Pick & place example with 4 ms settling time

Axis length	Move	Settle	Move	Settle	Time per part	Parts per minute	Parts per hour	Price per part	Revenue per hour
X = 200 mm	0.5 s	0.004 s	0.5 s	0.004 s					
X = 200 mm	0.2 s	0.004 s	0.2 s	0.004 s	1.416 s	42.37	2,542	€ 0.1	254.24 €
Total	0.7 s	0.008 s	0.7 s	0.008 s					

Additional revenue per hour: **23.47 €**

Additional revenue per 16 hours: **375.53 €**

Additional revenue per 5 days: **1,877.66 €**

Additional revenue per year: **93,657.75 €**

Safety in Motion

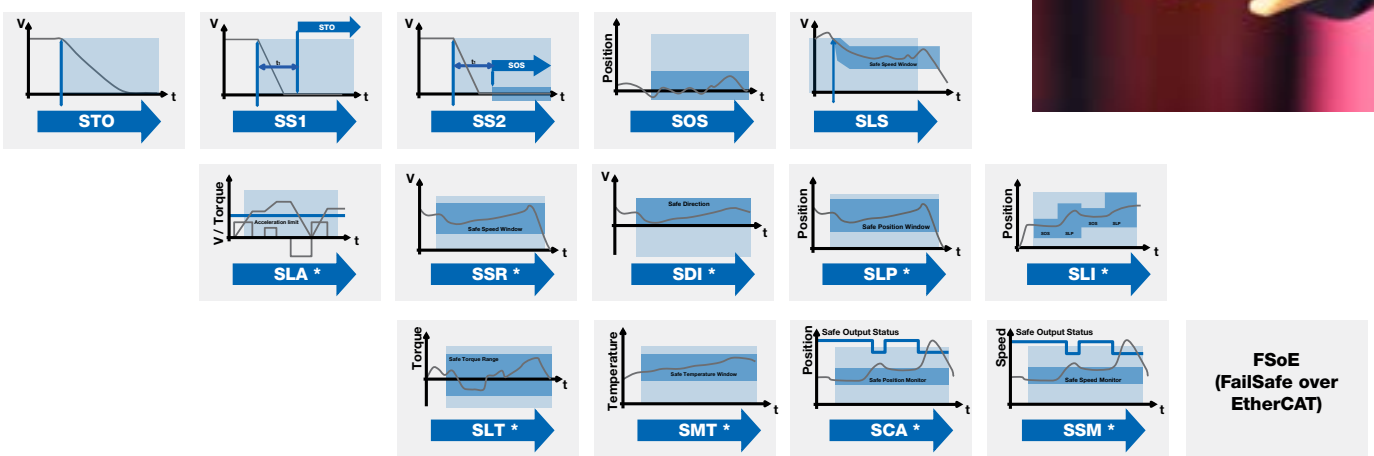
Yaskawa offers a new generation of safety modules, which are geared to your requirements. They follow with SIL3/PLe and FSoE (FailSafe over EtherCAT) the latest standards of the industry.

In order to find a suitable and economical solution for your application Yaskawa offers a scalable concept. While Safe Torque Off is integrated in every SERVOPACK, three different option modules can be selected for further requirements:

Option Module	Safety Function	I/Os	FSoE
SGDV-OSA01A	STO/SS1/SS2/ SOS/SLS	2 Safe Inputs	-
SGD7S-OSB02A	STO/SS1/SS2/ SOS/SLS/SLA/ SSR/SDI/SLP/ SLI/SLT/SMT/ SCA/SSM	-	✓
SGD7S-OSB01A	STO/SS1/SS2/ SOS/SLS/SLA/ SSR/SDI/SLP/ SLI/SLT/SMT/ SCA/SSM	4 Safe I/Os 2 Safe Inputs 1 Safe Analog Input 1 Input 4 - 20 mA 1 Input PT100 /PT1000	✓

SIL3

Up to 14 safety functions enable you to find a suitable solution for many applications. Fulfilling for every safety function the latest standard SIL3/ PLe (Cat. 3) Yaskawa supports you to easily reduce risks.
The new generation of Yaskawa safety modules is also providing FSoE Slave functionality. Combining Safety and the open as well as common Ethernet based fieldbus system EtherCAT helps you to realize your safety application with less effort for wiring.

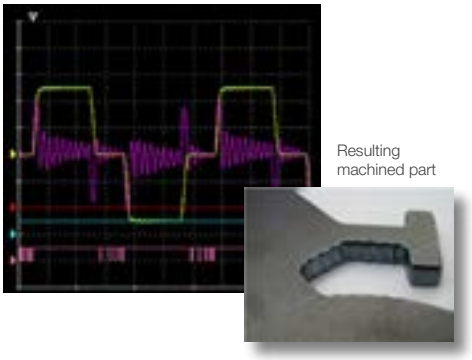


FSoE (FailSafe over EtherCAT)

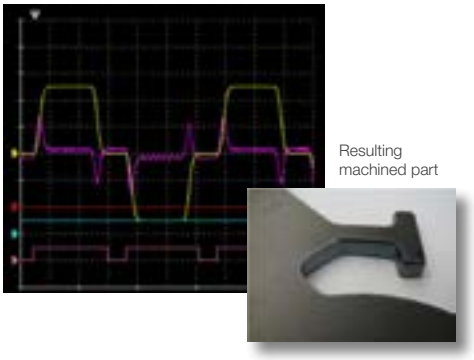
Get Rid of Effects that Steal away Performance

Unwanted mechanical effects rob a servo system of the quick, smooth and precise movement you need. Yaskawa SERVOPACKs are equipped with suppression features that automatically eliminate harmful artifacts.

Without vibration suppression



With vibration suppression



Vibration

Machine vibrations are eliminated by Yaskawa Vibration Suppression, which samples your equipment's natural oscillations and uses compensating frequencies to cancel them out..

Ripples

Motor cogging effects are removed by Ripple Compensation, an especially important effect for systems that require minimum settling time and exceptionally precise positioning.

Resonance

Sigma-7 amplifiers have twice as many anti-resonance filters to more effectively repress a servo system's natural medium-frequency resonances.

Friction

Coulomb friction and viscosity-related variables are effectively addressed by Friction Model Compensation, which effectively elicits smooth start-up action in low speed or high rigidity machines. It corrects changes in machine operation caused by component wear and other friction effects over time.

Electromagnetic interference

The number of interference filters has been increased by 225% to counteract losses caused by data dropouts, electromagnetic interferences and artifacts from long cable runs.

Better Noise Protection

Sigma Series servos are equipped with nine discrete filters to protect against electrical noise, vibration and resonance. The result is more reliable performance, faster response and greater accuracy despite long cable runs, noisy equipment and everyday variations in a machine's mechanical condition.

Simplify your Life

The Sigma-7 Series provides an easy and quick adjustment for your servo solution. That saves time and money.

The Yaskawa Tuning Suite

Yaskawa equips each SERVOPACK with a suite of software commissioning and tuning tools, designed to achieve full functioning right out of the box. This superior performance continues in spite of all the vibration, resonance, friction and noise that a modern automated machine can dish out.

Tuning-Less Function

Get up and running quickly

From Day One, the tuning-less function automatically compensates for mismatches in load to rotor inertia up to 30:1.

Setting time:

40 ms

range

Advanced Autotuning

Minimize setting time
Maximize smooth motion

Advanced auto tuning automatically adjusts nearly 20 gain and filter parameters to cancel vibration, rippling, friction and resonance.

Setting time:

4 ms

range

One Parameter Tuning

Precise user-driven adjustment

Improve your machine's performance even further with easy fine tuning adjustments that won't throw off your existing operating parameters.

Setting time:

0 to 4 ms

range

Packed with Performance

More Torque in Less Space, for an Easier Fit in Your Tightest Application

- The segmented stator core design and automated winding techniques pack nearly twice the copper into the stator gap, for much more torque output from every cubic millimeter of space
- Encapsulated windings prevent shorts between windings, improving heat dissipation
- Precise machining is used to minimize the air gap between rotor magnets and stator windings, for higher running torque and reduced cogging torque
- By reducing the space taken up by the end turns of the winding, overall motor length is significantly reduced
- Neodymium-Iron-Boron rotor magnets optimize flux density in the motor

Eliminate Mechanical Breakdowns

Simplify your machine's design, decrease part counts and cut assembly time by replacing mechanical linkages with reliable, flexible servo control.

- Designed to accommodate up to a 30:1 inertia mismatch
- Reduce gearbox size, or eliminate gearboxes altogether
- Eliminate maintenance points in machinery and improve safety

Software Tools

Software Setup Wizard

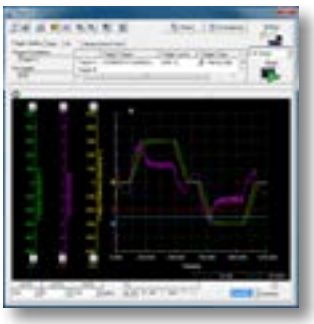
Simple parameter setup with wizard guided input.

Wiring Check Function

The SigmaWin+ wiring check function checks your wiring in a single operation.

Trace Function

Real-time trace of adjustment state facilitates instantaneous monitoring.



Full of handy Functions for Startup and more effective Operation

Optimal selection for your application with consideration of moment of inertia, dynamic braking resistance, etc.

Maintenance

Faster troubleshooting with alarm diagnostic function – presumes possible causes of alarm and immediately displays suggested corrective actions.

The 200 V Series

Amplifiers

- Single & three-phase input
- Embedded fieldbus
  - » Pulse train / analog input
  - » MECHATROLINK-II
  - » MECHATROLINK-III
  - » EtherCAT
  - » PROFINET
  - » Command Option Type
- Single & dual axis amplifier
- Dual axis amplifier with built-in controller
- Single axis amplifier with IEC-based built-in controller

Motors

- Rotary, Linear and Direct Drive Motors available
- Very compact design
- Available from 50 W to 15 kW

Product Overview 200 V

Servomotors

Rotary

SGM7J

- Medium inertia, high speed
- 50 W - 750 W

SGM7A

- Low inertia, high speed
- 50 W - 7 kW

SGM7G

- Medium inertia, large torque
- 300 W - 15 kW

SGMMV

- Low inertia, ultra-small capacity
- 10 W - 30 W

Direct Drive

SGM7D

- Medium capacity, with core
- Rated: 1.3 Nm - 240 Nm
  Peak: 4 Nm - 400 Nm

SGM7E

- Coreless, inner rotor
- Rated: 2 Nm - 35 Nm
  Peak: 6 Nm - 105 Nm

SGM7F

- With core, inner rotor
- Rated: 2 Nm - 200 Nm
  Peak: 6 Nm - 600 Nm

SGMCS

- Small capacity, coreless or Medium capacity, with core
- Rated: 2 Nm - 200 Nm
  Peak: 6 Nm - 600 Nm

SGMCV

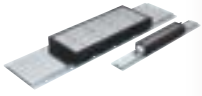
- Small capacity, with core
- Rated: 4 Nm - 35 Nm
  Peak: 12 Nm - 105 Nm

Linear

SGLG

- Coreless model
- Rated: 12.5 N - 750 N
  Peak: 40 N - 3000 N

SGLFW2 / SGLFW



- Model with F-type iron core
- Rated: 25 N - 2520 N
  Peak: 86 N - 7560 N

SGLT

- Model with T-type iron core
- Rated: 130 N - 2000 N
  Peak: 380 N - 7500 N

SERVOPACKs

SGD7S-□□□A00A

Single-axis
Analog Voltage/
Pulse Train Reference

SGD7S-□□□A10A

Single-axis
MECHATROLINK-II
Communication
Reference

SGD7S-□□□A20A

Single-axis
MECHATROLINK-III
Communication
Reference

SGD7S-□□□A30A

Single-axis
MECHATROLINK-III
Communication
Reference
with RJ45 connector

SGD7S-□□□AA0A

Single-axis
EtherCAT
Communication
Reference

SGD7S-□□□AC0A

Single-axis
PROFINET
Communication
Reference

SGD7S-□□□AE0A

Single-axis
Command Option
Attachable Type

SGD7S-□□□M0A

Single-axis
Sigma-7Siec
(with integrated
iec-Controller)

SGD7W-□□□A20A

Dual-axis
MECHATROLINK-III
Communication
Reference

SGD7C-□□□AMAA□□□

Dual-axis
SERVOPACK
with built-in
controller

Option Modules

SGDV-OF□0□A

Fully-Closed /
Feedback Option
Modules

SGDV-OSA01A
SGD7S-OSB0□A

Safety Modules

SGDV-OCA03A

INDEXER Module

SGDV-OCA0□A

DeviceNet Modules

SGDV-OCC02A

MP2600iec Module

Model Designations 200V

Rotary Servomotors

SGM7J - 01 A 7 A 2 1

SGM7J	-	01	A	7	A	2	1
Sigma-7 Series Servomotors: SGM7J		1st + 2nd	3rd	4th	5th	6th	7th digit

1st + 2nd digit - Rated Output

Code	Specification
A5	50 W
01	100 W
C2	150 W
02	200 W
04	400 W
06	600 W
08	750 W

3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

4th digit - Serial Encoder

Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
A	Standard model

6th digit - Shaft End

Code	Specification
2	Straight without key
6	Straight with key and tap
B	With two flat seats

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

SGM7A - 01 A 7 A 2 1

SGM7A	-	01	A	7	A	2	1
Sigma-7 Series Servomotors: SGM7A		1st + 2nd	3rd	4th	5th	6th	7th digit

1st + 2nd digit - Rated Output

Code	Specification
A5	50 W
01	100 W
C2	150 W
02	200 W
04	400 W
06	600 W
08	750 W
10	1.0 kW
15	1.5 kW
20	2.0 kW
25	2.5 kW
30	3.0 kW
40	4.0 kW
50	5.0 kW
70	7.0 kW

3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

4th digit - Serial Encoder

Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
A	Standard model

6th digit - Shaft End

Code	Specification
2	Straight without key
6	Straight with key and tap
B*	With two flat seats

* Code B is not supported for models with a rated output of 1.5 kW or higher.

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

SGM7G - 03 A 7 A 2 1

Sigma-7 series Servomotors: SGM7G

1st + 2nd | 3rd | 4th | 5th | 6th | 7th digit

1st + 2nd digit - Rated Output

Code	Specification
03	300 W
05	450 W
09	850 W
13	1.3 kW
20	1.8 kW
30	2.9 kW*
44	4.4 kW
55	5.5 kW
75	7.5 kW
1A	11.0 kW
1E	15.0 kW

3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

4th digit - Serial Encoder

Code	Specification
6	24-bit batteryless absolute
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
A	Standard model

6th digit - Shaft End

Code	Specification
2	Straight without key
6	Straight shaft with key and tap

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)
E	With oil seal and holding brake (24 VDC)
S	With oil seal

* The rated output is 2.4 kW if you combine the SGM7G-30A with the SGD7S-200A.

SGMMV - A1 A 2 A 2 1

Sigma-5 mini series Servomotors: SGMMV

1st + 2nd | 3rd | 4th | 5th | 6th | 7th digit

1st + 2nd digit - Rated Output

Code	Specification
A1	10 W
A2	20 W
A3	30 W

3rd digit - Power Supply Voltage

Code	Specification
A	200 VAC

4th digit - Serial Encoder

Code	Specification
2	17-bit absolute

5th digit - Design Revision Order

Code	Specification
A	Standard model

6th digit - Shaft End

Code	Specification
2	Straight without key
A	Straight with flat seats (optional)

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)

Direct Drive Servomotors

SGM7D - 30 F 7 C 4 1

Direct Drive Servomotors — 1st + 2nd — 3rd — 4th — 5th — 6th — 7th digit

1st + 2nd digit - Rated Output

Code	Specification	Code	Specification
01	1.3 Nm	30	30 Nm
02	2.06 Nm	34	34 Nm
03	3 Nm	38	38 Nm
05	5 Nm	45	45 Nm
06	6 Nm	58	58 Nm
08	8 Nm	70	70 Nm
09	9 Nm	90	90 Nm
12	12 Nm	1Z	100 Nm
18	18 Nm	1A	110 Nm
20	20 Nm	1C	130 Nm
24	24 Nm	2B	220 Nm
28	28 Nm	2D	240 Nm

3rd digit - Servomotor Outer Diameter

Code	Specification
F	264 mm
G	160 mm
H	116 mm
I	264 mm
J	150 mm
K	107 mm
L	224 mm x 224 mm

4th digit - Serial Encoder

Code	Specification
7	24-bit multi-turn absolute encoder*1
F	24-bit incremental encoder*1

5th digit - Design Revision Order

Code	Specification
C	Standard Model

6th digit - Flange

Code	Mounting	Servomotor Outer Diameter Code (3rd digit)						
		F	G	H	I	J	K	L
4	Non-load side with cable on side	✓	✓	✓	—	—	—	✓
5	Non-load side with cable on bottom	✓	✓*2	—	✓	✓	✓	—

7th digit - Options

Code	Specification
1	Standard machine precision
2	High machine precision*3

*1. Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.
*2. SGM7D-01G and -05G are not available with a cable extending from the bottom.
*3. The SGM7D-01G, -05G, and -03H are available only with high mechanical precision.

SGM7E - 02 B 7 A 1 1

Direct Drive Servomotors — 1st + 2nd — 3rd — 4th — 5th — 6th — 7th digit

1st + 2nd digit - Rated Output

Code	Specification
02	2 Nm
04	4 Nm
05	5 Nm
07	7 Nm
08	8 Nm
10	10 Nm
14	14 Nm
16	16 Nm
17	17 Nm
25	25 Nm
35	35 Nm

3rd digit - Servomotor Outer Diameter

Code	Specification
B	135 mm
C	175 mm
D	230 mm
E	290 mm

4th digit - Serial Encoder

Code	Specification
7	24-bit multiturn absolute encoder*
F	24-bit incremental encoder*

5th digit - Design Revision Order

Code	Specification
A	Standard Model

6th digit - Flange

Code	Mounting
1	Non-load side
4	Non-load side (with cable on side)

7th digit - Options

Code	Specification
1	Without options
4	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

* Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.
Note: 1. Direct Drive Servomotors are not available with holding brakes.
2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

SGM7F - 02 A 7 A 1 1

Direct Drive Servomotors — 1st + 2nd — 3rd — 4th — 5th — 6th — 7th digit

1st + 2nd digit - Rated Output			
Code	Specification	Code	Specification
Small-capacity Series, coreless		Medium-capacity Series, with core	
02	2 Nm	45	45 Nm
04	4 Nm	80	80 Nm
05	5 Nm	1A	110 Nm
07	7 Nm	1E	150 Nm
08	8 Nm	2Z	200 Nm
10	10 Nm		
14	14 Nm		
16	16 Nm		
17	17 Nm		
25	25 Nm		
35	35 Nm		

3rd digit - Servomotor Outer Diameter	
Code	Specification
A	100 mm
B	135 mm
C	175 mm
D	230 mm
M	280 mm
N	360 mm

4th digit - Serial Encoder	
Code	Specification
7	24-bit multiturn absolute encoder*
F	24-bit incremental encoder*

5th digit - Design Revision Order	
Code	Specification
A	Standard Model

6th digit - Flange							
Code	Mounting	Servomotor Outer Diameter Code (3rd digit)					
		A	B	C	D	M	N
1	Non-load side	✓	✓	✓	✓	—	—
	Load side	—	—	—	—	✓	✓
3	Non-load side	—	—	—	—	✓	✓
4	Non-load side (with cable on side)	✓	✓	✓	✓	—	—

7th digit - Options	
Code	Specification
1	Without options
2	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

* Both multiturn absolute encoder and incremental encoder can be used as a single-turn absolute encoder by setting parameters.

Note: 1. Direct Drive Servomotors are not available with holding brakes.
2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

SGMCS - 02 B 3 C 1 1 E

Direct Drive Servomotors — 1st + 2nd — 3rd — 4th — 5th — 6th — 7th — 8th digit

1st + 2nd digit - Rated Output			
Code	Specification	Code	Specification
Small-capacity Series, coreless		Medium-capacity Series, with core	
02	2 Nm	45	45 Nm
04	4 Nm	80	80 Nm
05	5 Nm	1A	110 Nm
07	7 Nm	1E	150 Nm
08	8 Nm	2Z	200 Nm
10	10 Nm		
14	14 Nm		
16	16 Nm		
17	17 Nm		
25	25 Nm		
35	35 Nm		

3rd digit - Servomotor Outer Diameter	
Code	Specification
B	135 mm
C	175 mm
D	230 mm
E	290 mm
M	280 mm
N	360 mm

4th digit - Serial Encoder	
Code	Specification
3	20-bit single-turn absolute encoder
D	20-bit incremental encoder

5th digit - Design Revision Order	
Code	Specification
A	Model with servomotor outer diameter code M or N
B	Model with servomotor outer diameter code E
C	Model with servomotor outer diameter code B, C, or D

6th digit - Flange							
Code	Mounting	Servomotor Outer Diameter Code (3rd digit)					
		B	C	D	E	M	N
1	Non-load side	✓	✓	✓	✓	—	—
	Load side	—	—	—	—	✓	✓
3	Non-load side	—	—	—	—	✓	✓
4	Non-load side (with cable on side)	✓	✓	✓	✓	—	—

7th digit - Options	
Code	Specification
1	Without options

8th digit	
Code	Specification
E	RoHS II Suffix

Note:
1. Direct Drive Servomotors are not available with holding brakes.
2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

SGMCV - 04 B E A 1 1

Direct Drive Servomotors	1st + 2nd	3rd	4th	5th	6th	7th	digit

1st + 2nd digit - Rated Output

Code	Specification
04	4 Nm
08	8 Nm
10	10 Nm
14	14 Nm
17	17 Nm
25	25 Nm
35	35 Nm

3rd digit - Servomotor Outer Diameter

Code	Specification
B	135 mm dia.
C	175 mm dia.
D	230 mm dia.

4th digit - Serial Encoder

Code	Specification
E	22-bit single-turn absolute encoder
I	22-bit multiturn absolute encoder

5xth digit - Design Revision Order

Code	Specification
A	Standard Model

6th digit - Flange

Code	Mounting
1	Non-load side
4	Non-load side (with cable on side)

7th digit - Options

Code	Specification
1	Without options
5	High machine precision (runout at end of shaft and runout of shaft surface: 0.01 mm)

Note:
1. Direct Drive Servomotors are not available with holding brakes.
2. This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Linear Servomotors SGLG (Coreless Models)

Moving Coil

SGL G W - 30 A 050 C P □ - E

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th	6th - 8th	9th	10th	11th	12th	digit

1st digit - Servomotor Type

Code	Specifications
G	Coreless model

2nd digit - Moving Coil/ Magnetic Way

Code	Specification
W	Moving Coil

3rd + 4th digit - Magnet Height

Code	Specification
30	30 mm
40	40 mm
60	60 mm
90	86 mm

5th digit - Power Supply Voltage

Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil

Code	Specification
050	50 mm
080	80 mm
140	140 mm
200	199 mm
253	252.5 mm
365	365 mm
370	367 mm
535	535 mm

7th digit - Design Revision Order

Code	Specification
A, B, ...	Revision

10th digit - Sensor Specification and Cooling Method

Code	Specifications		Applicable Models
	Polarity Sensor	Cooling Method	
None	None	Self-cooled	All models
C	None	Air-cooled	SGLGW-40A, -60A, -90A
H	Yes	Air-cooled	
P	Yes	Self-cooled	All models

11th digit - Connector for Servomotor Main Circuit Cable

Code	Specifications	Applicable Models
None	Connector from Tyco Electronics Japan G.K.	All models
D	Connector from Interconnectron GmbH	SGLGW-30A, -40A, -60A

12th digit

Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Magnetic Way

SGL G M - 30 108 C □ -E

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th - 7th	8th	9th	10th	digit

1st digit - Servomotor Type

Code	Specifications
G	Coreless model

2nd digit - Moving Coil/ Magnetic Way

Code	Specifications
M	Magnetic Way

3rd + 4th digit - Magnet Height

Code	Specifications
30	30 mm
40	40 mm
60	60 mm
90	86 mm

5rd ... 7th digit - Length of Magnetic Way

Code	Specifications
090	90 mm
108	108 mm
216	216 mm
225	225 mm
252	252 mm
360	360 mm
405	405 mm
432	432 mm
450	450 mm
504	504 mm

8th digit - Design Revision Order

Code	Specifications
A, B, C*	Revision

9th digit - Options

Code	Specifications	Applicable Models
None	Standard-force	All models
-M	High-force	SGLGM-40, -60

10th digit

Code	Specifications
E	RoHS II Suffix

*: SGLGM-40 and SGLGM-60 also have a CT Code.
C = Without mounting holes on the bottom.
CT = With mounting holes on the bottom.

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Linear Servomotors (Models with F-type Iron Cores)

Moving Coil

S G L F W2 - 30 A 070 A S 1 E

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th	6th - 8th	9th	10th	11th	12th	digit

1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
W2	Moving Coil

3rd + 4th digit - Magnet Height

Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th digit - Power Supply Voltage

Code	Specification
A	200 VAC

6th ... 8th digit - Length of Moving Coil

Code	Specification
070	70 mm
120	125 mm
200	205 mm
230	230 mm
380	384 mm
560	563 mm

9th digit - Design Revision Order

Code	Specification
A	Standard Model

10th digit - Sensor Specification

Code	Specification
S	With polarity sensor and thermal protector
T	Without polarity sensor, with thermal protector

11th digit - Options

Code	Cooling Method
1	Self-cooled
L	Water-cooled*

12th digit - Options

Code	Connection
E	Metal round connector (Phoenix)

* Contact your Yaskawa representative for information on water-cooled model.
Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Magnetic Way

S G L F M2 - 30 270 A

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th - 7th	8th	digit

1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
M2	Magnetic Way

3rd + 4th digit - Magnet Height

Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th ... 7th digit - Length of Magnetic Way

Code	Specification
270	270 mm
306	306 mm
450	450 mm
510	510 mm
630	630 mm
714	714 mm

8th digit - Design Revision Order

Code	Specification
A	Standard Model

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Moving Coil

S G L F W - 20 A 090 A P □ - E

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th	6th - 8th	9th	10th	11th	12th	digit

1st digit - Specification

Code	Servomotor Type
F	With F-type iron core

2nd digit - Moving Coil/ Magnetic Way

Code	Specification
W	Moving Coil

3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
50	47.5 mm
1Z	95 mm

5th digit - Voltage

Code	Specification
A	200 VAC

6th - 8th digit - Length of Moving Coil

Code	Specification
090	91 mm
120	127 mm
200	215 mm
230	235 mm
380	395 mm

9th digit - Design Revision Order

Code	Specification
A, B, ...	Revision

10th digit - Sensor Specification

Code	Specification
P	With polarity sensor
None	Without polarity sensor

11th digit - Connector for Servomotor Main Circuit Cable

Code	Specification	Applicable Models
None	Connector from Tyco Electronics Japan G.K.	All models
D	Connector from Interconnectron GmbH	SGLFW-35, -50, -1Z□200B

12th digit

Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

Magnetic Way

S G L F M - 20 324 A □ - E

Sigma-7 Series Linear Servomotors	1st	2nd	3rd + 4th	5th - 7th	8th	9th	10th	digit

1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
M	Magnetic Way

3rd + 4th digit - Magnet Height

Code	Specification
20	20 mm
35	36 mm
50	47.5 mm
1Z	95 mm

5rd ... 7th digit - Length of Magnetic Way

Code	Specification
324	324 mm
405	405 mm
540	540 mm
675	675 mm
756	756 mm
945	945 mm

8th digit - Design Revision Order

Code	Specification
A, B, ...	Revision

9th digit - Options

Code	Specification
None	Without options
C	With magnet cover

10th digit

Code	Specifications
E	RoHS II Suffix

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

SGLT (Models with T-type Iron Cores)

Moving Coil

SGL T W - 20 A 170 A P □ - E

Sigma-7 Series Linear Servomotors — 1st — 2nd — 3rd + 4th — 5th — 6th ... 8th — 9th — 10th — 11th — 12th digit

1st digit - Servomotor Type	
Code	**Specification**
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	**Specification**
W	Moving Coil

3rd + 4th digit - Magnet Height	
Code	**Specification**
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th digit - Power Supply Voltage	
Code	**Specification**
A	200 VAC

6th ... 8th digit - Length of Moving Coil	
Code	**Specification**
170	170 mm
320	315 mm
400	394.2 mm
460	460 mm
600	574.2 mm

9th digit - Design Revision Order	
Code	**Specification**
A, B, ...	Revision
H	High-efficiency model

10th digit - Sensor Specifications and Cooling Method			
Code	**Specifications**		**Applicable Models**
	Polarity Sensor	**Cooling Method**	
None	None	Self-cooled	All models
C*	None	Water-cooled	SGLTW-40, -80
H*	Yes	Water-cooled	
P	Yes	Self-cooled	All models

11th digit - Connector for Servomotor Main Circuit Cable		
Code	**Specification**	**Applicable Models**
None	Connector from Tyco Electronics Japan G.K.	SGLTW-20A□□□□□ -35A□□□□□
	MS connector	SGLTW-40A□□□□B□ -80A□□□□B□
	Loose lead wires with no connector	SGLTW-35A□□□H□ -50A□□□H□

12th digit	
Code	**Specifications**
E	RoHS II Suffix

* Contact your Yaskawa representative for the characteristics, dimensions, and other details on servomotors with these specifications.

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combination of codes.

Magnetic Way

SGL T M - 20 324 A □ - E

Sigma-7 Series Linear Servomotors — 1st — 2nd — 3rd + 4th — 5th ... 7th — 8th — 9th — 10th digit

1st digit - Servomotor Type	
Code	**Specification**
T	With T-type iron core

2nd digit - Moving Coil/Magnetic Way	
Code	**Specification**
M	Magnetic Way

3rd + 4th digit - Magnet Height	
Code	**Specification**
20	20 mm
35	36 mm
40	40 mm
50	51 mm
80	76.5 mm

5th ... 7th digit - Length of Magnetic Way	
Code	**Specification**
324	324 mm
405	405 mm
540	540 mm
675	675 mm
756	756 mm
945	945 mm

8th digit - Design Revision Order	
Code	**Specification**
A, B, ...	Revision
H	High-efficiency model

9th digit - Options		
Code	**Specification**	**Applicable Models**
None	Without options	–
C	With magnet cover	All models
Y	With base and magnet cover	SGLTM-20, -35*, -40, -80

10th digit	
Code	**Specifications**
E	RoHS II Suffix

* The SGLTM-35□□□H (high-efficiency models) do not support this specification.

SERVOPACKs

SGD7S - R70 A 00 A 001 000

Sigma-7 Series Sigma-7S Models	1st ... 3rd	4th	5th + 6th	7th	8th ... 10th	11th ... 13th	digit

1st ... 3rd digit - Maximum Applicable Motor Capacity

Code	Specification
Three-phase, 200 V	
R70*1	50 W
R90*1	100 W
1R6*1	200 W
2R8*1	400 W
3R8	500 W
5R5*1	750 W
7R6	1.0 kW
120*2	1.5 kW
180	2.0 kW
200*3	3.0 kW
330	5.0 kW
470	6.0 kW
550	7.5 kW
590	11 kW
780	15 kW

4th digit - Voltage

Code	Specification
A	200 VAC

5th + 6th digit - Interface*4

Code	Specification
00	Analog Voltage/ Pulse train reference
10	MECHATROLINK-II communication reference
20	MECHATROLINK-III communication reference
30	MECHATROLINK-III communication reference with RJ45 connector
A0	EtherCAT communication reference
C0	PROFINET*5 communication reference
E0	Command Option Attachable Type*6
M0	Sigma-7Siec (with integrated iec-Controller)

7th digit - Design Revision Order

Code	Specification
A	Standard Model

8th ... 10th digit - Hardware Options Specifications

Code	Specifications	Applicable Models
None	Without Options	All models
001	Rack-mounted	SGD7S-R70A to -330A
	Duct-ventilated	SGD7S-470A to -780A
002	Varnished	All models
008	Single-phase, 200 V power input	SGD7S-120A
020*7	No dynamic brake	SGD7S-R70A to -2R8A
	External dynamic brake resistor	SGD7S-3R8A to -780A
00A	Varnished and single-phase power input	All models

11th ... 13th digit - FT/EX Specifications

Code	Specifications
None	None
000	
F50*9	Application function for integrated MPiec
F82*8	Application function option for special motors, SGM7D motor drive
F83*8	Application function option for special motors, SGM7D motor drive, indexing

Notes:
*1. You can use these models with either a single-phase or three-phase power supply input.
*2. A model with a single-phase, 200-VAC power supply input is available as a hardware option (SGD7S-120A□0A008).
*3. The rated output is 2.4 kW if you combine the SGM7G-30A with the SGD7S-200A.
*4. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.
*5. Available for a rated output of up to 1.5 kW.
*6. A command option module must be attached to the Command Option Attachable-type SERVOPACK for use.
*7. Refer to the following manual for details.
Sigma-7-Series AC Servo Drive Sigma-7S/Sigma-7W SERVOPACK with Hardware Option Specifications Dynamic Brake Product Manual (Manual No.: SIEP S800001 73)
*8. Refer to the following manual for details.
Sigma-7-Series AC Servo Drive □-7S SERVOPACK with FT/EX Specification for SGM7D Motor Product Manual (Manual No.: SIEP S800001 91)
*9. Applicable for Sigma-7Siec models.

SGD7W - 1R6 A 20 A 700 000

Sigma-7 Series Sigma-7W Models	1st ... 3rd	4th	5th + 6th	7th	8th ... 10th	11th ... 13th	digit

1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis

Code	Specification
Three-phase, 200 V	
1R6*1	200 W
2R8*1	400 W
5R5*2	750 W
7R6	1.0 kW

4th digit - Voltage

Code	Specification
A	200 VAC

5th + 6th digit - Interface*3

Code	Specification
20	MECHATROLINK-III communication Reference

7th digit - Design Revision Order

Code	Specification
A	Standard Model

8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
None	Without Options	All models
700*4	HWBB Option	All models

11th ... 13th digit - FT/EX Specifications

Code	Specifications
None	None
000	

Note:
*1. You can use these models with either a single-phase or three-phase power supply input. For more information, please contact your Yaskawa representative.
*2. If you use the SGD7W-5R5A with a single-phase 200-VAC power supply input, derate the load ratio to 65%. An example is given below.
*3. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.
*4. Refer to the following manual for details.
Sigma-7 Series AC Servo Drive Sigma-7W/Sigma-7C SERVOPACK with Hardware Option Specifications HWBB Function Product Manual (Manual No.: SIEP S800001 72)

SGD7C - 1R6 A MA A 700

Sigma-7 Series Sigma-7C Models	1st ... 3rd	4th	5th + 6th	7th	8th ... 10th	digit

1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis

Code	Specification
Three-phase, 200 V	
1R6*1	200 W
2R8*1	400 W
5R5*2	750 W
7R6	1.0 kW

4th digit - Voltage

Code	Specification
A	200 VAC

5th + 6th digit - Interface*3

Code	Specification
20	MECHATROLINK-III communication Reference
MA	Bus connection with references

7th digit - Design Revision Order

Code	Specification
A	Standard Model

8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
None	Without Options	All models
700*4	HWBB Option	All models

Note:
*1. You can use these models with either a single-phase or three-phase power supply input.
*2. If you use the SGD7W-5R5A with a single-phase 200-VAC power supply input, derate the load ratio to 65%. An example is given below.
*3. The same SERVOPACKs are used for both Rotary Servomotors and Linear Servomotors.
*4. Refer to the following manual for details.
Sigma-7 Series AC Servo Drive Sigma-7W/Sigma-7C SERVOPACK with Hardware Option Specifications HWBB Function Product Manual (Manual No.: SIEP S800001 72)

The 400 V Series

Amplifier

- Space saving bookstyle for side-by-side mounting
- Embedded fieldbus
  - » EtherCAT
  - » MECHATROLINK-III
  - » PROFINET
  - » iec-Controller
- Single & dual axis amplifier
- European connectors
- Daisy-chain-connection

Motors

- Plug-and-turn connectors according to european standards (M12, M17, M23 and M40)
- Available from 200 W - 15 kW

- Connectors for power supply, EtherCAT, I/O, encoder, USB, etc.

- Option units for advanced safety, encoder

- Connector for digital operator

- Power connectors for motor, brake, braking resistor
- Metal sheet for motor cable shielding

Product Overview 400 V

Servomotors

Rotary

SGM7J

- Medium inertia, high speed
- 200 W - 1.5 kW

SGM7A

- Low inertia, high speed
- 200 W - 7.0 kW

SGM7G

- Medium inertia, high torque, low speed or high speed models
- 450 W - 15 kW

Linear

SGLFW2

- Model with F-type iron core
- Rated: 45 N - 2,520 N
  Peak: 135 N - 7,560 N

SERVOPACKs

Single Axis

SGD7S-□□□DA0B

EtherCAT Communication Reference

SGD7S-□□□D30B

MECHATROLINK-III Communication Reference

SGD7S-□□□DC0B

PROFINET Communication Reference

SGD7S-□□□DM0B

Siec (with integrated iec-Controller)

Dual Axis

SGD7W-□□□DA0B

EtherCAT Communication Reference

SGD7W-□□□D30B

MECHATROLINK-III Communication Reference

Option Modules

SGDV-OSA01A000FT900

Safety Module

SGDV-OF□□□A

Feedback Option/ Fully Closed Loop Module

Model Designations 400V

Rotary Servomotors

SGM7J - 02 D F F 6 1

Sigma-7 Series Servomotors: SGM7J	-	02	D	F	F	6	1
		1st + 2nd	3rd	4th	5th	6th	7th digit

1st + 2nd digit - Rated Output

Code	Specification
02	200 W
04	400 W
08	750 W
15	1.5 kW

3rd digit - Power Supply Voltage

Code	Specification
D	400 VAC

4th digit - Serial Encoder

Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
F	Standard model

6th digit - Shaft End

Code	Specification
2	Straight without key
6	Straight with key and tap

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)

SGM7A - 02 D F F 6 1

Sigma-7 Series Servomotors: SGM7A	-	02	D	F	F	6	1
		1st + 2nd	3rd	4th	5th	6th	7th digit

1st + 2nd digit - Rated Output

Code	Specification
02	200 W
04	400 W
08	750 W
10	1.0 kW
15	1.5 kW
20	2.0 kW
25	2.5 kW
30	3.0 kW
40	4.0 kW
50	5.0 kW
70	7.0 kW

3rd digit - Power Supply Voltage

Code	Specification
D	400 VAC

4th digit - Serial Encoder

Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
F	Standard model

6th digit - Shaft End

Code	Specifications
2	Straight without key
6	Straight with key and tap

7th digit - Options

Code	Specifications
1	Without options
C*2	With holding brake (24 VDC)
F*1, *2	With dust seal
H*1, *2	With dust seal and holding brake (24 VDC)

*1 This option is supported only for SGM7A-10 to -50 Servomotors.
*2 These options are not supported by SGM7A-70 Servomotors.

SGM7G - 05 D F F 6 F

Sigma-7 Series Servomotors: SGM7G	-	05	D	F	F	6	F
		1st + 2nd	3rd	4th	5th	6th	7th digit

1st + 2nd digit - Rated Output

Code	Specification
05	450 W
09	850 W
13	1.3 kW
20	1.8 kW
30	2.9 kW
44	4.4 kW
55	5.5 kW
75	7.5 kW
1A	11.0 kW
1E	15.0 kW

3rd digit - Power Supply Voltage

Code	Specification
D	400 VAC

4th digit - Serial Encoder

Code	Specification
7	24-bit absolute
F	24-bit incremental

5th digit - Design Revision Order

Code	Specification
F	Standard model
R*2	High-speed model

6th digit - Shaft End

Code	Specification
2	Straight without key (450 W, 1.8 kW, 2.9 kW)
6	Straight with key and tap (450 W, 1.8 kW, 2.9 kW)
S*1	Straight without key (850 W, 1.3 kW)
K*1	Straight with key and tap (850 W, 1.3 kW)

7th digit - Options

Code	Specification
1	Without options
C	With holding brake (24 VDC)
F	With dust seal
H	With dust seal and holding brake (24 VDC)

*1 The shaft end codes are different for 850 kW and 1.3 kW Servomotors.
The shaft diameter for 850 W Servomotors is 19 mm.
The shaft diameter for 1.3 kW Servomotors is 22 mm.
*2 Available up to 4.4 kW.

Linear Servomotors with F-Type Iron Cores

Moving Coil

S G L F W2 - 30 D 070 A S 1 E

Sigma-7 Series Linear Servomotors:	1st	2nd	3rd + 4th	5th	6th - 8th	9th	10th	11th	12th	digit

1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
W2	Moving Coil

3rd + 4th digit - Magnet Height

Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th digit - Power Supply Voltage

Code	Specification
D	400 VAC

6th ... 8th digit - Length of Moving Coil

Code	Specification
070	70 mm
120	125 mm
200	205 mm
230	230 mm
380	384 mm

9th digit - Design Revision Order

Code	Specification
A	Standard model

10th digit - Sensor Specification

Code	Specification
T	Without polarity sensor, with thermal protector
S	With polarity sensor and thermal protector

11th digit - Options

Code	Cooling Method
1	Self-cooled
L	Water-cooled*

12th digit - Options

Code	Connection
E	Metal round connector (Phoenix)

* Contact your Yaskawa representative for information on water-cooled model.

Magnetic Way

S G L F M2 - 30 270 A

Sigma-7 Series Linear Servomotors:	1st	2nd	3rd + 4th	5th - 7th	8th	digit

1st digit - Servomotor Type

Code	Specification
F	With F-type iron core

2nd digit - Moving Coil/Magnetic Way

Code	Specification
M2	Magnetic Way

3rd + 4th digit - Magnet Height

Code	Specification
30	30 mm
45	45 mm
90	90 mm
1D	135 mm

5th ... 7th digit - Length of Magnetic Way

Code	Specification
270	270 mm
306	306 mm
450	450 mm
510	510 mm
630	630 mm
714	714 mm

8th digit - Design Revision Order

Code	Specification
A	Standard model

Note: This information is provided to explain model numbers. It is not meant to imply that models are available for all combinations of codes.

SERVOPACKs

Single Axis Amplifier

SGD7S - 1R9 D A0 B 000 F64

Sigma-7 Series Sigma-7S Models	1st ... 3rd	4th	5th + 6th	7th	8th ... 10th	11th ... 13th	digit

1st ... 3rd digit - Maximum Applicable Motor Capacity

Code	Specification
Three-phase, 400 V	
1R9	500 W
3R5	1.0 kW
5R4	1.5 kW
8R4	2.0 kW
120	3.0 kW
170	5.0 kW
210	6.0 kW
260	7.5 kW
280	11.0 kW
370	15.0 kW

4th digit - Voltage

Code	Specification
D	400 V AC

5th + 6th digit - Interface*2

Code	Specification
A0	EtherCAT communication reference
C0	PROFINET*4 communication reference
30	MECHATROLINK-III, RJ45 communication reference
M0	Sigma-7Siec (with built-in single-axis control)

7th digit - Design Revision Order

Code	Specification
B	Standard model

8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
000	Without Options	All models
026*3	With relay for holding brake	All models

11th ... 13th digit - FT/EX Specification

Code	Specification
F64*1	Zone table
F50	Application function for Sigma-7Siec

*1. Only available for EtherCAT (CoE) and MECHATROLINK-III communication references.
*2. The same SERVOPACKs are used for both rotary and linear servomotors.
*3. For specification of the internal brake relay, please refer to the hardware manual of the amplifier.
*4. Available for a rated output of up to 1.5 kW.

Dual Axis Amplifier

SGD7W - 2R6 D A0 B -

Sigma-7 Series Sigma-7W Models	1st ... 3rd	4th	5th + 6th	7th	8th ... 10th	digit

1st ... 3rd digit - Maximum Applicable Motor Capacity per Axis

Code	Specification
Three-phase, 400 V	
2R6	750 W
5R4	1.5 kW

4th digit - Voltage

Code	Specification
D	400 V AC

5th + 6th digit - Interface

Code	Specification
A0	EtherCAT communication reference
30	MECHATROLINK-III, RJ45 communication reference

7th digit - Design Revision Order

Code	Specification
B	Standard model

8th ... 10th digit - Hardware Options Specifications

Code	Specification	Applicable Models
-	Without Options	All models
026*	With relay for holding brake	All models

* For specification of the internal brake relay, please refer to the hardware manual of the amplifier.

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