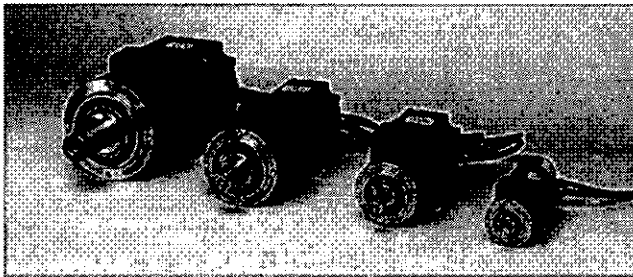


SGMP Gearmotors (3000rpm) - With Incremental / Absolute Encoder

Rated Output : 100W, 200W, 400W, 750W, 1500W



For Additional Information	Page(s)
SGMP Gearmotor Ratings & Specifications	60
SGMP Gearmotor Dimensions	62
SGMP Gearmotor Selection/Ordering Information	63 - 67
SGDA Ratings & Specifications	68 - 72
SGDA Dimensions	73 - 74



Design Features

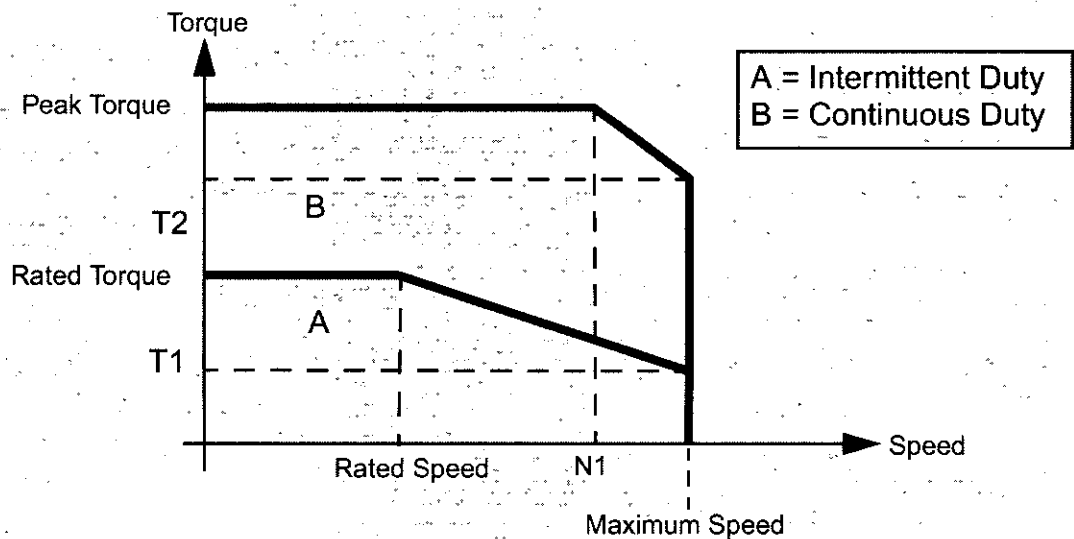
- 1. Compact**
 - Fits in limited mounting space
- 2. Speed**
 - 40.9 to 1,770 in. lb. peak torque
 - Cost-effective solution for low speed and high torque applications
 - Uses time-proven, SGMP motor technology
- 3. Encoders**
 - 2048 PPR incremental encoder standard
 - 1024 PPR absolute encoder (option)
- 4. Enclosure**
 - Totally enclosed, self-cooled IP55 (not including shaft)
- 5. Application Emphasis**
 - Compact, high torque to inertia ratio
 - Chip mounters
 - PCB drilling machines
 - Robots
 - Conveyors
 - Packaging
- 6. Certified International Standards**
 - UL Recognized (File #: E165827), CE compliance (option)

Gearmotor Ratings and Specifications

SGMP

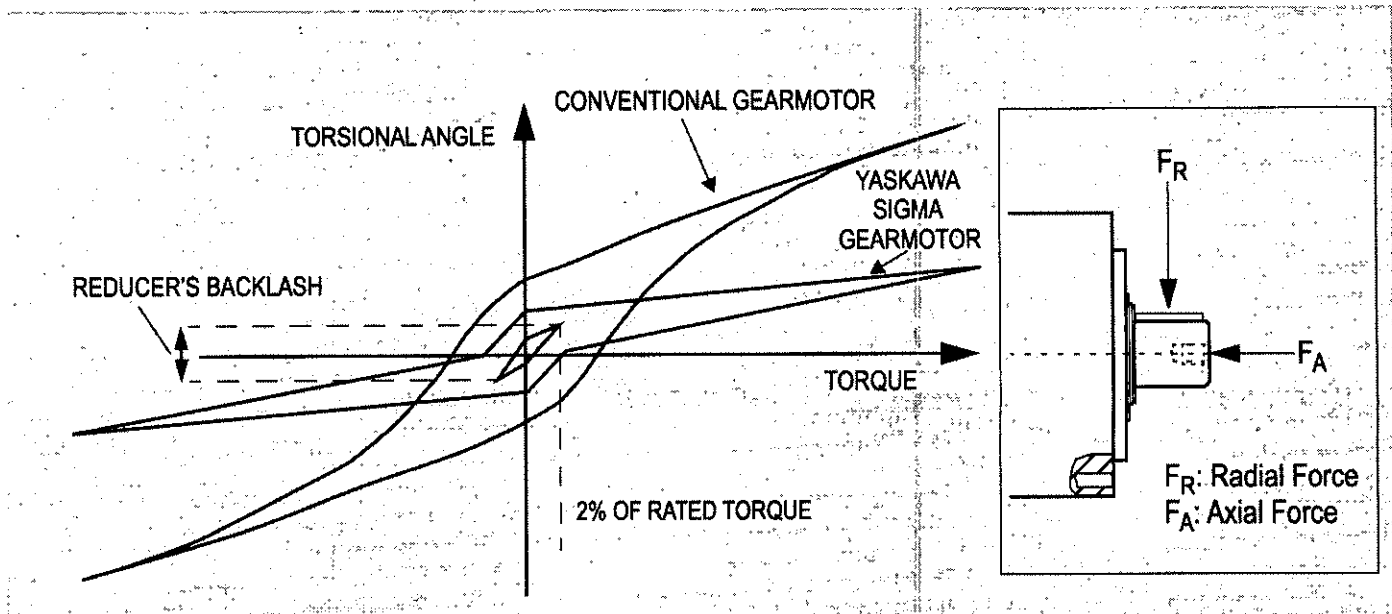
GEARMOTOR Part Number	Rated Torque (in. lb.)	Peak Torque (in. lb.)	Rated Speed (rpm)	Max. Speed (rpm)	Speed N1 (rpm)	Torque T1 (in. lb.)	Torque T2 (in. lb.)	Amplifier Model Number		
								Analog Input SGDA-	Digital Input SGDA-	Analog/Digital Input SGDB-
SG05SA-P01□□	13.68	40.93	600	900	900	8.49	40.92	01□S	01□P	-
SG10SA-P01□□	27.35	81.87	300	450	450	16.98	81.84			
SG25SA-P01□□	50.00	102.00	120	180	180	41.56	102.00			
SG50SA-P01□□	133.95	283.00	60	90	90	83.13	283.00			
SG05SA-P02□□	27.31	81.87	600	900	900/600	15.16	81.8/45.5	02□S	02□P	-
SG10SA-P02□□	54.61	163.74	300	450	450/300	30.31	163.7/90.9			
SG25SA-P02□□	133.71	283.00	120	180	180/120	74.22	283/222			
SG50SA-P02□□	267.43	708.00	60	90	90/60	148.44	637/637			
SG1ASAP02□□	309.00	637.00	30	45	45/30	296.88	637/637			
SG05SA-P03□□	40.93	123.07	600	900	900	27.28	123.07	03□S	03□P	-
SG10SA-P03□□	81.87	246.14	300	450	450	54.56	246.14			
SG25SA-P03□□	200.45	602.66	120	180	128	178.13	475.00			
SG50SA-P03□□	354.00	708.00	60	90	90	267.19	708.00			
SG05SA-P04□□	54.81	164.42	600	900	640	36.38	97.00	04□S	04□P	05□DG
SG10SA-P04□□	109.61	283.00	300	450	320	72.75	194.00			
SG25SA-P04□□	268.38	708.00	120	180	128	178.13	475.00			
SG50SA-P04□□	354.00	708.00	60	90	64	354.00	708.00			
SG05SA-P08□□	102.34	306.04	600	900	640	68.19	75.78	08□S	08□P	10□DG
SG10SA-P08□□	204.67	612.07	300	450	320	136.38	151.36			
SG25SA-P08□□	511.68	1530.18	120	180	128	333.93	371.09			
SG50SA-P08□□	885.00	1770.00	60	90	64	667.85	742.19			
SG05SA-P15□□	205.16	614.50	600	900	640	136.41	197.03	-	-	15□DG
SG10SA-P15□□	410.31	1228.99	300	450	320	272.81	394.06			
SG25SA-P15□□	885.00	1770.00	120	180	128	667.97	964.84			

Note: These performance ratings apply when duty cycles are 60% or less, and when the gearmotor runs for 1,000 cycles per hour or less. Contact your Yaskawa representative when duty cycles exceed 60%, and when the gearmotor runs for more than 1,000 cycles per hour.

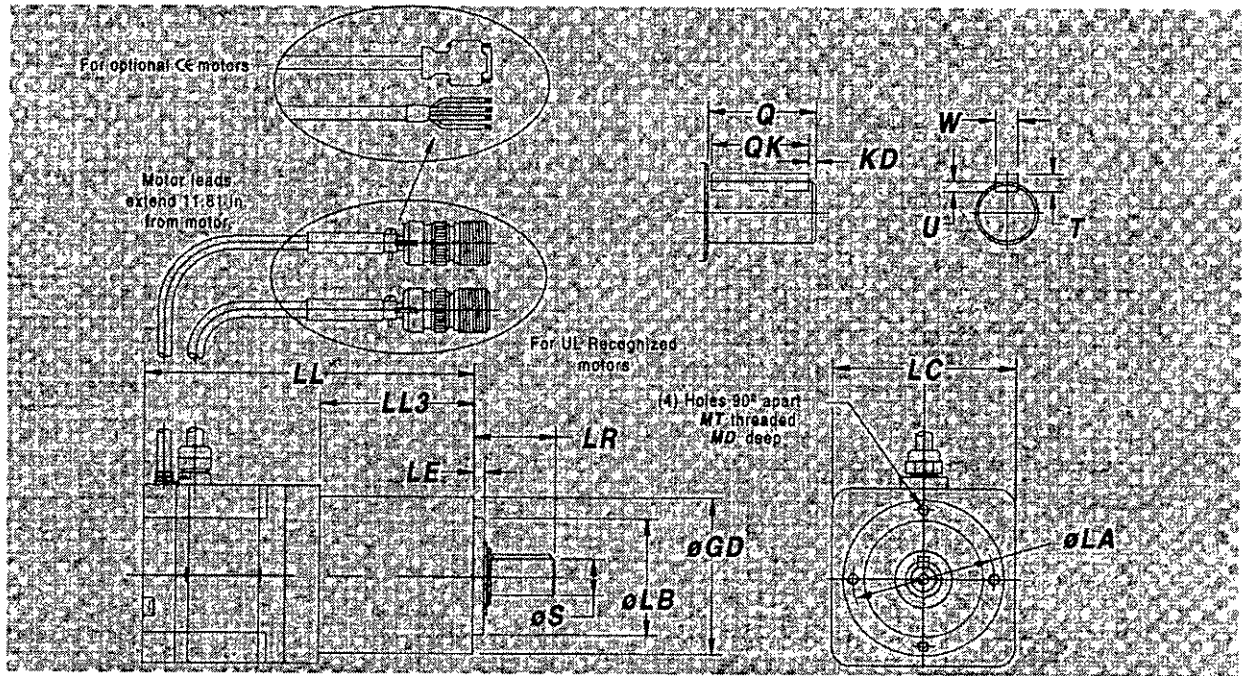


Gearmotor Mechanical Ratings

GEARMOTOR Part Number	Gearhead Backlash (arc min)	Gearhead Maximum Radial Load (lb _f)	Gearhead Maximum Axial Load (lb _f)	Gearhead Inertia (in-lb-s ²)	Gearmotor Weight (lb)
SG05SA-P01□3	<10	146	158	0.000052	3.52
SG10SA-P01□3	<10	146	158	0.000052	3.52
SG25SA-P01□3	<10	146	158	0.000049	3.52
SG50SA-P01□3	<10	326	349	0.00023	6.39
SG05SA-P02□3	<10	326	349	0.00027	7.28
SG10SA-P02□3	<10	326	349	0.00027	7.28
SG25SA-P02□3	<10	326	349	0.00023	7.94
SG50SA-P02□3	<10	540	428	0.0013	14.34
SG1ASA-P02□3	<10	540	428	0.0013	14.34
SG05SA-P03□3	<10	326	349	0.00027	8.82
SG10SA-P03□3	<10	326	349	0.00027	8.82
SG25SA-P03□3	<10	540	428	0.0013	15.88
SG50SA-P03□3	<10	540	428	0.0013	15.88
SG05SA-P04□3	<10	326	349	0.00027	8.82
SG10SA-P04□3	<10	326	349	0.00027	8.82
SG25SA-P04□3	<10	540	428	0.0013	15.88
SG50SA-P04□3	<10	540	428	0.0013	15.88
SG05SA-P08□3	<10	540	428	0.0014	19.18
SG10SA-P08□3	<10	540	428	0.0014	19.18
SG25SA-P08□3	<10	1035	900	0.0043	34.84
SG50SA-P08□3	<10	1035	900	0.0043	34.84
SG05SA-P15□3	<10	1035	900	0.0047	34.40
SG10SA-P15□3	<10	1035	900	0.0047	39.25
SG25SA-P15□3	<10	1035	900	0.0043	39.25



Dimensions in inches (mm)



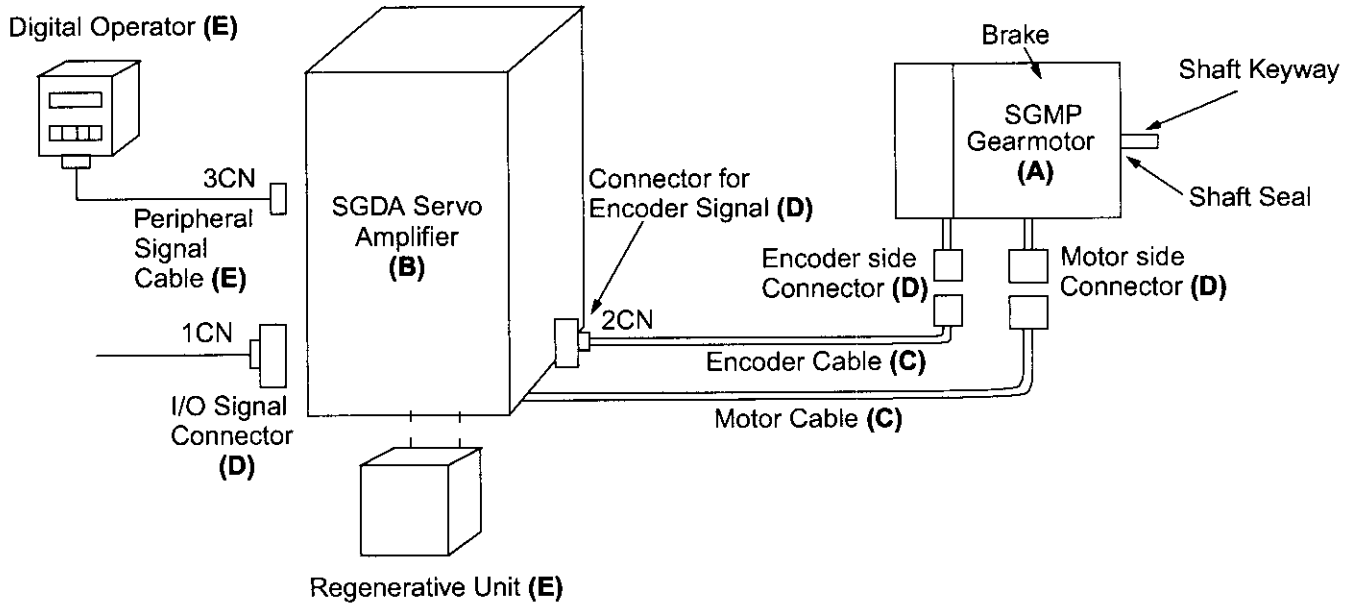
GEARMOTOR	LL3	LL	LE	LR	LB	GD	S	LC	LA	MT	MD	Q	QK	KD	W	T	U
SG05SA-P01□3	1.99	4.98	0.158	0.965	1.378	1.969	0.472	2.362	1.732	M4	0.315	0.709	0.551	0.079	0.158	0.158	0.098
SG10SA-P01□3	1.99	4.98	0.158	0.965	1.378	1.969	0.472	2.362	1.732	M4	0.315	0.709	0.551	0.079	0.158	0.158	0.098
SG25SA-P01□3	2.62	5.61	0.158	0.965	1.378	1.969	0.472	2.362	1.732	M4	0.315	0.709	0.551	0.079	0.158	0.158	0.098
SG50SA-P01□3	2.68	5.51	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG05SA-P02□3	2.68	5.98	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG10SA-P02□3	2.68	5.98	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG25SA-P02□3	3.46	6.77	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG50SA-P02□3	4.19	7.50	0.197	1.811	2.677	3.543	0.866	3.150	3.150	M6	0.472	1.417	1.260	0.079	0.267	0.236	0.138
SG11SA-P02□3	4.19	7.50	0.197	1.811	2.677	3.543	0.866	3.150	3.150	M6	0.472	1.417	1.260	0.079	0.267	0.236	0.138
SG05SA-P04□3	2.68	6.77	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG10SA-P04□3	2.68	6.77	0.197	1.417	2.047	2.756	0.630	3.150	2.441	M5	0.394	1.102	0.984	0.079	0.197	0.197	0.118
SG25SA-P04□3	4.19	8.29	0.197	1.811	2.677	3.543	0.866	3.150	3.150	M6	0.472	1.417	1.260	0.079	0.236	0.236	0.138
SG50SA-P04□3	4.19	8.29	0.197	1.811	2.677	3.543	0.866	3.150	3.150	M6	0.472	1.417	1.260	0.079	0.236	0.236	0.138
SG05SA-P08□3	3.15	7.62	0.197	1.811	2.677	3.543	0.866	4.724	3.150	M6	0.472	1.417	1.260	0.079	0.236	0.236	0.138
SG10SA-P08□3	3.15	7.62	0.197	1.811	2.677	3.543	0.866	4.724	3.150	M6	0.472	1.417	1.260	0.079	0.236	0.236	0.138
SG25SA-P08□3	5.30	9.61	0.236	2.756	3.543	4.724	1.260	4.724	4.252	M8	0.630	2.284	1.969	0.158	0.394	0.394	0.276
SG50SA-P08□3	5.30	9.61	0.236	2.756	3.543	4.724	1.260	4.724	4.252	M8	0.630	2.284	1.969	0.158	0.394	0.394	0.276
SG05SA-P15□3	4.02	9.43	0.236	2.756	3.543	4.724	1.260	4.724	4.252	M8	0.630	2.284	1.969	0.158	0.394	0.394	0.276
SG10SA-P15□3	4.02	9.43	0.236	2.756	3.543	4.724	1.260	4.724	4.252	M8	0.630	2.284	1.969	0.158	0.394	0.394	0.276
SG25SA-P15□3	5.30	10.71	0.236	2.756	3.543	4.724	1.260	4.724	4.252	M8	0.630	2.284	1.969	0.158	0.394	0.394	0.276

Tolerances ØLB: +0.0000 ØS: +0.0005 W: +0.0000
 Inches: -0.0006 -0.0000 -0.0012

Selecting Your SGMP Gearmotor System

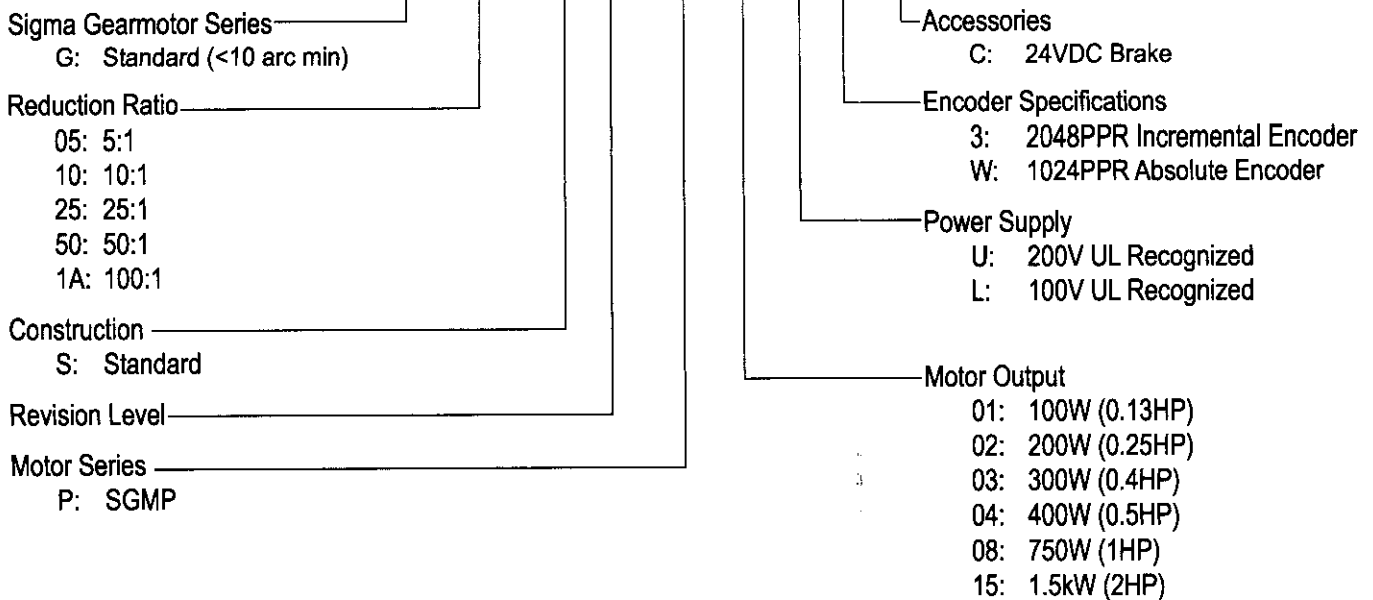
Use the diagram below to locate and identify the components of your system. Each item is letter-coded and cross-referenced in the option tables on the following pages.

System Configuration



Model Number Designation

SG 05 - S A - P 02 U 3 [C]



Gearmotor & Amplifier Selection

Use the table below to select the appropriate SGMP Sigma Gearmotor and Amplifier.

Gearmotor (A)					Gearhead only			Amplifier MODEL # (B)*			Motor & Amplifier Item Class	
MODEL #	Rated Torque (in. lb.)	Peak Torque (in. lb.)	Rated Speed (RPM)	Max. Speed (RPM)	Inertia (in. lb. sec ²)	Gear Ratio	Backlash [arc min]	Analog Input SGDA-	Digital Input SGDA-	Analog/Digital Input SGDB-		
SG05SA-P01U3	13.68	40.93	600	900	0.000052	5:1	<10	01AS	01AP	-	Limited Stock	
SG10SA-P01U3	27.35	81.87	300	450	0.000052	10:1						
SG25SA-P01U3	50.00	102.00	120	180	0.000049	25:1						
SG50SA-P01U3	133.95	283.00	60	90	0.00023	50:1						
SG05SA-P02U3	27.31	81.87	600	900	0.00027	5:1		02AS	02AP	-		
SG10SA-P02U3	54.61	163.74	300	450	0.00027	10:1						
SG25SA-P02U3	133.71	283.00	120	180	0.00023	25:1						
SG50SA-P02U3	267.43	708.00	60	90	0.0013	50:1						
SG1ASA-P02U3	309.00	637.00	30	45	0.0013	100:1		04AS	04AP	05ADG		
SG05SA-P04U3	54.81	164.42	600	900	0.00027	5:1						
SG10SA-P04U3	109.61	283.00	300	450	0.00027	10:1						
SG25SA-P04U3	268.38	708.00	120	180	0.0013	25:1						
SG50SA-P04U3	354.00	708.00	60	90	0.0013	50:1		08AS	08AP	10ADG		
SG05SA-P08U3	102.34	306.04	600	900	0.0014	5:1						
SG10SA-P08U3	204.67	612.07	300	450	0.0014	10:1						
SG25SA-P08U3	511.68	1530.18	120	180	0.0043	25:1						
SG50SA-P08U3	885.00	1770.00	60	90	0.0043	50:1		-	-	15ADG		
SG05SA-P15U3	205.16	614.50	600	900	0.0047	5:1						
SG10SA-P15U3	410.31	1228.99	300	450	0.0047	10:1						
SG25SA-P15U3	885.00	1770.00	120	180	0.0043	25:1						
SG05SA-P01L3	13.68	40.93	600	900	0.000052	5:1	<10	01BS	01BP	-	Limited Stock	
SG10SA-P01L3	27.35	81.87	300	450	0.000052	10:1						
SG25SA-P01L3	50.00	102.00	120	180	0.000049	25:1						
SG50SA-P01L3	133.95	283.00	60	90	0.00023	50:1						
SG05SA-P02L3	27.31	81.87	600	900	0.00027	5:1		02BS	02BP	-		
SG10SA-P02L3	54.61	163.74	300	450	0.00027	10:1						
SG25SA-P02L3	133.71	283.00	120	180	0.00023	25:1						
SG50SA-P02L3	267.43	708.00	60	90	0.0013	50:1						
SG1ASA-P02L3	309.00	637.00	30	45	0.0013	100:1		03BS	03BP	-		
SG05SA-P03L3	40.93	123.07	600	900	0.00027	5:1						
SG10SA-P03L3	81.87	246.14	300	450	0.00027	10:1						
SG25SA-P03L3	200.45	602.66	120	180	0.0013	25:1						
SG50SA-P03L3	354.00	708.00	60	90	0.0013	50:1						

Notes: 24VDC Brakes for SGMP Sigma gearmotors are standard. Contact a local source for 24VDC power supplies.

Motor power and encoder cables are factory pre-wired with approximately 13" lead length with MS mating connectors. Use the tables on the following page to specify mating connectors or pre-wired cables in other lengths.

For technical information, request technical bulletin number YEA-TSA-S800-16.16 and manual number TSE-S800-15 from your Yaskawa representative.

* For more detailed SGDA amplifier specifications and dimensions, refer to page 69.

Pre-wired Cable Selection

Use the table below to select Pre-wired Cables for your SGMP Sigma Gearmotor.

Cable Description (C)	Motor Size (kW)	Part Number	Comments	Item Class
Power Cable with MS Connectors (with or without Brake)	0.1, 0.2, 0.4, 0.8, 1.5	B4B-□	Use the following key to specify required cable length (last digit of part #): 1: 3 meters 2: 5 meters 3: 10 meters (std) 4: 15 meters 5: 20 meters	Stock *
Encoder Cable with MS Connector (incremental or absolute)		DE9407236-□		
Encoder Cable Only for Solder Connections	All	DP8409123	Up to 70 feet; for use with mating connector.	Stock
Encoder Cable Only for Solder Connections		DP8409179	Over 70 feet; splice cable to accommodate connector.	Stock
Input/Output 1CN Cable & Transition Terminal Block		JUSP-TA36P ①	35 mm din rail mountable; the cable length is 0.5 meters.	Non-Stock
Input/Output 1CN Cable with Pigtail Leads		DE9404859-□ ①	Use the following key to specify required cable length (last digit of part #): 1: 1 meter (standard) 2: 2 meters 3: 3 meters	Stock *

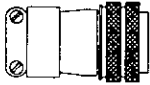
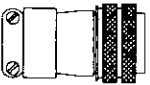


* Standard cable lengths are Stock items; non-standard cable lengths are Limited Stock items.

① Exception: For SGMP/SGDB 15, use standard SGDB accessories.

Mating Connector Selection

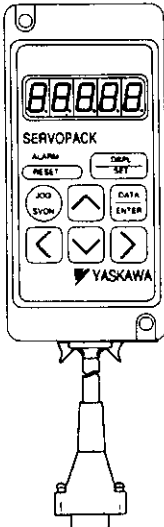
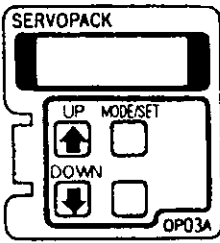
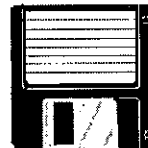
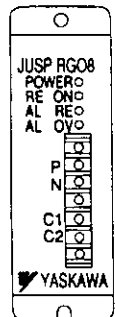
Use the table below to select Mating Connectors or Kits for your SGMP Sigma Servomotor.

Connector Description (D)	Motor Size (kW)	Part Number	Comments	Item Class
MS Connector for Motor Power Cable (with or without Brake)		MS3106B18-12S + MS3057-10A	Straight-type part number Cable clamp part number	Stock
2CN Encoder Cable Connector	0.1, 0.2, 0.4, 0.8, 1.5	DE9406973	Solder type and connector case	
MS Connector for Encoder Cable (incremental or absolute encoder)		MS3106B20-29S + MS3057-12A	Straight-type part number Cable clamp part number	
1CN Mating Connector	All	DP9420007 ①	—	Stock

① Exception: For SGMP/SGDB 15, use standard SGDB accessories.

Peripheral Device Selection

Use the table below to select Peripheral Devices for your SGMP Sigma Gearmotor.

Component (E)	Part Number	Description	Item Class
Hand-held Digital Operator Panel		JUSP-OP02A-1 Portable unit with built-in cable	Std
Digital Operator Panel		JUSP-OP03A Plugs into front of amplifier	Non-Stock
SVMON Software		SVMON Programming software for DOS 3.3 on a 3.5" floppy disk	
Software Interface Cable		YS-11 Pre-wired 1.5 meter cable with 9-pin connector	
Regenerative Unit		JUSP-RG08 60W capacity	Stock

NOTES

