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AC Servomotors/ Servo Drives

G Series

A Wide Variation of Models with the Functions and Performance Demanded in Servo Systems



» Easy adjustment

» Quickly suppress vibration

» Built-in MECHATROLINK communications interface

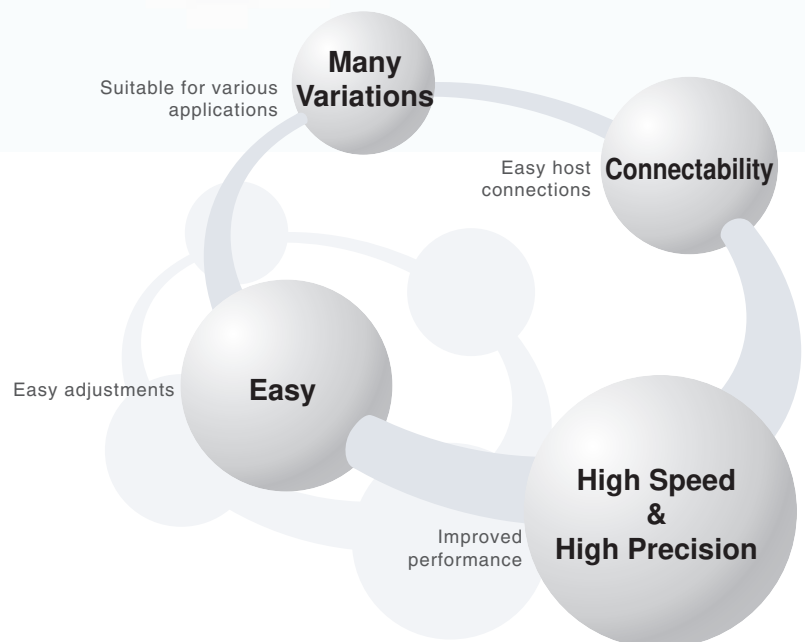
Complete Reinforcement of Functions and Performance Demanded in Servo Systems



Let the G Series solve your equipment problems.

Increase Productivity!

The many variations provided by G-series Servo Systems features high-precision positioning with improved response and vibration control, making it suitable for a variety of applications.

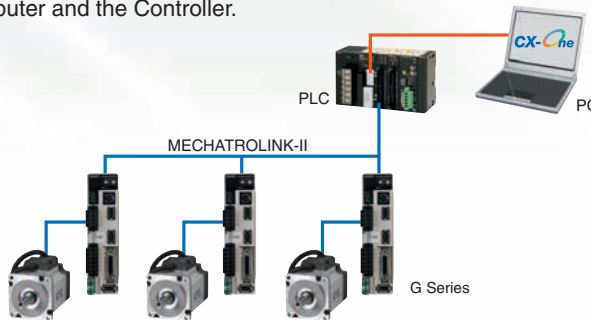




Integrated Development Environment Cut Your TCO from Design to Maintenance.

MECHATROLINK-II-compatible AC Servomotors/Servo Drives One Cable Enables Setting and Monitoring Parameters

Connect the PLC and Servo Drive with a single cable to reduce wiring. What's more, the parameters for many Servo Drives can be set and monitored at the same time between a personal computer and the Controller.



Note: MECHATROLINK-II is a registered trademark of the MECHATROLINK Members Association.

CX-One

Easily Program Positioning and Communications

With the CX-One FA Integrated Tool Package, parameters settings, program design, debugging, operation monitoring, alarms, error monitoring, and maintenance of the Servo System can be handled with ease.



■ Setting & Programming

Easy programming with the Smart FB Library



■ Parameter Editing & Monitoring

The Servomotor parameters can be edited, monitored, and saved with the CX-Drive.



■ Alarm & Maintenance

Easy monitoring of the NC Unit & Drive errors



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Note: CX-Drive (version 1.61) support for G-series Servo Drives can be obtained by using the CX-One V2 auto-update function from May 30, 2008.

Note: CX-Drive (version 1.62) support for G-series Servo Drives with MECHATROLINK-II Communications can be obtained by using the CX-One V2/V3 auto-update function from July 31, 2008.

OMRON, for Easy Setup, Easy Operation, Easy Connections, and Easy Monitoring

Wider Range of Compact Servomotors and Compatibility, Plus Fast Positioning with

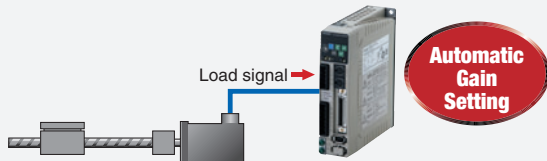


Easy!

Easy Adjustment

Realtime autotuning sets the optimum gain.

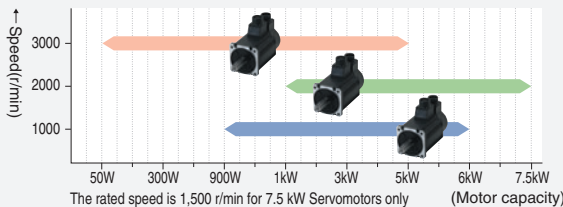
An autotuning function calculates the device load in realtime and automatically sets the optimum gain, simplifying the adjustment procedure.



Select the Optimum Motor

A wide range of Servomotors is available to meet application needs.

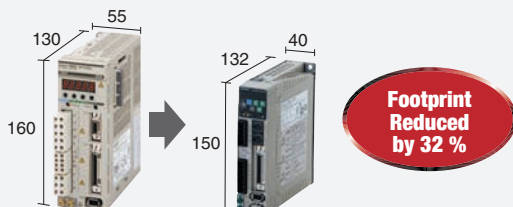
You can select a suitable Servomotor from a wide range of Servomotor capacities to cater to various applications.



Reduce Control Panel Installation Space

Even Smaller Servo Drives.

The footprint of the Servo Drives has been reduced by 32% compared to previous OMRON models, helping to reduce control panel size.



Advanced Performance!

Reduce Tact Time

Significantly better speed response frequency.

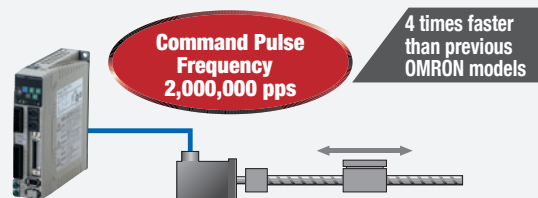
The speed response frequency has been improved by a factor of 2.5 compared to previous OMRON models. The stabilization time has been reduced, increasing machine speed and response performance.



Reduce Tact Time

Fast positioning with improved command pulse frequency performance.

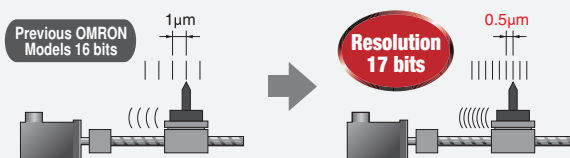
The command pulse frequency is 4 times faster than previous OMRON models. This enables fast, accurate control.



Improve Processing Accuracy

All Servomotors contain a 17-bit encoder*1 for greater accuracy.

Positioning is twice as accurate as previous OMRON models*2 for submicron accuracy. This enables stable control in the low speed range.



*1 For Servomotors with absolute encoders.

*2 Compared to previous OMRON models. (Servomotors with absolute encoders, 750 W max.)

Servo Drives with Increased Machine Improved Response and Vibration Control

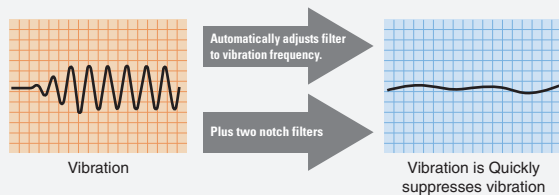
Achieve Maximum Machine Performance with the **G** Series

Advanced Functionality!

Reduce Mechanical Vibration

Quick suppression of vibration with an adaptive filter.

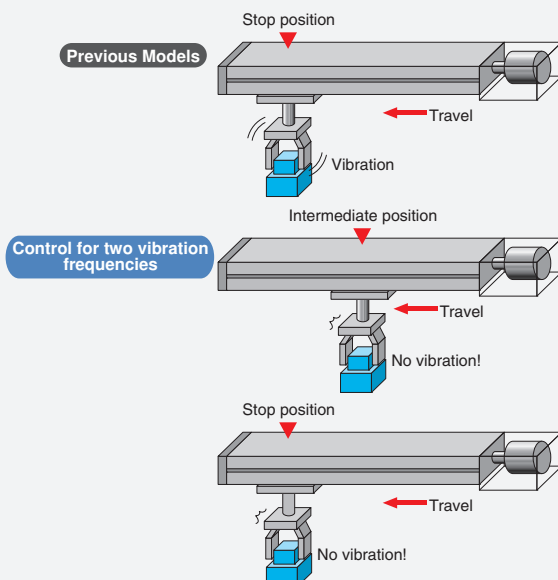
Even if the resonant frequency changes, realtime evaluation automatically follows the changes to reduce the effect of vibration due to low mechanical rigidity, such as for conveyer belts.



Reduce Tact Time

Reduce mechanical vibration with the vibration control function.

By removing the vibration frequency components between the stop position and the intermediate position, vibration that occurs due to low mechanical rigidity can be suppressed. (Control for two vibration frequencies)



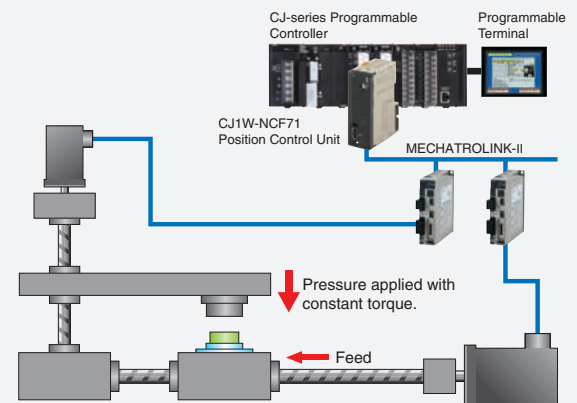
Flexible Application

Change the command control mode as required by the application.

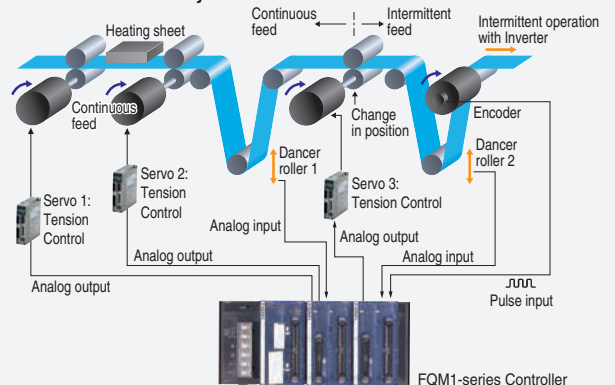
Select from position control, speed control, and torque control for use in applications such as the pressing, tension, and injection.

Application Examples

● Attaching Parts, Pressing, and Tightening Screws



● Rollers and Conveyers



The optimum combination can be found from to handle various applications.

Servo Drive Variations

		G Series												
		Servo Drives with General-purpose Inputs						MECHATROLINK-II* Compatible Servo Drives						
		R88D-GT						R88D-GN□-ML2						
Power supply	AC100V	Single-phase						Single-phase						
	AC200V	Single-phase	Single/Three-phase	Three-phase				Single-phase	Single/Three-phase	Three-phase				
Motor capacity	AC100V	50 W	100 W	200 W	400 W			50 W	100 W	200 W	400 W			
	AC200V	Single-phase	50 W	100 W	200 W	400 W			50 W	100 W	200 W	400 W		
		Single/Three-phase	750 W	900 W	1 kW	1.5 kW			750 W	900 W	1 kW	1.5 kW		
	Three-phase	2 kW	3 kW	4 kW	4.5 kW	5 kW	6 kW	7.5 kW	2 kW	3 kW	4 kW	4.5 kW	5 kW	6 kW
Interface	Command type	Pulse train Analog						ML2						
Control modes	Control modes	Position control	Speed control	Torque control			Position control	Speed control	Torque control					
	Control mode switching	Mode switching						Mode switching						
Tuning functions	Vibration control	Vibration control ^{*1}						Vibration control ^{*1}						
	Autotuning	AUTO						AUTO						
	Realtime autotuning	FIT GAIN		Adaptive filter ^{*2}				Adaptive filter ^{*2}						
Servo Drive functions	Torque limits	Torque limit ^{*1}						Torque limit ^{*1}						
	Encoder output	ABS		INC				ABS		INC				
	Internal set speeds	8 speeds						—						

*1. Two limits. *2. One adaptive filter and two notch filters.

Functions

- Pulse train:** The speed and travel distance are input to the Servo as pulse trains.
- Analog:** The speed and torque are input to the Servo as analog signals.
- ML2:** MECHATROLINK-II high-speed Servo communications motion network. (See note.)
- Position control:** Control is applied to move to the target position and then stop at the target position.
- Speed control:** Control is applied to change the linear or rotational speed. For example, speed control is used for applications such as turning grindstones, controlling welding speeds, and controlling feeding speeds.
- Torque control:** Control is applied to adjust the rotational force. Torque control is suitable for applications such as parts insertion, pressing, and screw tightening.
- Mode switching:** Switching is possible between any two of the three control modes: position control, speed control, and torque control.
- Vibration control:** Vibration is suppressed by automatically setting a filter for the vibration frequency.
- AUTO:** Autotuning: The motor is moved according to a command pattern automatically generated by the Servo Drive, then estimates the load inertia from the torque required at that time to automatically set the optimum.
- FIT GAIN:** Fit gain: The rigidity for the realtime autotuning for position control is set automatically. By repeatedly inputting a specific operation pattern, the optimum rigidity is set automatically.
- ABS:** Absolute output: When the Controller power supply is turned ON, the Controller reads the Servo absolute position data to restore the absolute position.
- INC:** Incremental output: When the Controller power supply is turned ON, operation is always started from the origin point.
- Adaptive filter:** Adaptive filter: The machine load inertia is calculated in realtime and the result is used to automatically set the optimum gain.
- Torque limit:** Torque limit: Switching is possible between the first torque limit and the second torque limit to limit the Servomotor output torque.

a variety of functions and model variations

Servomotor Variations

G Series

Servomotors with General-purpose Inputs and MECHATROLINK-II* Compatible Servomotors

R88M-G



Motor type	Cylinder type		Cylinder type	Flat type
	1000r/min	2000r/min	3000r/min	
50W			INC ABS INC	
100W			INC ABS INC	INC ABS INC
200W			INC ABS INC	INC ABS INC
400W			INC ABS INC	INC ABS INC
750W			INC ABS INC	
900W	INC ABS			
1kW		INC ABS	INC ABS	
1.5kW		INC ABS	INC ABS	
2kW	INC ABS	INC ABS	INC ABS	
3kW	INC ABS	INC ABS	INC ABS	
4kW		INC ABS	INC ABS	
4.5kW	INC ABS			
5kW		INC ABS	INC ABS	
6kW	INC ABS			
7.5kW		INC ABS ^{*4}		

*4. The rated speed is 1,500 r/min for 7.5 kW Servomotors only

Functions



Incremental/absolute output: The Servomotor can be switched between an incremental output and an absolute output. When an absolute output is selected and the Controller power supply is turned ON, the Controller reads the Servo absolute position data to restore the absolute position.



Incremental output: When the Controller power supply is turned ON, operation is always started from the origin point.

*MECHATROLINK-II is a registered trademark of the MECHATROLINK Members Association

G-series AC Servomotors/Servo Drives with General-purpose Pulse-string or Analog Inputs

R88M-G/R88D-GT

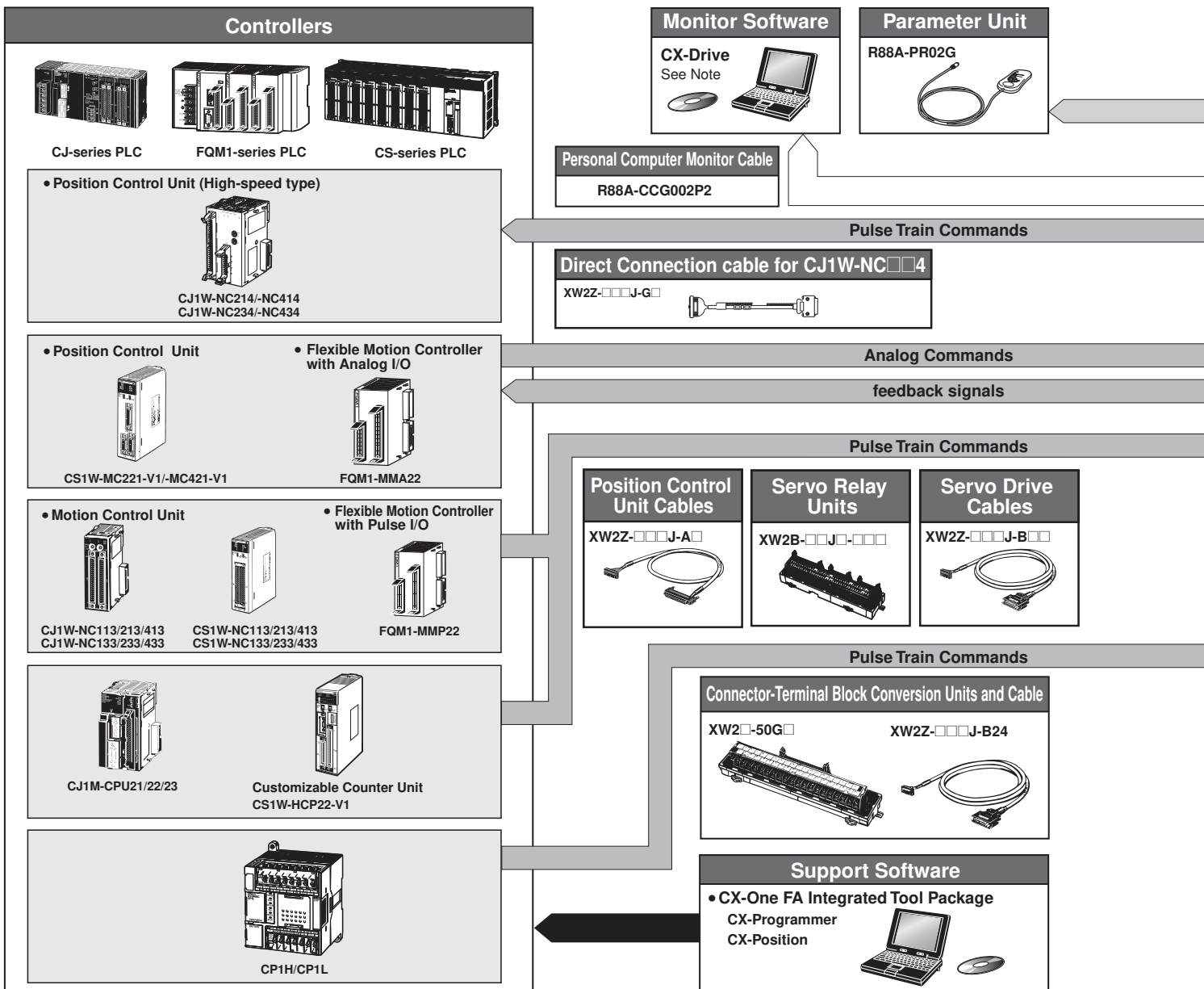
Support for a Wide Range of Applications with Position Control, Speed Control, Torque Control.

- **High-speed Response**
The G-series AC Servomotors and Servo Drives have achieved high-speed response capabilities, with a high-response frequency of 1 kHz.
- **Suppressing Vibration of Low-rigidity Mechanisms during Acceleration/Deceleration**
The damping control function suppresses vibration of low-rigidity mechanisms or devices whose ends tend to vibrate. Two damping filters are provided to enable switching the vibration frequency automatically according to the direction of rotation and also via an external signal. In addition, the

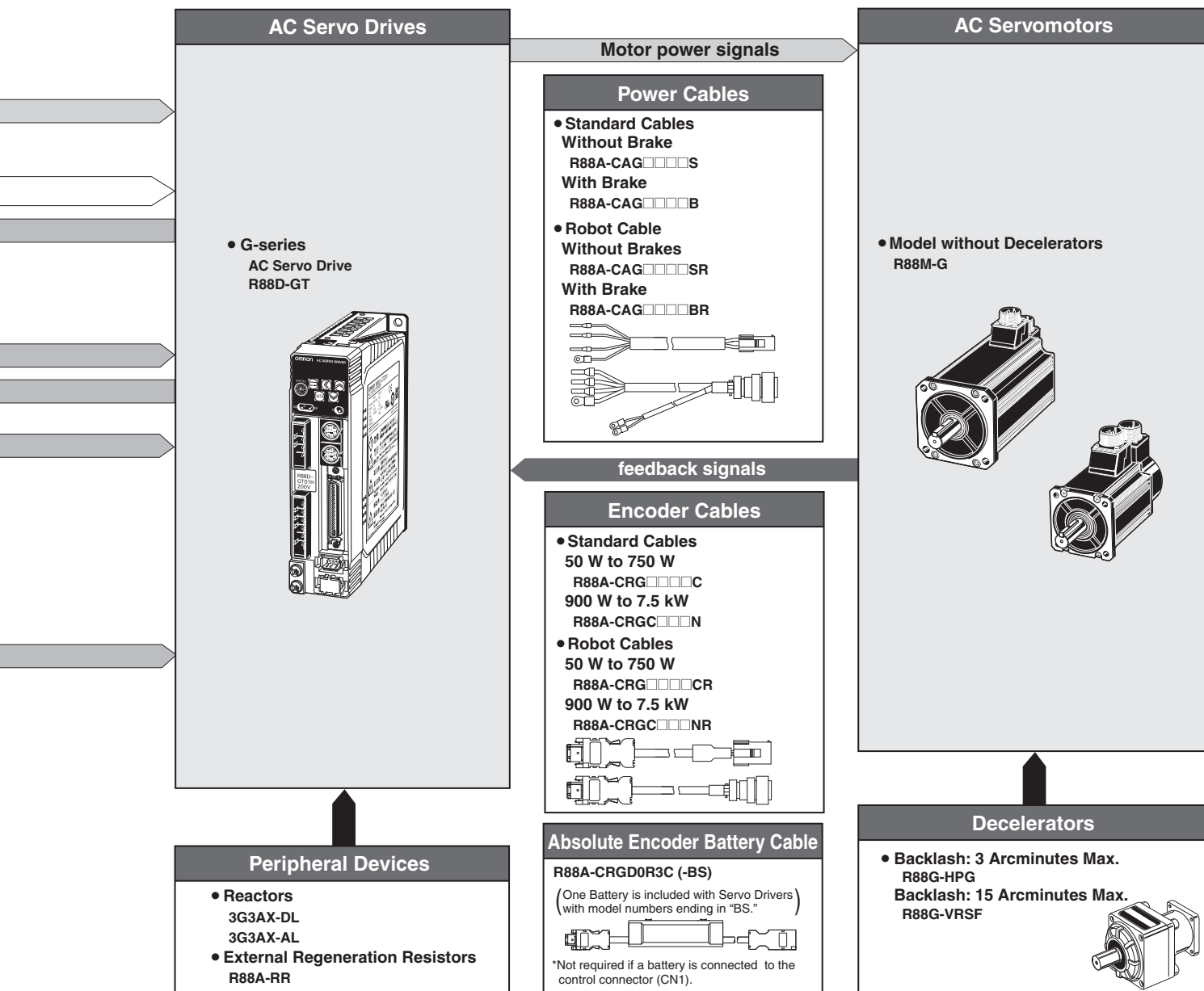
- settings can be made easily merely by setting the vibration frequency and filter values, and you are assured of stable operation even if the settings are inappropriate.
- **High-speed Positioning via Resonance Suppression Control**
The realtime autotuning function automatically estimates the load inertia of the machine in realtime and sets the optimal gain. The adaptive filter automatically suppresses vibration caused by resonance. Also, two independent notch filters make it possible to reduce vibration of a mechanism with multiple resonance frequencies.

Note: CX-Drive (version 1.61) support for G-series Servo Drives can be obtained by using the CX-One V2 auto-update function from May 30, 2008.

System Configuration



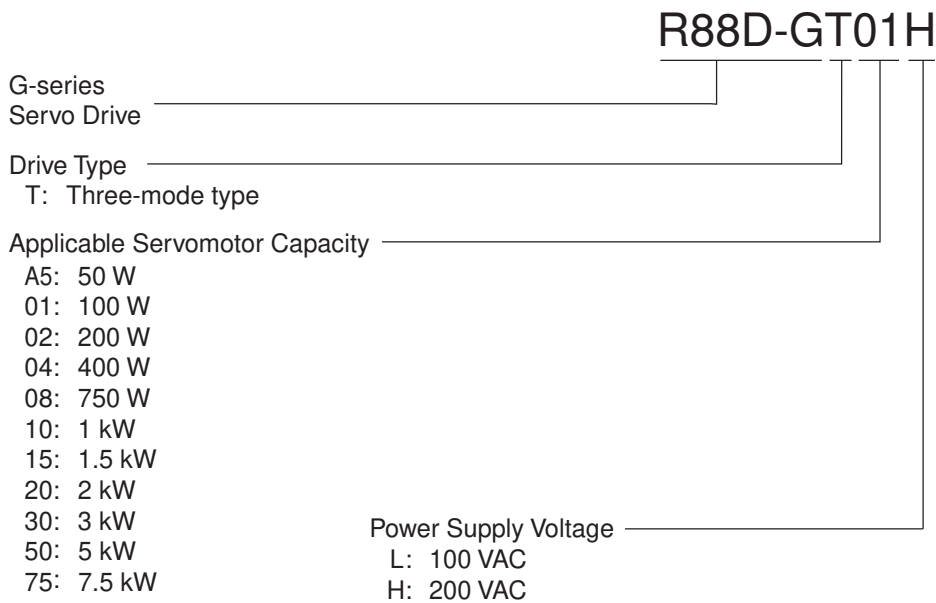
- **Command Control Mode Switching**
Operation can be performed by switching between two of the following control modes: Position control, speed control (including internal speed) and torque control. Therefore, a variety of applications can be supported by one Servo Drive.
- **Simplified Speed Control with Internal Speed Settings**
Eight internal speed settings allow you to change the speed easily by using external signals.



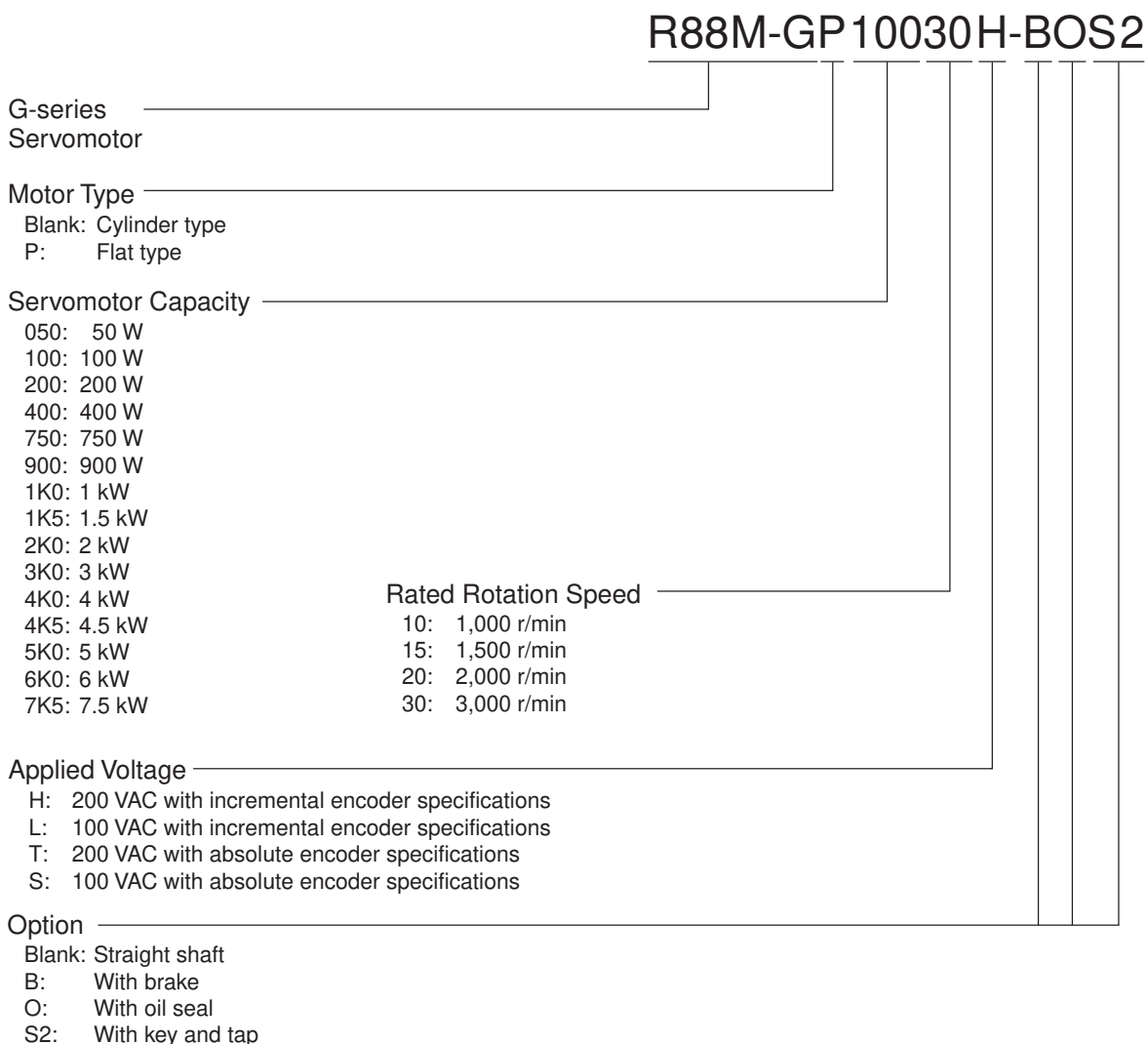
Interpreting Model Numbers

● Servo Drive Model Numbers

The model number provides information such as the Servo Drive type, the applicable Servomotor capacity, and the power supply voltage.



● Servomotor Model Numbers



● Understanding Decelerator Model Numbers

Backlash = 3' Max.

R88G-HPG14A05100PBJ

Decelerator for _____
G-Series Servomotors
Backlash = 3' Max.

Flange Size Number _____

- 11A: 40
- 14A: 60
- 20A: 90
- 32A: 120
- 50A: 170
- 65A: 230

Gear Ratio _____

- 05: 1/5
- 09: 1/9 (only frame number 11A)
- 11: 1/11 (except frame number 65A)
- 12: 1/12 (only frame number 65A)
- 20: 1/20 (only frame number 65A)
- 21: 1/21 (except frame number 65A)
- 25: 1/25 (only frame number 65A)
- 33: 1/33
- 45: 1/45

Applicable Servomotor Capacity _____

- 050: 50 W
- 100: 100 W
- 200: 200 W
- 400: 400 W
- 750: 750 W
- 900: 900 W
- 1K0: 1 kW
- 1K5: 1.5 kW
- 2K0: 2 kW
- 3K0: 3 kW
- 4K0: 4 kW
- 4K5: 4.5 kW
- 5K0: 5 kW
- 6K0: 6 kW
- 7K5: 7 kW

Motor Type _____

- Blank: 3,000-r/min cylindrical servomotors
- P: flat servomotors
- S: 2,000-r/min servomotors
- T: 1,000-r/min servomotors

Backlash _____

- B: 3' max.

Option _____

- Blank: Straight shaft
- J: With key and tap

Backlash = 15' Max.

R88G-VRSF09B100PCJ

Decelerator for _____
G-Series Servomotors
Backlash = 15' Max.

Gear Ratio _____

- 05: 1/5
- 09: 1/9
- 15: 1/15
- 25: 1/25

Flange Size Number _____

- B: 52
- C: 78
- D: 98

Applicable Servomotor Capacity _____

- 050: 50 W
- 100: 100 W
- 200: 200 W
- 400: 400 W
- 750: 750 W

Motor Type _____

- Blank: 3,000-r/min cylindrical servomotors
- P: flat servomotors

Backlash _____

- C: 15' max.

Option _____

- J: With key and tap

Ordering Information

● Servo Drives

Specifications		Model
Single-phase 100 VAC	50 W	R88D-GTA5L
	100 W	R88D-GT01L
	200 W	R88D-GT02L
	400 W	R88D-GT04L
Single-phase 200 VAC	50 W	R88D-GT01H
	100 W	
	200 W	R88D-GT02H
	400 W	R88D-GT04H
Single-phase/three-phase 200 VAC	750 W	R88D-GT08H
	1 kW	R88D-GT10H
	900 W	R88D-GT15H
	1 kW	
Three-phase 200 VAC	2 kW	R88D-GT20H
	2 kW	R88D-GT30H
	3 kW	
	3 kW	R88D-GT50H
	4 kW	
	4.5 kW	
	5 kW	
	6 kW	R88D-GT75H
7.5 kW		

● Servomotors

INC 3,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030L	R88M-G10030L-S2
		200 W	R88M-G20030L	R88M-G20030L-S2
		400 W	R88M-G40030L	R88M-G40030L-S2
	200 V	50 W	R88M-G05030H	R88M-G05030H-S2
		100 W	R88M-G10030H	R88M-G10030H-S2
		200 W	R88M-G20030H	R88M-G20030H-S2
		400 W	R88M-G40030H	R88M-G40030H-S2
With brake	100 V	50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030L-B	R88M-G10030L-BS2
		200 W	R88M-G20030L-B	R88M-G20030L-BS2
		400 W	R88M-G40030L-B	R88M-G40030L-BS2
	200 V	50 W	R88M-G05030H-B	R88M-G05030H-BS2
		100 W	R88M-G10030H-B	R88M-G10030H-BS2
		200 W	R88M-G20030H-B	R88M-G20030H-BS2
		400 W	R88M-G40030H-B	R88M-G40030H-BS2
		750 W	R88M-G75030H-B	R88M-G75030H-BS2

Note: Models with oil seals are also available.

ABS/INC 3,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	50 W	R88M-G05030T	R88M-G05030T-S2
		100 W	R88M-G10030S	R88M-G10030S-S2
		200 W	R88M-G20030S	R88M-G20030S-S2
	200 V	400 W	R88M-G40030S	R88M-G40030S-S2
		50 W	R88M-G05030T	R88M-G05030T-S2
		100 W	R88M-G10030T	R88M-G10030T-S2
		200 W	R88M-G20030T	R88M-G20030T-S2
		400 W	R88M-G40030T	R88M-G40030T-S2
		750 W	R88M-G75030T	R88M-G75030T-S2
		1 kW	R88M-G1K030T	R88M-G1K030T-S2
		1.5 kW	R88M-G1K530T	R88M-G1K530T-S2
		2 kW	R88M-G2K030T	R88M-G2K030T-S2
		3 kW	R88M-G3K030T	R88M-G3K030T-S2
		4 kW	R88M-G4K030T	R88M-G4K030T-S2
		5 kW	R88M-G5K030T	R88M-G5K030T-S2
With brake	100 V	50 W	R88M-G05030T-B	R88M-G05030T-BS2
		100 W	R88M-G10030S-B	R88M-G10030S-BS2
		200 W	R88M-G20030S-B	R88M-G20030S-BS2
		400 W	R88M-G40030S-B	R88M-G40030S-BS2
	200 V	50 W	R88M-G05030T-B	R88M-G05030T-BS2
		100 W	R88M-G10030T-B	R88M-G10030T-BS2
		200 W	R88M-G20030T-B	R88M-G20030T-BS2
		400 W	R88M-G40030T-B	R88M-G40030T-BS2
		750 W	R88M-G75030T-B	R88M-G75030T-BS2
		1 kW	R88M-G1K030T-B	R88M-G1K030T-BS2
		1.5 kW	R88M-G1K530T-B	R88M-G1K530T-BS2
		2 kW	R88M-G2K030T-B	R88M-G2K030T-BS2
		3 kW	R88M-G3K030T-B	R88M-G3K030T-BS2
		4 kW	R88M-G4K030T-B	R88M-G4K030T-BS2
		5 kW	R88M-G5K030T-B	R88M-G5K030T-BS2

Note: Models with oil seals are also available.

INC 3,000-r/min Flat Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	100 W	R88M-GP10030L	R88M-GP10030L-S2
		200 W	R88M-GP20030L	R88M-GP20030L-S2
		400 W	R88M-GP40030L	R88M-GP40030L-S2
	200 V	100 W	R88M-GP10030H	R88M-GP10030H-S2
		200 W	R88M-GP20030H	R88M-GP20030H-S2
		400 W	R88M-GP40030H	R88M-GP40030H-S2
With brake	100 V	100 W	R88M-GP10030L-B	R88M-GP10030L-BS2
		200 W	R88M-GP20030L-B	R88M-GP20030L-BS2
		400 W	R88M-GP40030L-B	R88M-GP40030L-BS2
	200 V	100 W	R88M-GP10030H-B	R88M-GP10030H-BS2
		200 W	R88M-GP20030H-B	R88M-GP20030H-BS2
		400 W	R88M-GP40030H-B	R88M-GP40030H-BS2

Note: Models with oil seals are also available.

ABS/INC 3,000-r/min Flat Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	100 V	100 W	R88M-GP10030S	R88M-GP10030S-S2
		200 W	R88M-GP20030S	R88M-GP20030S-S2
		400 W	R88M-GP40030S	R88M-GP40030S-S2
	200 V	100 W	R88M-GP10030T	R88M-GP10030T-S2
		200 W	R88M-GP20030T	R88M-GP20030T-S2
		400 W	R88M-GP40030T	R88M-GP40030T-S2
With brake	100 V	100 W	R88M-GP10030S-B	R88M-GP10030S-BS2
		200 W	R88M-GP20030S-B	R88M-GP20030S-BS2
		400 W	R88M-GP40030S-B	R88M-GP40030S-BS2
	200 V	100 W	R88M-GP10030T-B	R88M-GP10030T-BS2
		200 W	R88M-GP20030T-B	R88M-GP20030T-BS2
		400 W	R88M-GP40030T-B	R88M-GP40030T-BS2

Note: Models with oil seals are also available.

ABS/INC 2,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	200 V	1 kW	R88M-G1K020T	R88M-G1K020T-S2
		1.5 kW	R88M-G1K520T	R88M-G1K520T-S2
		2 kW	R88M-G2K020T	R88M-G2K020T-S2
		3 kW	R88M-G3K020T	R88M-G3K020T-S2
		4 kW	R88M-G4K020T	R88M-G4K020T-S2
		5 kW	R88M-G5K020T	R88M-G5K020T-S2
		7.5 kW	R88M-G7K515T	R88M-G7K515T-S2
With brake	200 V	1 kW	R88M-G1K020T-B	R88M-G1K020T-BS2
		1.5 kW	R88M-G1K520T-B	R88M-G1K520T-BS2
		2 kW	R88M-G2K020T-B	R88M-G2K020T-BS2
		3 kW	R88M-G3K020T-B	R88M-G3K020T-BS2
		4 kW	R88M-G4K020T-B	R88M-G4K020T-BS2
		5 kW	R88M-G5K020T-B	R88M-G5K020T-BS2
		7.5 kW	R88M-G7K515T-B	R88M-G7K515T-BS2

Note: 1. Models with oil seals are also available.

Note: 2. The rated rotation speed for 7.5-kW Servomotors is 1,500 r/min.

ABS/INC 1,000-r/min Cylindrical Servomotors

Specifications			Model	
			Straight shaft	Straight shaft with key and tap
Without brake	200 V	900 W	R88M-G90010T	R88M-G90010T-S2
		2 kW	R88M-G2K010T	R88M-G2K010T-S2
		3 kW	R88M-G3K010T	R88M-G3K010T-S2
		4.5 kW	R88M-G4K510T	R88M-G4K510T-S2
		6 kW	R88M-G6K010T	R88M-G6K010T-S2
With brake	200 V	900 W	R88M-G90010T-B	R88M-G90010T-BS2
		2 kW	R88M-G2K010T-B	R88M-G2K010T-BS2
		3 kW	R88M-G3K010T-B	R88M-G3K010T-BS2
		4.5 kW	R88M-G4K510T-B	R88M-G4K510T-BS2
		6 kW	R88M-G6K010T-B	R88M-G6K010T-BS2

Note: Models with oil seals are also available.

● Decelerators

Backlash: 3 Arcminutes Max.

Decelerators for 3,000-r/min Cylindrical Servomotors
Straight shaft

Specifications		Model
Motor capacity	Gear ratio	
50 W	1/5	R88G-HPG11A05100B
	1/9	R88G-HPG11A09050B
	1/21	R88G-HPG14A21100B
	1/33	R88G-HPG14A33050B
	1/45	R88G-HPG14A45050B
100 W	1/5	R88G-HPG11A05100B
	1/11	R88G-HPG14A11100B
	1/21	R88G-HPG14A21100B
	1/33	R88G-HPG20A33100B
	1/45	R88G-HPG20A45100B
200 W	1/5	R88G-HPG14A05200B
	1/11	R88G-HPG14A11200B
	1/21	R88G-HPG20A21200B
	1/33	R88G-HPG20A33200B
	1/45	R88G-HPG20A45200B
400 W	1/5	R88G-HPG14A05400B
	1/11	R88G-HPG20A11400B
	1/21	R88G-HPG20A21400B
	1/33	R88G-HPG32A33400B
	1/45	R88G-HPG32A45400B
750 W	1/5	R88G-HPG20A05750B
	1/11	R88G-HPG20A11750B
	1/21	R88G-HPG32A21750B
	1/33	R88G-HPG32A33750B
	1/45	R88G-HPG32A45750B
1 kW	1/5	R88G-HPG32A051K0B
	1/11	R88G-HPG32A111K0B
	1/21	R88G-HPG32A211K0B
	1/33	R88G-HPG32A331K0B
	1/45	R88G-HPG50A451K0B
1.5 kW	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG50A332K0B
	1/45	R88G-HPG50A451K5B
2 kW	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG50A212K0B
	1/33	R88G-HPG50A332K0B
3 kW	1/5	R88G-HPG32A053K0B
	1/11	R88G-HPG50A113K0B
	1/21	R88G-HPG50A213K0B
4 kW	1/5	R88G-HPG32A054K0B
	1/11	R88G-HPG50A115K0B
5 kW	1/5	R88G-HPG50A055K0B
	1/11	R88G-HPG50A115K0B

Note: 1. The standard models have a straight shaft.

Note: 2. To order a Servomotor with a straight shaft with key, add "J" to the end of the model number, in the place indicated by the box.

Example: R88G-HPG11B05100BJ

Backlash: 3 Arcminutes Max.

Decelerators for 3,000-r/min Flat Servomotors
Straight shaft

Specifications		Model
Motor capacity	Gear ratio	
100 W	1/5	R88G-HPG11A05100PB
	1/11	R88G-HPG14A11100PB
	1/21	R88G-HPG14A21100PB
	1/33	R88G-HPG20A33100PB
	1/45	R88G-HPG20A45100PB
200 W	1/5	R88G-HPG14A05200PB
	1/11	R88G-HPG20A11200PB
	1/21	R88G-HPG20A21200PB
	1/33	R88G-HPG20A33200PB
	1/45	R88G-HPG20A45200PB
400 W	1/5	R88G-HPG20A05400PB
	1/11	R88G-HPG20A11400PB
	1/21	R88G-HPG20A21400PB
	1/33	R88G-HPG32A33400PB
	1/45	R88G-HPG32A45400PB

Note: 1. The standard models have a straight shaft.

Note: 2. To order a Servomotor with a straight shaft with key, add "J" to the end of the model number.

Backlash: 3 Arcminutes Max.

**Decelerators for 2,000-r/min Cylindrical Servomotors
Straight shaft**

Specifications		Model
Motor capacity	Gear ratio	
1 kW	1/5	R88G-HPG32A053K0B
	1/11	R88G-HPG32A112K0SB
	1/21	R88G-HPG32A211K0SB
	1/33	R88G-HPG50A332K0SB
	1/45	R88G-HPG50A451K0SB
1.5 kW	1/5	R88G-HPG32A053K0B
	1/11	R88G-HPG32A112K0SB
	1/21	R88G-HPG50A213K0B
	1/33	R88G-HPG50A332K0SB
2 kW	1/5	R88G-HPG32A053K0B
	1/11	R88G-HPG32A112K0SB
	1/21	R88G-HPG50A213K0B
	1/33	R88G-HPG50A332K0SB
3 kW	1/5	R88G-HPG32A054K0B
	1/11	R88G-HPG50A115K0B
	1/21	R88G-HPG50A213K0SB
	1/25	R88G-HPG65A253K0SB
4 kW	1/5	R88G-HPG50A054K0SB
	1/11	R88G-HPG50A114K0SB
	1/20	R88G-HPG65A204K0SB
	1/25	R88G-HPG65A254K0SB
5 kW	1/5	R88G-HPG50A055K0SB
	1/11	R88G-HPG50A115K0SB
	1/20	R88G-HPG65A205K0SB
	1/25	R88G-HPG65A255K0SB
7.5 kW	1/5	R88G-HPG65A057K5SB
	1/12	R88G-HPG65A127K5SB

Note: 1. The standard models have a straight shaft.

Note: 2. To order a Servomotor with a straight shaft with key, add "J" to the end of the model number.

Backlash: 15 Arcminutes Max.

**Decelerators for 3,000-r/min Cylindrical Servomotors
Straight shaft with key and tap**

Specifications		Model
Motor capacity	Gear ratio	
50 W	1/5	R88G-VRSF05B100CJ
	1/9	R88G-VRSF09B100CJ
	1/15	R88G-VRSF15B100CJ
	1/25	R88G-VRSF25B100CJ
100 W	1/5	R88G-VRSF05B100CJ
	1/9	R88G-VRSF09B100CJ
	1/15	R88G-VRSF15B100CJ
	1/25	R88G-VRSF25B100CJ
200 W	1/5	R88G-VRSF05B200CJ
	1/9	R88G-VRSF09C200CJ
	1/15	R88G-VRSF15C200CJ
	1/25	R88G-VRSF25C200CJ
400 W	1/5	R88G-VRSF05C400CJ
	1/9	R88G-VRSF09C400CJ
	1/15	R88G-VRSF15C400CJ
	1/25	R88G-VRSF25C400CJ
750 W	1/5	R88G-VRSF05C750CJ
	1/9	R88G-VRSF09D750CJ
	1/15	R88G-VRSF15D750CJ
	1/25	R88G-VRSF25D750CJ

Backlash: 3 Arcminutes Max.

**Decelerators for 1,000-r/min Cylindrical Servomotors
Straight shaft**

Specifications		Model
Motor capacity	Gear ratio	
900 W	1/5	R88G-HPG32A05900TB
	1/11	R88G-HPG32A11900TB
	1/21	R88G-HPG50A21900TB
	1/33	R88G-HPG50A33900TB
2 kW	1/5	R88G-HPG32A052K0TB
	1/11	R88G-HPG50A112K0TB
	1/21	R88G-HPG50A212K0TB
	1/25	R88G-HPG65A255K0SB
3 kW	1/5	R88G-HPG50A055K0SB
	1/11	R88G-HPG50A115K0SB
	1/20	R88G-HPG65A205K0SB
4.5 kW	1/25	R88G-HPG65A255K0SB
	1/5	R88G-HPG50A054K5TB
	1/12	R88G-HPG65A127K5SB
6 kW	1/20	R88G-HPG65A204K5TB
	1/5	R88G-HPG65A057K5SB
	1/12	R88G-HPG65A127K5SB

Note: 1. The standard models have a straight shaft.

Note: 2. Models with a key and tap are indicated with "J" at the end of the model number.

Backlash: 15 Arcminutes Max.

**Decelerators for 3,000-r/min Flat Servomotors
Straight shaft with key and tap**

Specifications		Model
Motor capacity	Gear ratio	
100 W	1/5	R88G-VRSF05B100PCJ
	1/9	R88G-VRSF09B100PCJ
	1/15	R88G-VRSF15B100PCJ
	1/25	R88G-VRSF25B100PCJ
200 W	1/5	R88G-VRSF05B200PCJ
	1/9	R88G-VRSF09C200PCJ
	1/15	R88G-VRSF15C200PCJ
	1/25	R88G-VRSF25C200PCJ
400 W	1/5	R88G-VRSF05C400PCJ
	1/9	R88G-VRSF09C400PCJ
	1/15	R88G-VRSF15C400PCJ
	1/25	R88G-VRSF25C400PCJ

● Accessories and Cables

● Servomotor Power Cables (Standard Cables)

For Servomotor without brake

Specifications	Model	
3,000-r/min Servomotors of 50 to 750 W, 3,000-r/min Flat Servomotors of 100 to 400 W	3 m	R88A-CAGA003S
	5 m	R88A-CAGA005S
	10 m	R88A-CAGA010S
	15 m	R88A-CAGA015S
	20 m	R88A-CAGA020S
	30 m	R88A-CAGA030S
	40 m	R88A-CAGA040S
	50 m	R88A-CAGA050S
3,000-r/min Servomotors of 1 to 1.5 kW, 2,000-r/min Servomotors of 1 to 1.5 kW, 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003S
	5 m	R88A-CAGB005S
	10 m	R88A-CAGB010S
	15 m	R88A-CAGB015S
	20 m	R88A-CAGB020S
	30 m	R88A-CAGB030S
	40 m	R88A-CAGB040S
	50 m	R88A-CAGB050S
3,000-r/min Servomotors of 2 kW, 2,000-r/min Servomotors of 2 kW	3 m	R88A-CAGC003S
	5 m	R88A-CAGC005S
	10 m	R88A-CAGC010S
	15 m	R88A-CAGC015S
	20 m	R88A-CAGC020S
	30 m	R88A-CAGC030S
	40 m	R88A-CAGC040S
	50 m	R88A-CAGC050S
3,000-r/min Servomotors of 3 to 5 kW, 2,000-r/min Servomotors of 3 to 5 kW, 1,000-r/min Servomotors of 2 to 4.5 kW	3 m	R88A-CAGD003S
	5 m	R88A-CAGD005S
	10 m	R88A-CAGD010S
	15 m	R88A-CAGD015S
	20 m	R88A-CAGD020S
	30 m	R88A-CAGD030S
	40 m	R88A-CAGD040S
	50 m	R88A-CAGD050S
1,500-r/min Servomotors of 7.5 kW, 1,000-r/min Servomotors of 6 kW	3 m	R88A-CAGE003S
	5 m	R88A-CAGE005S
	10 m	R88A-CAGE010S
	15 m	R88A-CAGE015S
	20 m	R88A-CAGE020S
	30 m	R88A-CAGE030S
	40 m	R88A-CAGE040S
	50 m	R88A-CAGE050S

Note: There are separate connectors for power and brakes for 3,000-r/min Servomotors of 50 to 750 W, Flat Servomotors, and Servomotors of 6 kW or higher. When a Servomotor with a brake is used, it is necessary to use both a Power Cable for Servomotors without brakes and a Brake Cable.

● Servomotor Power Cables (Standard Cables)

For Servomotor with brake

Specifications	Model	
3,000-r/min Servomotors of 1 to 1.5 kW, 2,000-r/min Servomotors of 1 to 1.5 kW, 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003B
	5 m	R88A-CAGB005B
	10 m	R88A-CAGB010B
	15 m	R88A-CAGB015B
	20 m	R88A-CAGB020B
	30 m	R88A-CAGB030B
	40 m	R88A-CAGB040B
	50 m	R88A-CAGB050B
3,000-r/min Servomotors of 2 kW, 2,000-r/min Servomotors of 2 kW	3 m	R88A-CAGC003B
	5 m	R88A-CAGC005B
	10 m	R88A-CAGC010B
	15 m	R88A-CAGC015B
	20 m	R88A-CAGC020B
	30 m	R88A-CAGC030B
	40 m	R88A-CAGC040B
	50 m	R88A-CAGC050B
3,000-r/min Servomotors of 3 to 5 kW, 2,000-r/min Servomotors of 3 to 5 kW, 1,000-r/min Servomotors of 2 to 4.5 kW	3 m	R88A-CAGD003B
	5 m	R88A-CAGD005B
	10 m	R88A-CAGD010B
	15 m	R88A-CAGD015B
	20 m	R88A-CAGD020B
	30 m	R88A-CAGD030B
	40 m	R88A-CAGD040B
	50 m	R88A-CAGD050B

● Brake Cables (Standard Cables)

Specifications	Model	
3,000-r/min Servomotors of 50 to 750 W, 3,000-r/min Flat Servomotors of 100 to 400 W	3 m	R88A-CAGA003B
	5 m	R88A-CAGA005B
	10 m	R88A-CAGA010B
	15 m	R88A-CAGA015B
	20 m	R88A-CAGA020B
	30 m	R88A-CAGA030B
	40 m	R88A-CAGA040B
	50 m	R88A-CAGA050B
1,500-r/min Servomotors of 7.5 kW, 1,000-r/min Servomotors of 6 kW	3 m	R88A-CAGE003B
	5 m	R88A-CAGE005B
	10 m	R88A-CAGE010B
	15 m	R88A-CAGE015B
	20 m	R88A-CAGE020B
	30 m	R88A-CAGE030B
	40 m	R88A-CAGE040B
	50 m	R88A-CAGE050B

• Encoder Cables (Standard Cables)

Specifications		Model
3,000-r/min Servomotors of 50 to 750 W with an absolute encoder, 3,000-r/min Flat Servomotors of 100 to 400 W with an absolute encoder	3 m	R88A-CRGA003C
	5 m	R88A-CRGA005C
	10 m	R88A-CRGA010C
	15 m	R88A-CRGA015C
	20 m	R88A-CRGA020C
	30 m	R88A-CRGA030C
	40 m	R88A-CRGA040C
	50 m	R88A-CRGA050C
3,000-r/min Servomotors of 50 to 750 W with an incremental encoder, 3,000-r/min Flat Servomotors of 100 to 400 W with an incremental encoder	3 m	R88A-CRGB003C
	5 m	R88A-CRGB005C
	10 m	R88A-CRGB010C
	15 m	R88A-CRGB015C
	20 m	R88A-CRGB020C
	30 m	R88A-CRGB030C
	40 m	R88A-CRGB040C
	50 m	R88A-CRGB050C
3,000-r/min Servomotors of 1 to 5 kW, 2,000-r/min Servomotors of 1 to 5 kW, 1,500-r/min Servomotors of 7.5 kW, 1,000-r/min Servomotors of 900 W to 6 kW	3 m	R88A-CRGC003N
	5 m	R88A-CRGC005N
	10 m	R88A-CRGC010N
	15 m	R88A-CRGC015N
	20 m	R88A-CRGC020N
	30 m	R88A-CRGC030N
	40 m	R88A-CRGC040N
	50 m	R88A-CRGC050N

• Absolute Encoder Battery Cable

Specifications		Model
Absolute Encoder Battery Cable (Battery not included.)	0.3 m	R88A-CRGD0R3C
Absolute Encoder Battery Cable (One R88A-BAT01G Battery included.)	0.3 m	R88A-CRGD0R3C-BS

• Absolute Encoder Backup Battery

Specifications	Model
2,000 mA-h 3.6 V	R88A-BAT01G

• Servomotor Power Cables (Robot Cables)

For Servomotor without brake

Specifications		Model	
3,000-r/min Servomotors of 50 to 750 W, 3,000-r/min Flat Servomotors of 100 to 400 W	3 m	R88A-CAGA003SR	
	5 m	R88A-CAGA005SR	
	10 m	R88A-CAGA010SR	
	15 m	R88A-CAGA015SR	
	20 m	R88A-CAGA020SR	
	30 m	R88A-CAGA030SR	
	40 m	R88A-CAGA040SR	
	50 m	R88A-CAGA050SR	
	3,000-r/min Servomotors of 1 to 1.5 kW, 2,000-r/min Servomotors of 1 to 1.5 kW, 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003SR
		5 m	R88A-CAGB005SR
10 m		R88A-CAGB010SR	
15 m		R88A-CAGB015SR	
20 m		R88A-CAGB020SR	
30 m		R88A-CAGB030SR	
40 m		R88A-CAGB040SR	
50 m		R88A-CAGB050SR	
3,000-r/min Servomotors of 2 kW, 2,000-r/min Servomotors of 2 kW		3 m	R88A-CAGC003SR
		5 m	R88A-CAGC005SR
	10 m	R88A-CAGC010SR	
	15 m	R88A-CAGC015SR	
	20 m	R88A-CAGC020SR	
	30 m	R88A-CAGC030SR	
	40 m	R88A-CAGC040SR	
	50 m	R88A-CAGC050SR	
	3,000-r/min Servomotors of 3 to 5 kW, 2,000-r/min Servomotors of 3 to 5 kW, 1,000-r/min Servomotors of 2 to 4.5 kW	3 m	R88A-CAGD003SR
		5 m	R88A-CAGD005SR
10 m		R88A-CAGD010SR	
15 m		R88A-CAGD015SR	
20 m		R88A-CAGD020SR	
30 m		R88A-CAGD030SR	
40 m		R88A-CAGD040SR	
50 m		R88A-CAGD050SR	

• Servomotor Power Cables (Robot Cables)

For Servomotor with brake

Specifications		Model
3,000-r/min Servomotors of 1 to 1.5 kW, 2,000-r/min Servomotors of 1 to 1.5 kW, 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003BR
	5 m	R88A-CAGB005BR
	10 m	R88A-CAGB010BR
	15 m	R88A-CAGB015BR
	20 m	R88A-CAGB020BR
	30 m	R88A-CAGB030BR
	40 m	R88A-CAGB040BR
	50 m	R88A-CAGB050BR
3,000-r/min Servomotors of 2 kW, 2,000-r/min Servomotors of 2 kW	3 m	R88A-CAGC003BR
	5 m	R88A-CAGC005BR
	10 m	R88A-CAGC010BR
	15 m	R88A-CAGC015BR
	20 m	R88A-CAGC020BR
	30 m	R88A-CAGC030BR
	40 m	R88A-CAGC040BR
	50 m	R88A-CAGC050BR
3,000-r/min Servomotors of 3 to 5 kW, 2,000-r/min Servomotors of 3 to 5 kW, 1,000-r/min Servomotors of 2 to 4.5 kW	3 m	R88A-CAGD003BR
	5 m	R88A-CAGD005BR
	10 m	R88A-CAGD010BR
	15 m	R88A-CAGD015BR
	20 m	R88A-CAGD020BR
	30 m	R88A-CAGD030BR
	40 m	R88A-CAGD040BR
	50 m	R88A-CAGD050BR

• Brake Cables (Robot Cables)

Specifications		Model
3,000-r/min Servomotors of 50 to 750 W, 3,000-r/min Flat Servomotors of 100 to 400 W	3 m	R88A-CAGA003BR
	5 m	R88A-CAGA005BR
	10 m	R88A-CAGA010BR
	15 m	R88A-CAGA015BR
	20 m	R88A-CAGA020BR
	30 m	R88A-CAGA030BR
	40 m	R88A-CAGA040BR
	50 m	R88A-CAGA050BR

• Encoder Cables (Robot Cables)

Specifications		Model
3,000-r/min Servomotors of 50 to 750 W with an absolute encoder, 3,000-r/min Flat Servomotors of 100 to 400 W with an absolute encoder	3 m	R88A-CRGA003CR
	5 m	R88A-CRGA005CR
	10 m	R88A-CRGA010CR
	15 m	R88A-CRGA015CR
	20 m	R88A-CRGA020CR
	30 m	R88A-CRGA030CR
	40 m	R88A-CRGA040CR
	50 m	R88A-CRGA050CR
3,000-r/min Servomotors of 50 to 750 W with an incremental encoder, 3,000-r/min Flat Servomotors of 100 to 400 W with an incremental encoder	3 m	R88A-CRGB003CR
	5 m	R88A-CRGB005CR
	10 m	R88A-CRGB010CR
	15 m	R88A-CRGB015CR
	20 m	R88A-CRGB020CR
	30 m	R88A-CRGB030CR
	40 m	R88A-CRGB040CR
	50 m	R88A-CRGB050CR
3,000-r/min Servomotors of 1 to 5 kW, 2,000-r/min Servomotors of 1 to 5 kW, 1,500-r/min Servomotors of 7.5 kW, 1,000-r/min Servomotors of 900 W to 6 kW	3 m	R88A-CRGC003NR
	5 m	R88A-CRGC005NR
	10 m	R88A-CRGC010NR
	15 m	R88A-CRGC015NR
	20 m	R88A-CRGC020NR
	30 m	R88A-CRGC030NR
	40 m	R88A-CRGC040NR
	50 m	R88A-CRGC050NR

• Communications Cables

Specifications		Model
Personal Computer Monitor Cable RS-232 Communications	2 m	R88A-CCG002P2
RS-485 Communications Cable	0.5 m	R88A-CCG0R5P4
	1 m	R88A-CCG001P4

• Connectors

Specifications		Model
Servomotor Connector for Encoder Cable	Absolute Encoder	R88A-CNG01R
	Incremental Encoder	R88A-CNG02R
Control I/O Connector (CN1)		R88A-CNU01C
Encoder Connector (CN2)		R88A-CNW01R
Power Cable Connector (750 W max.)		R88A-CNG01A
Brake Cable Connector (750 W max.)		R88A-CNG01B

• Servo Relay Units (for CN1)

Specifications	Model
For CS1W-NC113/-NC133 For CJ1W-NC113/-NC133 For C200HW-NC113	XW2B-20J6-1B
For CS1W-NC213/-NC413/-NC233/-NC433 For CJ1W-NC213/-NC413/-NC233/-NC433 For C200HW-NC213/-NC413	XW2B-40J6-2B
For CJ1M-CPU21/-CPU22/-CPU23 (for 1 axis)	XW2B-20J6-8A
For CJ1M-CPU21/-CPU22/-CPU23 (for 2 axis)	XW2B-40J6-9A
For FQM1-MMA22 For FQM1-MMP22	XW2B-80J7-12A

• Servo Relay Unit Cables (for Servo Drives)

Specifications	Model	
For CJ1M-CPU21/-CPU22/-CPU23 (XW2B-20J6-8A/XW2B-40J6-9A)	1 m	XW2Z-100J-B31
	2 m	XW2Z-200J-B31
For FQM1-MMA22 (XW2B-80J7-12A)	1 m	XW2Z-100J-B27
	2 m	XW2Z-200J-B27
For FQM1-MMP22 (XW2B-80J7-12A)	1 m	XW2Z-100J-B26
	2 m	XW2Z-200J-B26

Note: You cannot use a Servo Relay Unit Cable for line-receiver inputs (+CWLD: CN1 pin 44, -CWLD: CN1 pin 45, +CCWLD: CN1 pin 46, -CCWLD: CN1 pin 47).
Use a General-purpose Control Cable and wire the connector to match the controller.

• Servo Relay Unit Cables (for Position Control Units)

Specifications	Model		
For CS1W-NC113, C200HW-NC113 (XW2B-20J6-1B)	0.5 m	XW2Z-050J-A6	
	1 m	XW2Z-100J-A6	
For CS1W-NC213/-NC413, C200HW-NC213/-NC413 (XW2B-20J6-2B)	0.5 m	XW2Z-050J-A7	
	1 m	XW2Z-100J-A7	
For CS1W-NC133 (XW2B-20J6-1B)	0.5 m	XW2Z-050J-A10	
	1 m	XW2Z-100J-A10	
For CS1W-NC233/-NC433 (XW2B-20J6-2B)	0.5 m	XW2Z-050J-A11	
	1 m	XW2Z-100J-A11	
For CJ1W-NC113 (XW2B-20J6-1B)	0.5 m	XW2Z-050J-A14	
	1 m	XW2Z-100J-A14	
For CJ1W-NC213/-NC413 (XW2B-20J6-2B)	0.5 m	XW2Z-050J-A15	
	1 m	XW2Z-100J-A15	
For CJ1W-NC133 (XW2B-20J6-1B)	0.5 m	XW2Z-050J-A18	
	1 m	XW2Z-100J-A18	
For CJ1W-NC233/-NC433 (XW2B-20J6-2B)	0.5 m	XW2Z-050J-A19	
	1 m	XW2Z-100J-A19	
For CJ1M-CPU21/-CPU22/-CPU23 (XW2B-20J6-8A/XW2B-40J6-9A)	0.5 m	XW2Z-050J-A33	
	1 m	XW2Z-100J-A33	
For FQM1-MMA22 (XW2B-80J7-12A)	General-purpose I/O	0.5 m	XW2Z-050J-A28
		1 m	XW2Z-100J-A28
		2 m	XW2Z-200J-A28
	Special I/O	0.5 m	XW2Z-050J-A31
		1 m	XW2Z-100J-A31
		2 m	XW2Z-200J-A31
For FQM1-MMP22 (XW2B-80J7-12A)	General-purpose I/O	0.5 m	XW2Z-050J-A28
		1 m	XW2Z-100J-A28
		2 m	XW2Z-200J-A28
	Special I/O	0.5 m	XW2Z-050J-A30
		1 m	XW2Z-100J-A30
		2 m	XW2Z-200J-A30

• Control Cables

Specifications	Model	
Motion Control Unit Cables for 1 axis CS1W-MC221-V1/-MC421-V1	1 m	R88A-CPG001M1
	2 m	R88A-CPG002M1
	3 m	R88A-CPG003M1
	5 m	R88A-CPG005M1
Motion Control Unit Cables for 2 axes CS1W-MC221-V1/-MC421-V1	1 m	R88A-CPG001M2
	2 m	R88A-CPG002M2
	3 m	R88A-CPG003M2
	5 m	R88A-CPG005M2
General-purpose Control Cables with Connector on One End	1 m	R88A-CPG001S
	2 m	R88A-CPG002S
Connector-Terminal Block Cables	1 m	XW2Z-100J-B24
	2 m	XW2Z-200J-B24
Connector Terminal Block Conversion Unit	M3 screw type	XW2B-50G4
	M3.5 screw type	XW2B-50G5
	M3 screw type	XW2D-50G6

• External Regeneration Resistors

Specifications	Model
20 W, 50 Ω	R88A-RR08050S
20 W, 100 Ω	R88A-RR080100S
70 W, 47 Ω	R88A-RR22047S
500 W, 20 Ω	R88A-RR50020S

• Reactors

Specifications	Model
R88D-GTA5L/-GT01H	3G3AX-DL2002
R88D-GT01L/-GT02H	3G3AX-DL2004
R88D-GT02L/-GT04H	3G3AX-DL2007
R88D-GT04L/-GT08H/-GT10H	3G3AX-DL2015
R88D-GT15H	3G3AX-DL2022
R88D-GT08H/-GT10H/-GT15H	3G3AX-AL2025
R88D-GT20H/-GT30H	3G3AX-AL2055
R88D-GT50H	3G3AX-AL2110
R88D-GT75H	3G3AX-AL2220

• Mounting Brackets (L Brackets for Rack Mounting)

Specifications	Model
R88D-GTA5L/-GT01L/-GT01H/-GT02H	R88A-TK01G
R88D-GT02L/-GT04H	R88A-TK02G
R88D-GT04L/-GT08H	R88A-TK03G
R88D-GT10H/-GT15H	R88A-TK04G

• Parameter Unit

Specifications	Model
Parameter Unit	R88A-PR02G

Servo Drive-Servomotor Combinations

Only the Servomotor and Servo Drive combinations listed here can be used. Do not use other combinations.

● 3,000-r/min Cylindrical Servomotors and Servo Drives

Voltage	Servo Drive	Servomotor		
		Rated output	With incremental encoder	With absolute encoder
100 V	R88D-GTA5L	50 W	R88M-G05030H-□	R88M-G05030T-□
	R88D-GT01L	100 W	R88M-G10030L-□	R88M-G10030S-□
	R88D-GT02L	200 W	R88M-G20030L-□	R88M-G20030S-□
	R88D-GT04L	400 W	R88M-G40030L-□	R88M-G40030S-□
Single-phase 200 V	R88D-GT01H	50 W	R88M-G05030H-□	R88M-G05030T-□
	R88D-GT01H	100 W	R88M-G10030H-□	R88M-G10030T-□
	R88D-GT02H	200 W	R88M-G20030H-□	R88M-G20030T-□
	R88D-GT04H	400 W	R88M-G40030H-□	R88M-G40030T-□
Single-phase/ three-phase 200 V	R88D-GT08H	750 W	R88M-G75030H-□	R88M-G75030T-□
	R88D-GT15H	1 kW	—	R88M-G1K030T-□
	R88D-GT15H	1.5 kW	—	R88M-G1K530T-□
Three-phase 200 V	R88D-GT20H	2 kW	—	R88M-G2K030T-□
	R88D-GT30H	3 kW	—	R88M-G3K030T-□
	R88D-GT50H	4 kW	—	R88M-G4K030T-□
	R88D-GT50H	5 kW	—	R88M-G5K030T-□

● 3,000-r/min Flat Servomotors and Servo Drives

Voltage	Servo Drive	Servomotor		
		Rated output	With incremental encoder	With absolute encoder
100 V	R88D-GT01L	100 W	R88M-GP10030L-□	R88M-GP10030S-□
	R88D-GT02L	200 W	R88M-GP20030L-□	R88M-GP20030S-□
	R88D-GT04L	400 W	R88M-GP40030L-□	R88M-GP40030S-□
Single-phase 200 V	R88D-GT01H	100 W	R88M-GP10030H-□	R88M-GP10030T-□
	R88D-GT02H	200 W	R88M-GP20030H-□	R88M-GP20030T-□
	R88D-GT04H	400 W	R88M-GP40030H-□	R88M-GP40030T-□

● 2,000-r/min Cylindrical Servomotors and Servo Drives

Voltage	Servo Drive	Servomotor	
		Rated output	With absolute encoder
Single-phase/ three-phase 200 V	R88D-GT10H	1 kW	R88M-G1K020T-□
	R88D-GT15H	1.5 kW	R88M-G1K520T-□
Three-phase 200 V	R88D-GT20H	2 kW	R88M-G2K020T-□
	R88D-GT30H	3 kW	R88M-G3K020T-□
	R88D-GT50H	4 kW	R88M-G4K020T-□
	R88D-GT50H	5 kW	R88M-G5K020T-□
	R88D-GT75H	7.5 kW	R88M-G7K515T-□

● 1,000-r/min Cylindrical Servomotors and Servo Drives

Voltage	Servo Drive	Servomotor	
		Rated output	With absolute encoder
Single-phase/ three-phase 200 V	R88D-GT15H	900 W	R88M-G90010T-□
Three-phase 200 V	R88D-GT30H	2 kW	R88M-G2K010T-□
	R88D-GT50H	3 kW	R88M-G3K010T-□
	R88D-GT50H	4.5 kW	R88M-G4K510T-□
	R88D-GT75H	6 kW	R88M-G6K010T-□

Servomotor and Decelerator Combinations

● 3,000-r/min Cylindrical Servomotors

Motor model	1/5	1/11 (1/9 for flange size No.11)	1/21	1/33	1/45
R88M-G05030□	R88G-HPG11A05100B□ (Also used with R88M-G10030□)	R88G-HPG11A09050B□ (Gear ratio 1/9)	R88G-HPG14A21100B□ (Also used with R88M-G10030□)	R88G-HPG14A33050B□	R88G-HPG14A45050B□
R88M-G10030□	R88G-HPG11A05100B□	R88G-HPG14A11100B□	R88G-HPG14A21100B□	R88G-HPG20A33100B□	R88G-HPG20A45100B□
R88M-G20030□	R88G-HPG14A05200B□	R88G-HPG14A11200B□	R88G-HPG20A21200B□	R88G-HPG20A33200B□	R88G-HPG20A45200B□
R88M-G40030□	R88G-HPG14A05400B□	R88G-HPG20A11400B□	R88G-HPG20A21400B□	R88G-HPG32A33400B□	R88G-HPG32A45400B□
R88M-G75030□	R88G-HPG20A05750B□	R88G-HPG20A11750B□	R88G-HPG32A21750B□	R88G-HPG32A33750B□	R88G-HPG32A45750B□
R88M-G1K030T	R88G-HPG32A051K0B□	R88G-HPG32A111K0B□	R88G-HPG32A211K0B□	R88G-HPG32A331K0B□	R88G-HPG50A451K0B□
R88M-G1K530T	R88G-HPG32A052K0B□ (Also used with R88M-G2K030T)	R88G-HPG32A112K0B□ (Also used with R88M-G2K030T)	R88G-HPG32A211K5B□	R88G-HPG50A332K0B□ (Also used with R88M-G2K030T)	R88G-HPG50A451K5B□
R88M-G2K030T	R88G-HPG32A052K0B□	R88G-HPG32A112K0B□	R88G-HPG50A212K0B□	R88G-HPG50A332K0B□	—
R88M-G3K030T	R88G-HPG32A053K0B□	R88G-HPG50A113K0B□	R88G-HPG50A213K0B□	—	—
R88M-G4K030T	R88G-HPG32A054K0B□	R88G-HPG50A115K0B□ (Also used with R88M-G5K030T)	—	—	—
R88M-G5K030T	R88G-HPG50A055K0B□	R88G-HPG50A115K0B□	—	—	—

● 3,000-r/min Flat Servomotors

Motor model	1/5	1/11	1/21	1/33	1/45
R88M-GP10030□	R88G-HPG11A05100PB□	R88G-HPG14A11100PB□	R88G-HPG14A21100PB□	R88G-HPG20A33100PB□	R88G-HPG20A45100PB□
R88M-GP20030□	R88G-HPG14A05200PB□	R88G-HPG20A11200PB□	R88G-HPG20A21200PB□	R88G-HPG20A33200PB□	R88G-HPG20A45200PB□
R88M-GP40030□	R88G-HPG20A05400PB□	R88G-HPG20A11400PB□	R88G-HPG20A21400PB□	R88G-HPG32A33400PB□	R88G-HPG32A45400PB□

● 2,000-r/min Cylindrical Servomotors

Motor model	1/5	1/11 (1/12 for flange size No.65)	1/21 (1/20 for flange size No.65)	1/33 (1/25 for flange size No.65)	1/45
R88M-G1K020T	R88G-HPG32A053K0B□ (Also used with R88M-G3K030T)	R88G-HPG32A112K0SB□ (Also used with R88M-G2K020T)	R88G-HPG32A211K0SB□	R88G-HPG50A332K0SB□ (Also used with R88M-G2K020T)	R88G-HPG50A451K0SB□
R88M-G1K520T	R88G-HPG32A053K0B□ (Also used with R88M-G3K030T)	R88G-HPG32A112K0SB□ (Also used with R88M-G2K020T)	R88G-HPG50A213K0B□ (Also used with R88M-G3K030T)	R88G-HPG50A332K0SB□ (Also used with R88M-G2K020T)	—
R88M-G2K020T	R88G-HPG32A053K0B□ (Also used with R88M-G3K030T)	R88G-HPG32A112K0SB□	R88G-HPG50A213K0B□ (Also used with R88M-G3K030T)	R88G-HPG50A332K0SB□	—
R88M-G3K020T	R88G-HPG32A054K0B□ (Also used with R88M-G4K030T)	R88G-HPG50A115K0B□ (Also used with R88M-G5K030T)	R88G-HPG50A213K0SB□	R88G-HPG65A253K0SB□	—
R88M-G4K020T	R88G-HPG50A054K0SB□	R88G-HPG50A114K0SB□	R88G-HPG65A204K0SB□	R88G-HPG65A254K0SB□	—
R88M-G5K020T	R88G-HPG50A055K0SB□	R88G-HPG50A115K0SB□	R88G-HPG65A205K0SB□	R88G-HPG65A255K0SB□	—
R88M-G7K515T	R88G-HPG65A057K5SB□	R88G-HPG65A127K5SB□	—	—	—

● 1,000-r/min Cylindrical Servomotors

Motor model	1/5	1/11 (1/12 for flange size No.65)	1/21 (1/20 for flange size No.65)	1/33 (1/25 for flange size No.65)
R88M-G90010T	R88G-HPG32A05900TB□	R88G-HPG32A11900TB□	R88G-HPG50A21900TB□	R88G-HPG50A33900TB□
R88M-G2K010T	R88G-HPG32A052K0TB□	R88G-HPG50A112K0TB□	R88G-HPG50A212K0TB□	R88G-HPG65A255K0SB□ (Also used with R88M-G5K020T)
R88M-G3K010T	R88G-HPG50A055K0SB□ (Also used with R88M-G5K020T)	R88G-HPG50A115K0SB□ (Also used with R88M-G5K020T)	R88G-HPG65A205K0SB□ (Also used with R88M-G5K020T)	R88G-HPG65A255K0SB□ (Also used with R88M-G5K020T)
R88M-G4K510T	R88G-HPG50A054K5TB□	R88G-HPG65A127K5SB□ (Also used with R88M-G7K515T)	R88G-HPG65A204K5TB□	—
R88M-G6K010T	R88G-HPG65A057K5SB□ (Also used with R88M-G7K515T)	R88G-HPG65A127K5SB□ (Also used with R88M-G7K515T)	—	—

Servo Relay Units and Cables

● Servo Relay Units and Cables

Select the Servo Relay Unit and Cable according to the model number of the Position Control Unit being used.

Position Control Unit	Position Control Unit Cable		Servo Relay Unit	Servo Drive Cable
CS1W-NC113	XW2Z-□□□J-A6		XW2B-20J6-1B	XW2Z-□□□J-B25
C200HW-NC113				
CS1W-NC213	XW2Z-□□□J-A7		XW2B-40J6-2B	
CS1W-NC413				
C200HW-NC213				
C200HW-NC413				
CS1W-NC133				
CS1W-NC233	XW2Z-□□□J-A11		XW2B-40J6-2B	
CS1W-NC433				
CJ1W-NC113	XW2Z-□□□J-A14		XW2B-20J6-1B	
CJ1W-NC213	XW2Z-□□□J-A15		XW2B-40J6-2B	
CJ1W-NC413				
CJ1W-NC133				
CJ1W-NC233	XW2Z-□□□J-A19		W2B-40J6-2B	
CJ1W-NC433				
CJ1M-CPU21	XW2Z-□□□J-A33		XW2B-20J6-8A (for 1 axes)	XW2Z-□□□J-B31
CJ1M-CPU22				
CJ1M-CPU23			XW2B-40J6-9A (for 2 axes)	
FQM1-MMP22	General-purpose I/O	XW2Z-□□□J-A28	XW2B-80J7-12A	XW2Z-□□□J-B26
	Special I/O	XW2Z-□□□J-A30		
FQM1-MMA22	General-purpose I/O	XW2Z-□□□J-A28		XW2Z-□□□J-B27
	Special I/O	XW2Z-□□□J-A31		

Note: 1. Insert the cable length into the boxes in the model number (□□□). Position Control Unit cables come in two lengths: 0.5 m and 1 m (some are also available in lengths of 2 m). Servo Driver Cables also come in two lengths: 1 m and 2 m.

Note: 2. Two Servo Driver Cables are required if 2-axis control is performed using one Position Control Unit.

Note: 3. Direct cable is available for CJ1W-NC□□4 Position Control Unit (High-Speed type).

Specifications	The number of axes	Model
For CJ1W-NC214/-NC414 (open collector output type)	1 axis	XW2Z-□□□J-G13
For CJ1W-NC214/-NC414 (open collector output type)	2 axis	XW2Z-□□□J-G5
For CJ1W-NC234/-NC434 (line-driver output type)	1 axis	XW2Z-□□□J-G9
For CJ1W-NC234/-NC434 (line-driver output type)	2 axis	XW2Z-□□□J-G1

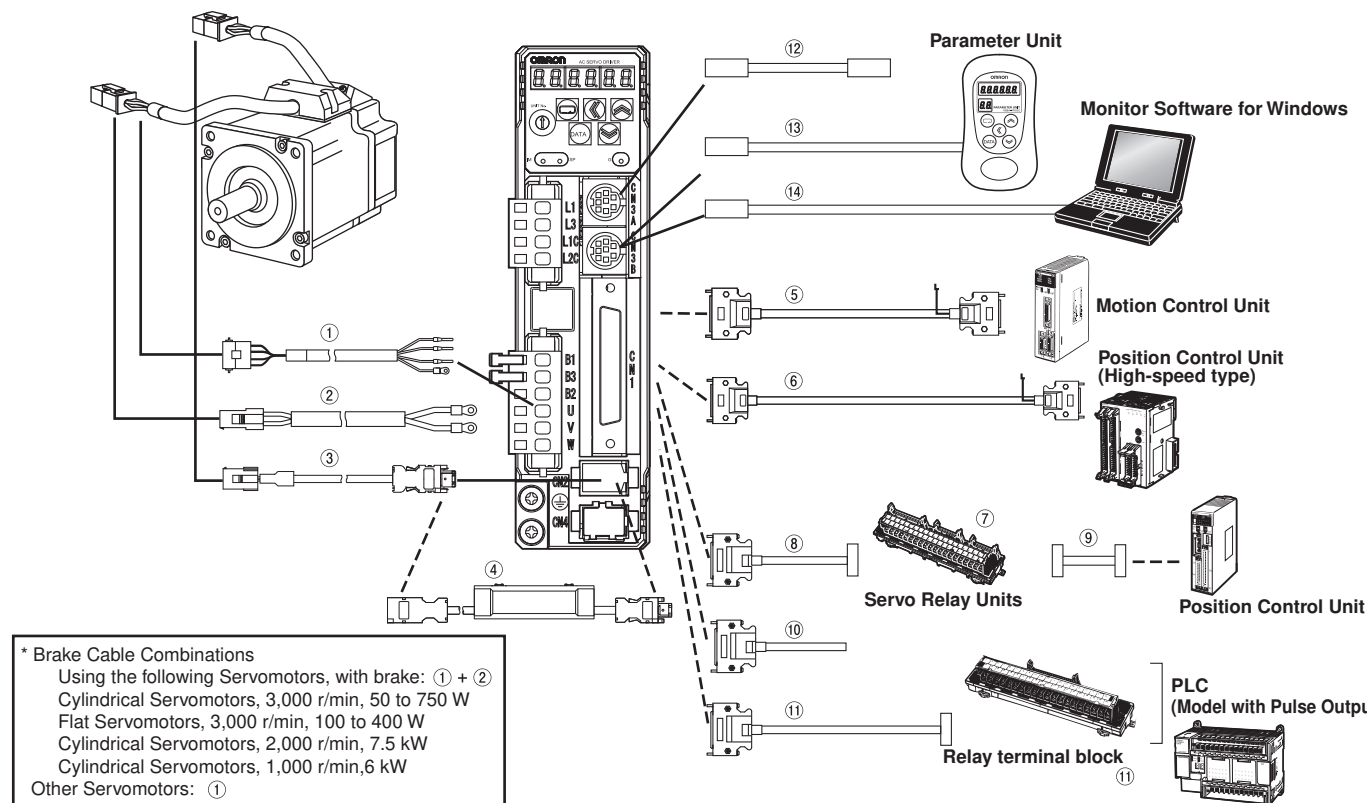
Motion Control Unit Cables

● Motion Control Unit Cable

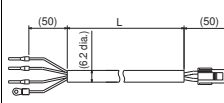
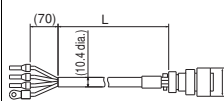
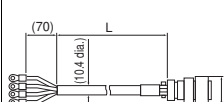
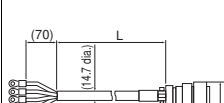
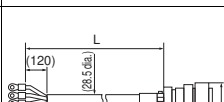
There are special cables for 1-axis and 2-axis Motion Control Unit operation. Select the appropriate cable for the number of axes to be connected.

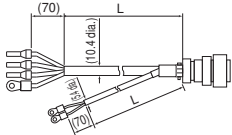
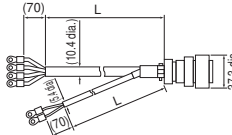
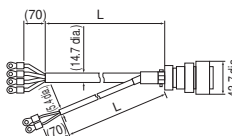
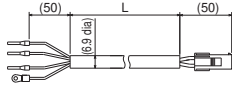
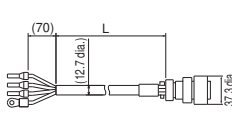
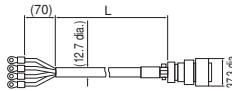
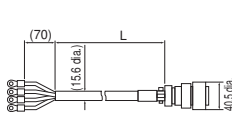
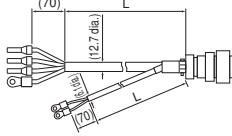
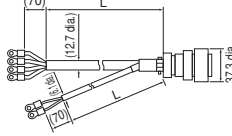
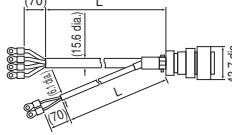
Motion Control Unit	Cable		Remarks
CS1W-MC221-V1/421-V1	For 1 axis	R88A-CPG□□□M1	The □□□ digits in the model number indicate the cable length. Motion Control Unit Cables come in four lengths: 1 m, 2 m, 3 m, and 5 m. Example model number for 2-m 1-axis cable: R88A-CPG002M1
	For 2 axes	R88A-CPG□□□M2	

Cable Combinations



● Power Supply Cables (for CNB) (SR Connection Cables)

Symbol	Name	Connected to	Model	Description
①	Standard Servomotor Power Cables for Servomotors without Brakes	Cylindrical Servomotors, 3,000 r/min, 50 to 750 W Flat Servomotors, 3,000 r/min, 100 to 400 W	R88A-CAGA□□□S The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 [Servomotor Connector] Connector: 172159-1 (Tyco Electronics AMP KK) Connector pins: 170362-1 (Tyco Electronics AMP KK) 170366-1 (Tyco Electronics AMP KK)
		Cylindrical Servomotors, 3,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 2,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAGB□□□S The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 [Servomotor Connector] Straight plug: N/MS3106B20-4S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
		Cylindrical Servomotors, 3,000 r/min, 2 kW Cylindrical Servomotors, 2,000 r/min, 2 kW	R88A-CAGC□□□S The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 [Servomotor Connector] Straight plug: N/MS3106B20-4S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
		Cylindrical Servomotors, 3,000 r/min, 3 to 5 kW Cylindrical Servomotors, 2,000 r/min, 3 to 5 kW Cylindrical Servomotors, 1,000 r/min, 2 to 4.5 kW	R88A-CAGD□□□S The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 [Servomotor Connector] Straight plug: N/MS3106B22-22S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
		Cylindrical Servomotors, 1,500 r/min, 7.5 kW Cylindrical Servomotors, 1,000 r/min, 6 kW	R88A-CAGE□□□S The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 [Servomotor Connector] Straight plug: N/MS3106B32-17S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-20A (Japan Aviation Electronics Industry, Ltd.)

Symbol	Name	Connected to	Model	Description
	Standard Servomotor Power Cables for Servomotors with Brakes	Cylindrical Servomotors, 3,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 2,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAGB□□□B The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-18S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 2 kW Cylindrical Servomotors, 2,000 r/min, 2 kW	R88A-CAGC□□□B The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-18S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 3 to 5 kW Cylindrical Servomotors, 2,000 r/min, 3 to 5 kW Cylindrical Servomotors, 1,000 r/min, 2 to 4.5 kW	R88A-CAGD□□□B The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B24-11S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-16A (Japan Aviation Electronics Industry, Ltd.)</p>
①	Robot Servomotor Power Cables for Servomotors without Brakes	Cylindrical Servomotors, 3,000 r/min, 50 to 750 W Flat Servomotors, 3,000 r/min, 100 to 400 W	R88A-CAGA□□□SR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Connector: 172159-1 (Tyco Electronics AMP KK) Connector pins: 170362-1 (Tyco Electronics AMP KK) 170366-1 (Tyco Electronics AMP KK)</p>
		Cylindrical Servomotors, 3,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 2,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAGB□□□SR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-4S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 2 kW Cylindrical Servomotors, 2,000 r/min, 2 kW	R88A-CAGC□□□SR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-4S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 3 to 5 kW Cylindrical Servomotors, 2,000 r/min, 3 to 5 kW Cylindrical Servomotors, 1,000 r/min, 2 to 4.5 kW	R88A-CAGD□□□SR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B22-22S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
	Robot Servomotor Power Cables for Servomotors with Brakes	Cylindrical Servomotors, 3,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 2,000 r/min, 1 to 1.5 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAGB□□□BR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-18S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 2 kW Cylindrical Servomotors, 2,000 r/min, 2 kW	R88A-CAGC□□□BR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B20-18S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)</p>
		Cylindrical Servomotors, 3,000 r/min, 3 to 5 kW Cylindrical Servomotors, 2,000 r/min, 3 to 5 kW Cylindrical Servomotors, 1,000 r/min, 2 to 4.5 kW	R88A-CAGD□□□BR The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.	 <p>[Servomotor Connector] Straight plug: N/MS3106B24-11S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-16A (Japan Aviation Electronics Industry, Ltd.)</p>