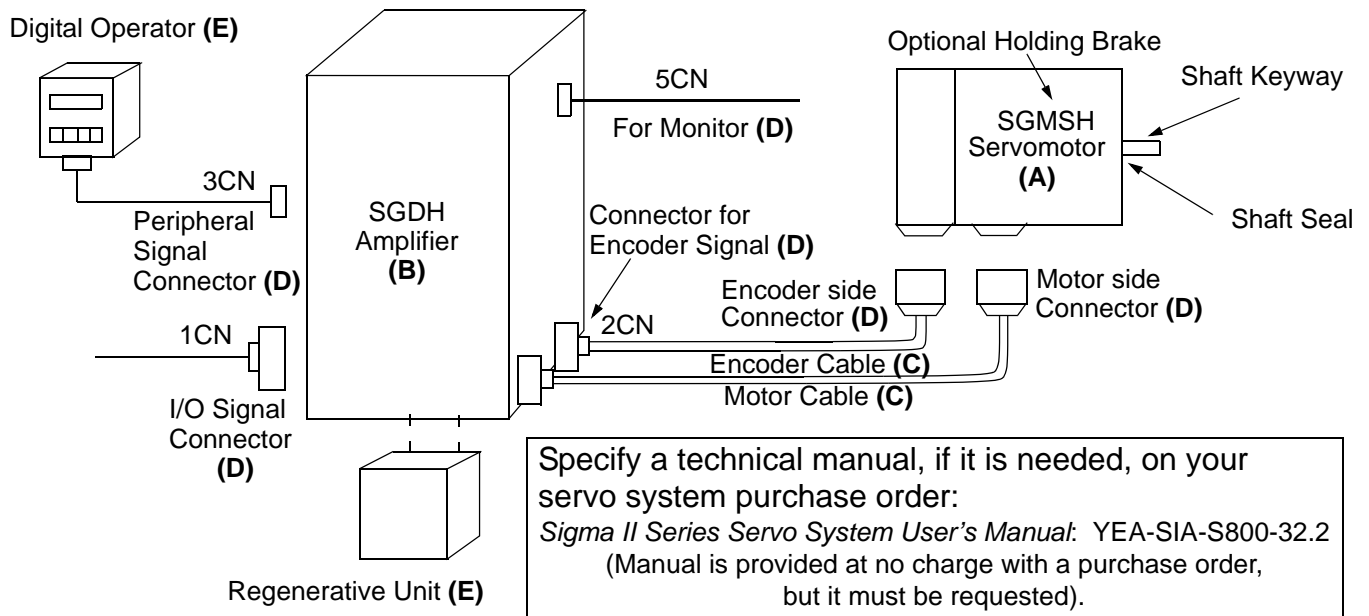


Selecting Your SGMSH Sigma II Servo System

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).

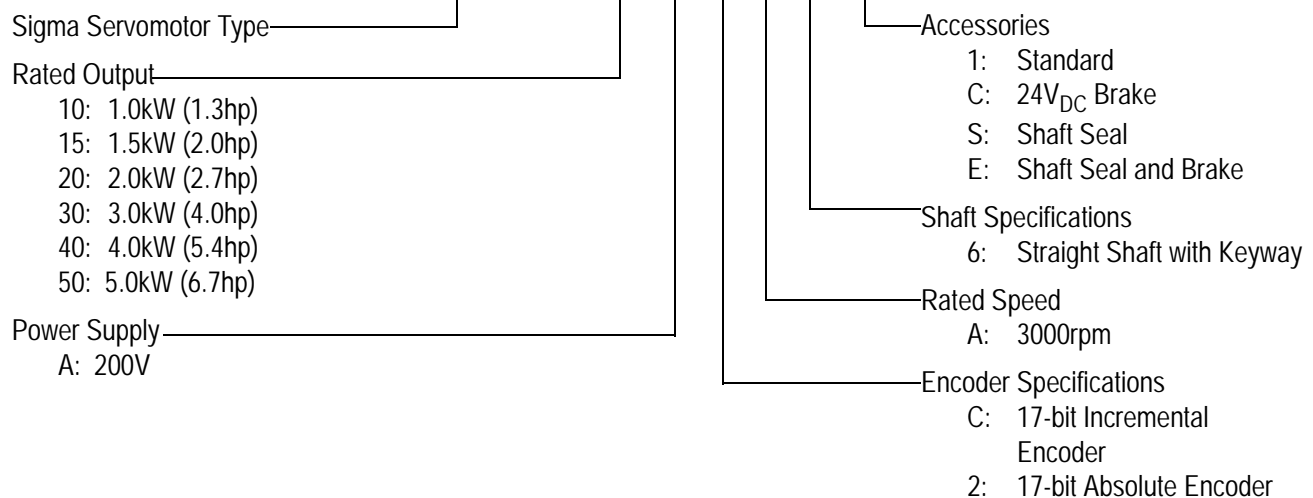
Use the diagram below to locate and identify the components of your system. Each item is letter-coded and cross-referenced in the option tables on the following pages.

System Configuration



Model Number Designation

SGMSH - 10 A C A 6 [1]



Servomotor & Amplifier Selection

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

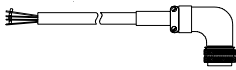
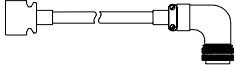
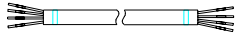
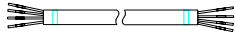
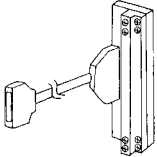
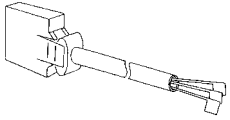
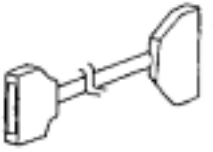
Description	Peak Torque (in • lb)	Rated Torque (in • lb)	Motor Inertia (in • lb • s ² X 10 ⁻³)	Motor MODEL # (A)	Amplifier MODEL # (B)* Analog/Digital Input SGDH-	Motor & Amplifier Item Class
200V, Three-Phase 17-bit Incremental Encoder Straight Shaft with Keyway 5000rpm maximum MS Connectors	84.4	28.2	1.54	SGMSH-10ACA61	10AE	Stock
			1.76	SGMSH-10ACA6C		
	130	43	2.19	SGMSH-15ACA61	15AE	
			2.41	SGMSH-15ACA6C		
	169	56.4	2.82	SGMSH-20ACA61	20AE	
			3.04	SGMSH-20ACA6C		
	260	87	6.2	SGMSH-30ACA61	30AE	
			8.1	SGMSH-30ACA6C		
	336	112	8.5	SGMSH-40ACA61	50AE	
			10.4	SGMSH-40ACA6C		
			10.9	SGMSH-50ACA61		
			12.8	SGMSH-50ACA6C		
422	140					

Note: 24V_{DC} brakes for SGMSH Sigma II servomotors are standard. Contact a local source for 24V_{DC} power supplies.
 For technical information, request Yaskawa manual number YEA-SIA-S800-32.2.

200V Three-phase Sigma II Servo Systems

Pre-wired Cable Selection

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

Cable Description (C)		Motor Size (kW)	Part Number*		Comments	Item Class
			without Brake	with Brake		
Power Cable with L-type Connectors (IP67)		1.0, 1.5, 2.0	B1E-□□(A)	B1BE-□□(A)	Use the following key to specify needed cable length (last two digits of the part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	Stock**
		3.0	B2E-□□(A)	B2BE-□□(A)		
		4.0, 5.0	B3E-□□(A)	B3BE-□□(A)		
Encoder Cable (incremental or absolute) (IP67)		All	JZSP-CMP02-□□(B)		These 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	
Encoder Cable (for applications up to 20m) Only for Solder Connections			FR-RMCT-SB		These cables are available in any length.	
Encoder Cable (for applications from >20 to <50m) Only for Solder Connections			UL20276-SB		For example, to order one FR-RMCT-SB cable, 16m long, specify: quantity: 16 part no.: FR-RMCT-SB	
Input/Output 1CN Cable & Transition Terminal Block			JUSP-TA50P		35mm DIN rail mountable; the cable length is 0.5m.	
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 with Female D-Sub output Connector***			JZSP-CKI0D-□□		Use the following key to specify cable length (last two digits of the part number): D50: 0.5m 01: 1m (standard) 02: 2m 03: 3m	

* "(A)" at the end of the cable number is the revision level. The revision level may be changed prior to this catalog's 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).

200V Three-phase Sigma II Servo Systems

Connector Selection

Use the table below to select mating connectors for your SGMSH Sigma II servomotor.

Connector Description (D)	Motor Size (kW)	Part Number		Comments	Item Class
		without Brake	with Brake		
MS Connector for Motor Power Cable *	1.0, 1.5, 2.0	MS3106B18-10S	MS3106B20-15S	Straight-type connector	Stock
		MS3108B18-10S	MS3108B20-15S	L-type connector	
		MS3057-10A	MS3057-12A	Cable clamp	
	3.0, 4.0, 5.0	MS3106B22-22S	MS3106B24-10S	Straight-type connector	
		MS3108B22-22S	MS3108B24-10S	L-type connector	
		MS3057-12A	MS3057-16A	Cable clamp	
MS Connector for Encoder Cable (incremental or absolute encoder)	All	MS3106B20-29S		Straight-type connector	
		MS3108B20-29S		L-type connector	
1CN Mating Connector	All	MS3057-12A		Cable clamp	
		JZSP-CKI9		—	
2CN Encoder Mating Connector	All	JZSP-CMP9-1		—	
3CN Peripheral Mating Connector	All	YSC-1		—	
5CN Connector and 1m Cable with Pigtails	All	DE9404559		—	

* Choose either a straight or L-type connector and the associated cable clamp for a complete assembly.

Peripheral Device Selection

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

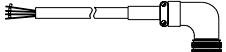
Component (E)	Part Number	Description	Item Class
Hand-held Digital Operator Panel	JUSP-OP02A-1 and JZSP-CMS00-1	Portable unit with adapter cable for Sigma II	Stock
Absolute Encoder Battery	JZSP-BA01	3.6V, 1000mAh (lithium battery)	
SigmaWin+ Software	JZSP-WP0001	Minimum Recommended System Requirements 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)	
Software Interface Cable	YS-12	Pre-wired 2.0m cable with 9-pin connector	
External Regenerative Unit (Optional)	JUSP-RA04	These are general purpose regenerative units.* Order the Motion document: PI#99004 for setup instructions for this unit. Caution: Proper set-up is necessary to avoid equipment damage	
DC Reactor (for suppressing harmonics in the power supply)	SGDH-10AE	X5061	Limited Stock
	SGDH-15AE SGDH-20AE	X5060	
	SGDH-30AE SGDH-50AE	X5059 X5068	

* 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.

CE Pre-wired Cable Selection

Use the table below to select shielded pre-wired cables for your SGMSH Sigma II servomotor. These are suitable for IP67 environments.

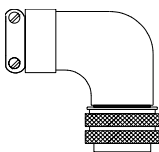
Use the standard encoder cable MS3057-12A listed on page 93.

Cable Description (C)		Motor Size (kW)	Part Number*		Comments	Item Class
			without Brake	with Brake		
Power Cable with Connectors (IP67)		1.0, 1.5, 2.0	B1CE-□□(A)	B1BCE-□□(A)	Use the following key to specify required cable length (last digit of part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	Limited Stock
		3.0	B2CE-□□(A)	B3BCE-□□(A)		
		4.0 5.0	B3CE-□□(A)			

* The "(A)" at the end of the cable number indicates the revision level. The revision level may be subject to change prior to this catalog's reprinting.

CE/IP67 Connector Selection

Use the table below to select mating connectors for your SGMSH Sigma II servomotor.

Connector Description (D)		Motor Size (kW)	Part Number*		Comments	Item Class
			without Brake	with Brake		
Connector for Motor Power Cable**		1.0, 1.5, 2.0	CE05-8A18-10SD-B-BAS CE3057-10A-1(D265)	CE05-8A20-15SD-B-BAS CE3057-12A-1(D265)	L-type connector Cable clamp	Limited Stock
		3.0, 4.0, 5.0	CE05-8A22-22SD-B-BAS CE3057-12A-1(D265)	CE05-8A24-10SD-B-BAS CE3057-16A-1(D265)	L-type connector Cable clamp	
Connector for Encoder Cable (incremental or absolute encoder)		All	CE02-6A20-29NSW and CE20BA-S CE3057-12A-3(D265)		L-type connector (plug and back shell) Cable clamp (for diameters 0.265 to 0.394in)	

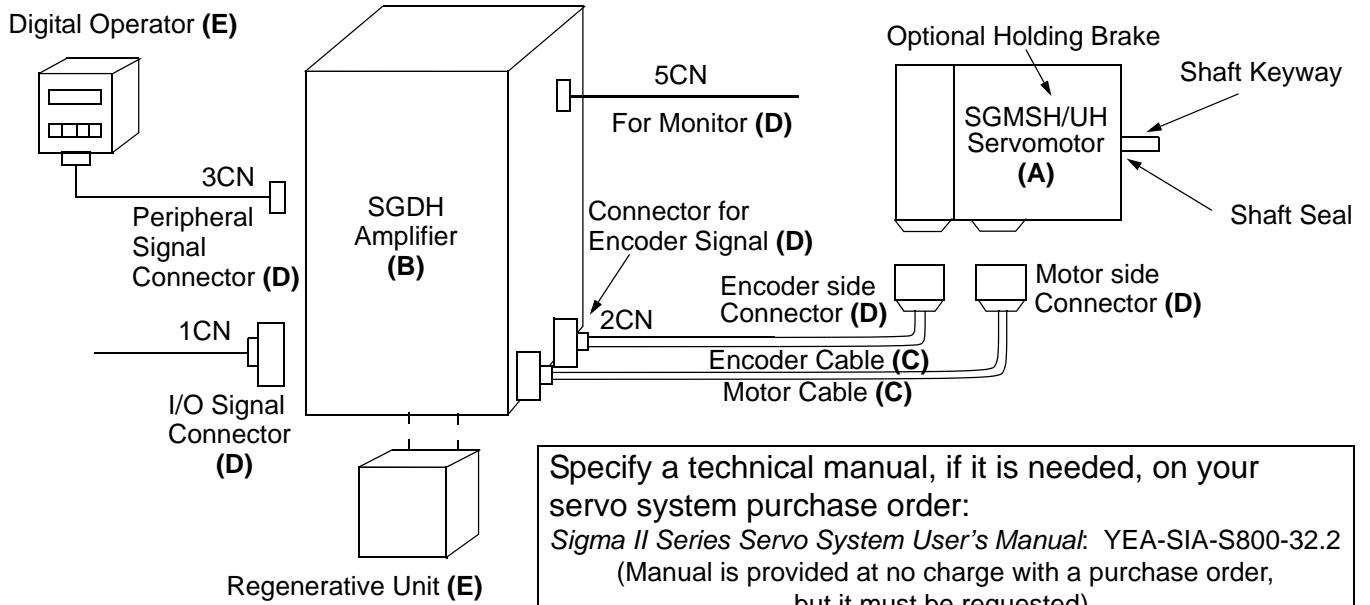
* Connectors are manufactured by DDK and listed here with the largest standard cable clamp available.
** Choose the connector and the associated cable clamp for a complete assembly. The connectors listed in the table are suitable for IP67 environments.

Selecting Your SGMSH/UH 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).

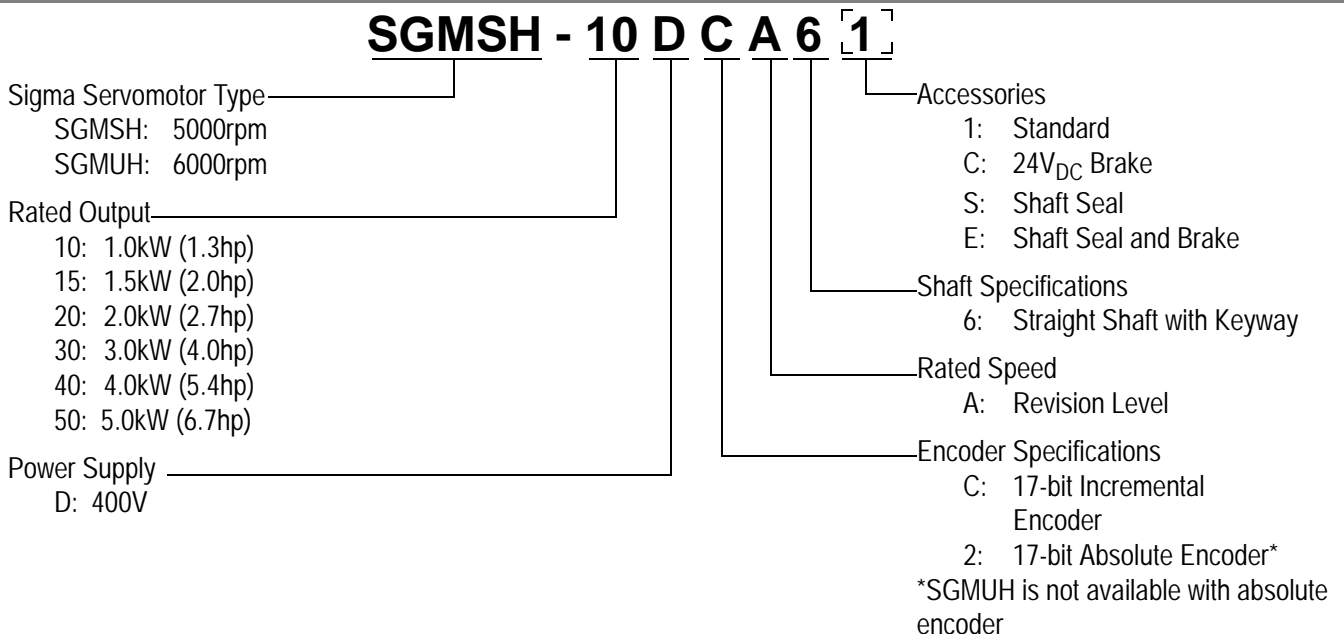
Use the diagram below to locate and identify the components of your system. Each item is letter-coded and cross-referenced in the option tables on the following pages.

System Configuration



Specify a technical manual, if it is needed, on your servo system purchase order:
Sigma II Series Servo System User's Manual: YEA-SIA-S800-32.2
 (Manual is provided at no charge with a purchase order, but it must be requested).

Model Number Designation



400V Three-phase Sigma II Servo Systems

Servomotor & Amplifier Selection

Use the table below to select the appropriate SGMSH or SGMUH 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 (in • lb)	Rated Torque (in • lb)	Motor Inertia (in • lb • s ² X 10 ⁻³)	Motor MODEL # (A)	Amplifier MODEL # (B)* Analog/Digital Input SGDH-	Motor and Amplifier Item Class
400V, Three-Phase 17-bit Incremental Encoder Straight Shaft with Keyway 5000rpm maximum MS Connectors	84.4	28.2	1.54	SGMSH-10DCA61	10DE	Stock
			1.76	SGMSH-10DCA6C		
	130	43	2.19	SGMSH-15DCA61	15DE	
			2.41	SGMSH-15DCA6C		
	169	56.4	2.82	SGMSH-20DCA61	20DE	
			3.04	SGMSH-20DCA6C		
	260	87	6.2	SGMSH-30DCA61	30DE	
			8.1	SGMSH-30DCA6C		
	336	112	8.5	SGMSH-40DCA61	50DE	
			10.4	SGMSH-40DCA6C		
			10.9	SGMSH-50DCA61		
			12.8	SGMSH-50DCA6C		
422	140					
400V, Three-Phase 17-bit Incremental Encoder	57.6	14.1	1.54	SGMUH-10DCA61	10DE	
Straight Shaft with Keyway 6000rpm maximum MS Connectors	190	43.4	6.2	SGMUH-30DCA61	30DE	

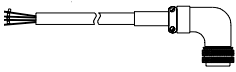
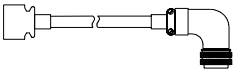
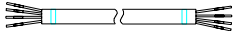
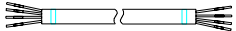
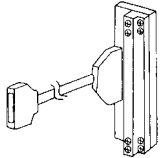
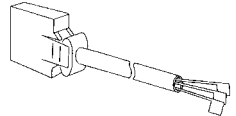
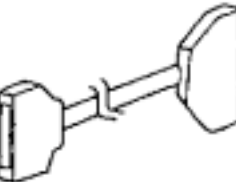
SGMSH/UH
Servomotors

Note: 24V_{DC} brakes for SGMUH and SGMSH Sigma II servomotors are standard. Contact a local source for 24V_{DC} power supplies. For technical information, request Yaskawa manual number YEA-SIA-S800-32.2.

400V Three-phase Sigma II Servo Systems

Pre-wired Cable Selection

Use the table below to select pre-wired cables for your SGMSH/UH-Series Sigma II servomotor.

Cable Description (C)		Motor Size (kW)	Part Number*	Comments	Item Class
Power Cable with L-type Connectors (IP67)		1.0, 1.5, 2.0	BAE-□□(A)	Use the following key to specify needed cable length (last two digits of the part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	
		3.0 4.0, 5.0	BBE-□□(A)		
Cable with Holding Brake (IP67)		1.0, 1.5 2.0, 3.0 4.0, 5.0	B7BCE-□□(A)		
Encoder Cable (incremental or absolute) (IP67)		All	JZSP-CMP02-□□(B)	These 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**
Encoder Cable (for applications up to 20m) Only for Solder Connections			FR-RMCT-SB	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	
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 0.5m.	
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 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	

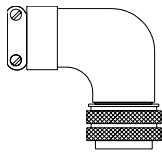
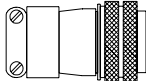
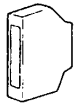
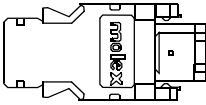
* "(A)" at the end of the cable number is the revision level. The revision level may be changed prior to this catalog's reprinting.

** 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 for your SGMSH/UH Sigma II servomotor.

Connector Description (D)		Motor Size (kW)	Part Number	Comments	Item Class	
MS Connector for Motor Power Cable*		1.0, 1.5, 2.0	MS3106B18-10S	Straight-type connector	Stock	
			MS3108B18-10S	L-type connector		
			MS3057-10A	Cable clamp		
		3.0, 4.0, 5.0	MS3106B22-22S	Straight-type connector		
			MS3108B22-22S	L-type connector		
			MS3057-12A	Cable clamp		
MS Connector for Brake Power Cable		All	MS3108A-10SL-3S	L-type connector		
			MS3057-4A	Cable clamp		
			MS3106B20-29S	Straight-type connector		
MS Connector for Encoder Cable (incremental or absolute encoder)				MS3108B20-29S		L-type connector
				MS3057-12A		Cable clamp
1CN Mating Connector		All	JZSP-CKI9	—		
2CN Encoder Mating Connector			JZSP-CMP9-1	—		
3CN Peripheral Mating Connector	—		YSC-1	—		
5CN Connector and 1m Cable with Pig-tails	—		DE9404559	—		

SGMSH/UH
Servomotors

* Choose either a straight or L-type connector and the associated cable clamp for a complete assembly. For example, L-type connector MS3108B18-10S is compatible with cable clamp MS3057-10A. MS connectors listed in the table are non-environmental.

400V Three-phase Sigma II Servo Systems

Peripheral Device Selection

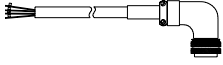
Use the table below to select peripheral devices for your SGMSH/UH Sigma II servomotor.

Component (E)	Part Number	Description	Item Class
Hand-held Digital Operator Panel	JUSP-OP02A-1 and JZSP-CMS00-1	Portable unit with adapter cable for Sigma II	Stock
Absolute Encoder Battery	JZSP-BA01	3.6V, 1000mAh (lithium battery)	
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)	
Software Interface Cable	YS-12	Pre-wired 2.0m cable with 9-pin connector	
External Regenerative Unit (Optional)	JUSP-RA04	These are general purpose regenerative units. Order the Motion document: PI#99004 for setup instructions for this unit. Caution: Proper set-up is necessary to avoid equipment damage.	
DC Reactor (for suppressing harmonics in the power supply)	SGDH-10DE SGDH-15DE SGDH-20DE SGDH-30DE	X5075 X5076	
Large Capacity Amplifiers	Check factory for availability	—	Limited Stock

CE Pre-wired Cable Selection

Use the table below to select shielded pre-wired cables for your SGMSH/UH Sigma II servomotor. These are suitable for IP67 environments.

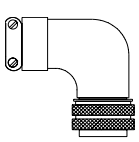
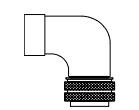
Use the standard encoder cable listed on page 11.

Cable Description (C)		Motor Size (kW)	Part Number*	Comments	Item Class
Power Cable with Connectors (IP67)		1.0, 1.5, 2.0	BACE-□□(A)	Use the following key to specify needed cable length (last two digits of the part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	Limited Stock
		3.0, 4.0, 5.0	BBCE-□□(A)		
Power Cable for Holding Brake (IP67)		All	B7BCE-□□(A)		

* The "(A)" at the end of the cable number indicates the revision level. The revision level may be subject to change prior to this catalog's reprinting.

CE/IP67 Connector Selection

Use the table below to select mating connectors for your SGMSH/UH Sigma II servomotor.

Connector Description (D)		Motor Size (kW)	Part Number	Comments**	Item Class
Connector for Motor Power Cable*		1.0, 1.5, 2.0	CE05-8A18-10SD-B-BAS CE3057-10A-1(D265)	L-type connector Cable clamp (for diameters 0.413 to 0.555in)	Limited Stock
		3.0, 4.0, 5.0	CE05-8A22-22SD-B-BAS CE3057-12A-1(D265)	L-type connector Cable clamp (for diameters 0.492 to 0.630in)	
Connector for Holding Brake		All	CE05-8A10SL-3SC-B-BAS and CE3057-4A-1 (D265)	L-type connector for holding brake Cable clamp (for diameters 0.142 to 0.220in)	
Connector for Encoder Cable (incremental or absolute encoder)			CE02-6A20-29NSW and CE20BA-S CE3057-12A-3(D265)	L-type connector (plug and back shell) Cable clamp (for diameters 0.265 to 0.394in)	

* Choose the connector and the associated cable clamp for a complete assembly. The connectors listed in the table are suitable for IP67 environments.

** Connectors are manufactured by DDK and listed here with the largest standard cable clamp available.