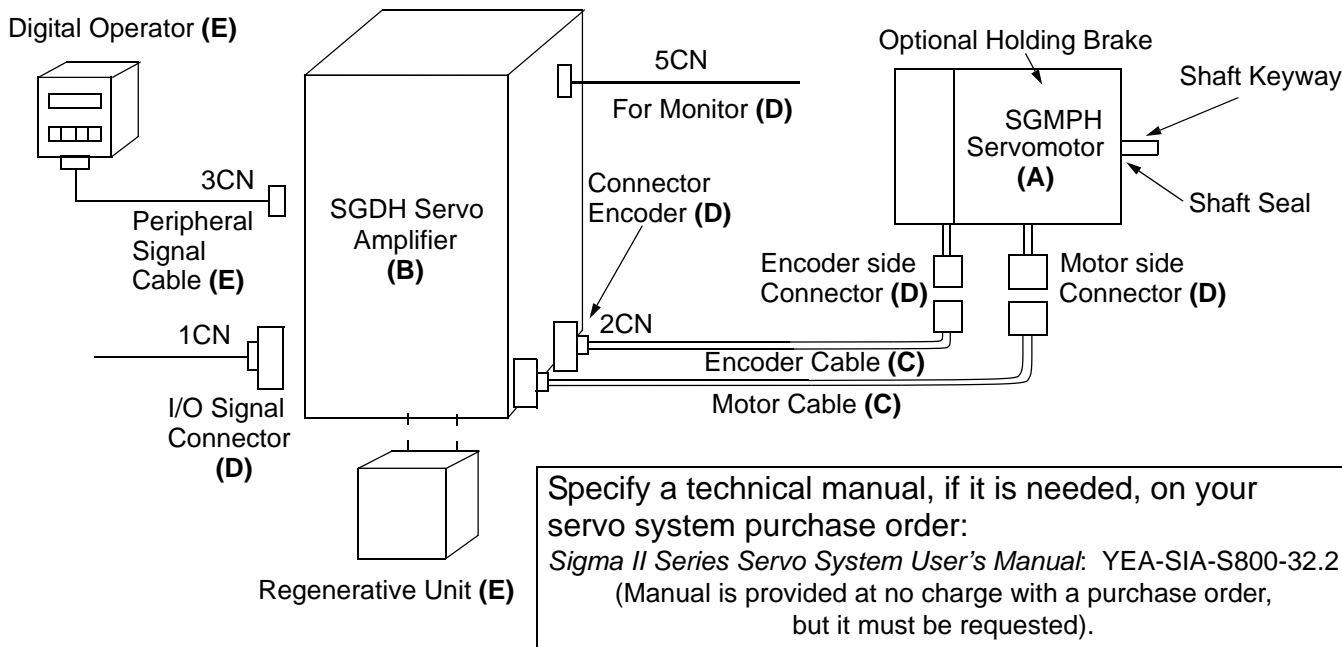


## Selecting Your SGMPH Sigma II Servo System

First, select the Sigma II servomotor suited for your application using SigmaSize: the Yaskawa servomotor sizing software, available at no charge. (Request SigmaSize software via e-mail, at: literature@yaskawa.com).

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



SGMPH Servomotors

### Model Number Designation

**SGMPH - 01 A A E 4 [1D]**

Sigma Servomotor Type

Rated Output

- 01: 100W (0.13hp)
- 02: 200W (0.25hp)
- 04: 400W (0.5hp)
- 08: 750W (1hp)
- 15: 1.5kW (2hp)

Power Supply

- A: 200V UL Recognized
- B: 100V UL Recognized

Accessories

- 1D: Standard
- CD: Standard with 24V<sub>DC</sub> Holding Brake
- SD: Standard with Shaft Seal
- ED: Standard with Brake & Shaft Seal

Shaft Specifications

- 4: Straight Shaft with Keyway

Revision Level

Encoder Specifications

- A: 13-Bit (2048 x 4) Incremental Encoder
- 1: 16-Bit (16,384 x 4) Absolute Encoder

# 100/200V Single-phase Sigma II Servo Systems

## Servomotor & Amplifier Selection

Use the table below to select the appropriate SGMPH Sigma II servomotor and amplifier.  
(Refer to the motor model # designation on the previous page specifying the available modification to motor construction/features.)

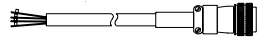
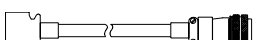

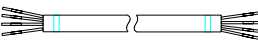

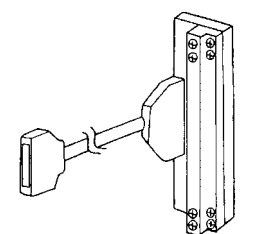
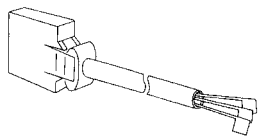
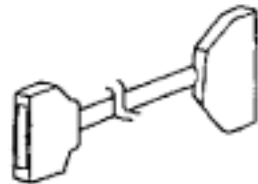
Description	Peak Torque (oz · in)	Rated Torque (oz · in)	Motor Inertia (oz · in · s <sup>2</sup> x10 <sup>-3</sup> )	Motor MODEL # (A)	Amplifier MODEL # (B)*		Motor & Amplifier Item Class	
					1-Phase SGD-	3-Phase SGD-		
200V 13-Bit Incremental Encoder Straight Shaft with Keyway 5000rpm Pre-wired with Heavy Duty Connectors	135	45.1	0.917	SGMPH-01AAE41D	01AE	—	Stock	
			1.46	SGMPH-01AAE4CD				
	270	90.1	2.96	SGMPH-02AAE41D	02AE	—		
			4.35	SGMPH-02AAE4CD				
	542	181	4.92	SGMPH-04AAE41D	04AE	—		
			6.31	SGMPH-04AAE4CD				
	1010	338	29.9	SGMPH-08AAE41D	08AE-S	08AE		
			35.7	SGMPH-08AAE4CD				
	2027	676	57.1	SGMPH-15AAE41D	15AE-S	15AE		
			67.8	SGMPH-15AAE4CD				
	100V, 1-Phase 13-Bit Incremental Encoder Straight Shaft with Keyway 5000rpm Pre-wired with Heavy Duty Connectors	135	45.1	0.917	SGMPH-01BAE41D	01BE		—
				1.46	SGMPH-01BAE4CD			
270		90.1	2.96	SGMPH-02BAE41D	02BE	—		
			4.35	SGMPH-02BAE4CD				
542		181	4.92	SGMPH-04AAE41D	04FE	—		
			6.31	SGMPH-04AAE4CD				

Notes: 24V<sub>DC</sub> brakes for SGMPH Sigma II servomotors are standard. Contact a local source for 24V<sub>DC</sub> power supplies. Motor power and encoder cables are factory pre-wired with approximately 13" lead length with heavy duty mating connectors. Use the tables on the following page to specify mating connectors and/or various cable lengths. For technical information, request Yaskawa manual number YEA-SIA-S800-32.2.

**SGMPH**  
**Servomotors**

## Pre-wired Cable Selection

Use the table below to select pre-wired cables for your SGMPH Sigma II servomotor.

Cable Description (C)		Motor Size (kW)	Part Number*	Comments	Item Class		
Power Cable with Interconnectron Connectors (without Brake)		0.1, 0.2, 0.4, 0.8	B4ICE-□□(A)	These UL and CE compliant cables are available in five lengths. Use two digits in the part number's last place: 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	Stock**		
		1.5	B5ICE-□□(A)				
Power Cable with Interconnectron Connectors (with Brake) (IP67)		0.1, 0.2, 0.4, 0.8	B4IBCE-□□(A)				
		1.5	B5IBCE-□□(A)				
Encoder Cable with Interconnectron Connector (incremental or absolute) (IP67)		All	A1ICE-□□(A)			These cables are available in any length.  For example, to order one FR-RMCT-SB cable, 16m long, specify: quantity: 16 part no.: FR-RMCT-SB	Stock**
Encoder Cable (for applications up to 20m) Only for Solder Connections			FR-RMCT-SB				
Encoder Cable (for applications from >20 to <50m) Only for Solder Connections			UL20276-SB				
Input/Output 1CN Cable & Transition Terminal Block			JUSP-TA50P	35mm DIN rail mountable; the cable length is 0.5 meters.			
Input/Output 1CN Cable with Pigtail Leads			JZSP-CKI01-□(A)	Use the following key to specify required cable length (last digit of part number): 1: 1m (standard) 2: 2m 3: 3m			
Input/Output 1CN Cable Cable with Female D-Sub output Connector***			JZSP-CKI0D-□□	Use the following key to specify required cable length (last two digits of the part number): D50: 0.5m 01: 1m (standard) 02: 2m 03: 3m			

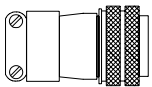
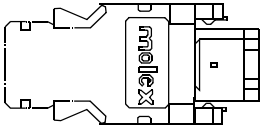
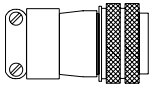
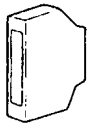
\* The "(A)" at the end of the cable part number is the revision level. Revision level may be changed prior to catalog reprinting.

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

\*\*\* 50 Pin Female D-Sub output connector mates to customer supplied third party terminal block. (e.g., Wago #289-449, Weidmuller #919658, Phoenix #2283647, Amphenol/Sine #20-51039, and many others)


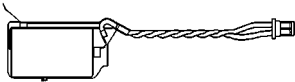
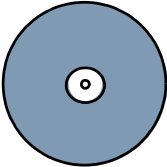
## Connector Selection

Use the table below to select mating connectors or kits for your SGMPH Sigma II servomotor.

Connector Description (D)		Motor Size (kW)	Part Number	Comments	Item Class
Interconnectron Connector for Motor Power Cable (with or without Brake) (IP67)		0.1, 0.2, 0.4, 0.8, 1.5	FIN07S-B2	Solder Cup	Stock
2CN Amplifier Mating Connector			JZSP-CMP9-1	—	
Interconnectron Connector for Encoder Cable (incremental or absolute encoder) (IP67)			FIN17C-A2	Gauge: 24 - 18AWG Requires Crimp Tool B150 and positioner.	
1CN Mating Connector		All	JZSP-CKI9	—	
Interconnectron Crimp Tool	—		B150	—	Limited Stock
Positioner	—		B055/A	—	

## Peripheral Device Selection

Use the table below to select peripheral devices for your SGMPH Sigma II servomotor.

Component	Description (E)	Part Number	Comments	Item Class
Hand-held Digital Operator Panel		JUSP-OP02A-1 and JZSP-CMS00-1	Portable unit with 1m adapter cable for Sigma II	Stock
Absolute Encoder Battery		JZSP-BA01	3.6V, 1000mAh (lithium battery)	
Software Interface Cable	—	YS-12	Pre-wired 2.0m cable with 9-pin connector	
SigmaWin+ Software		JZSP-WP0001	Minimum Recommended System Requirements Pentium 200 MHz, 64MB RAM, 200MB hard drive, CDROM Drive, RS-232 or RS-422 port, Screen resolution 800x600 w/ 256 colors, and Windows 95,98,NT4.0,2000,ME. (Windows XP planned)	
Individual External Regenerative Unit	For: SGDH-01AE SGDH-02AE SGDH-04AE SGDH-08AE SGDF-08AE-S amps	RH12050hmJ	These are general purpose regenerative units.* <b>Caution:</b> Proper set-up is necessary to avoid equipment damage.	
	For: SGDH-15AE SGDH-15AE-S	RH500N25_ohmK		
DC Reactor (for suppressing harmonics in the power supply)	For 200V: SGDH-01AE SGDH-02AE SGDH-04AE SGDH-08AE SGDF-08AE-S SGDH-15AE SGDH-15AE-S	X5071 X5070 X5069 X5061 X5079 X5060 X5078	—	Limited Stock
	For 100V: SGDH-01BE SGDH-02BE	X5063 X5062		

\* For an alternate solution, specify the individual resistor part number RH500N25\_OHMK in necessary series or parallel connection. Refer to the *Sigma II Series Servo System User's Manual (YEA-SIA-S800-32.2)* for proper resistor sizing guidelines.