

OMRON

AC Servomotors / Linear Motors / Servo Drives

G5 Series

The Preeminent Servo That Revolutionizes Motion Control



» EtherCAT

» High Speed and High Precision

» International Safety Standards

SYSMAC
always in control

Higher Throughput and Shorter Tact Time, Plus Improved Machine Safety



High Speed and High Precision

Fastest speed response frequency in industry at 2 kHz

Safety

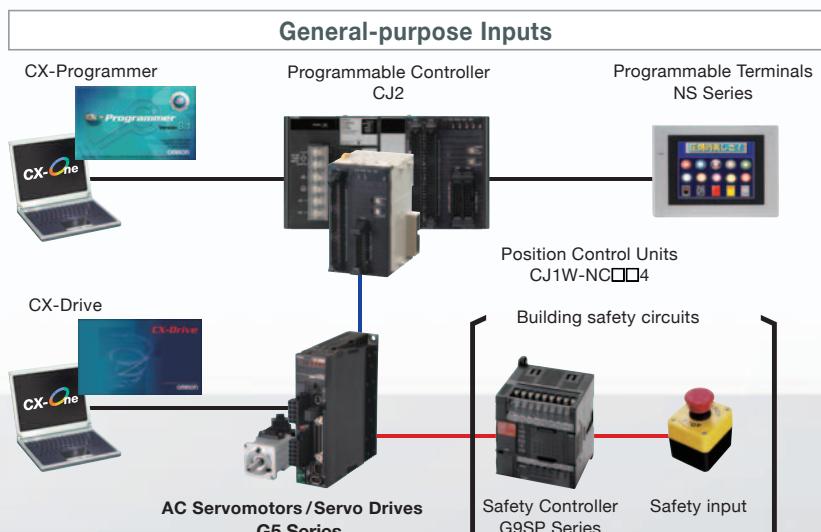
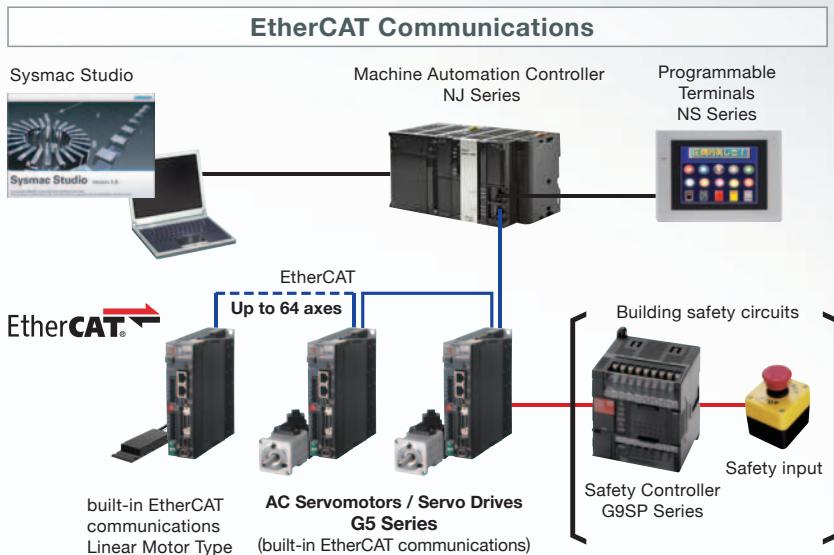
Conforms to the latest international safety standards

Reduced TCO

Advanced autotuning

Achieve the fastest position control in the industry by combining the G5 with an OMRON Controller.

System Configuration Example



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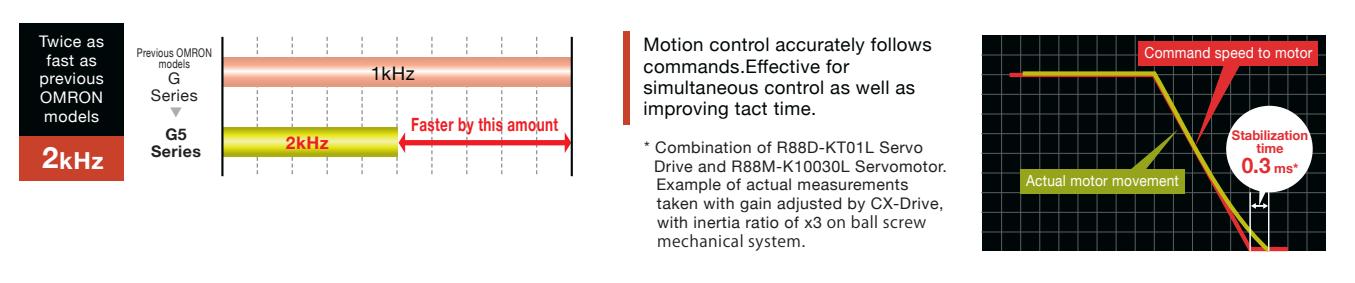
Microsoft product screen shots reprinted with permission from Microsoft Corporation.

Provide Tact Time Improvement and High

Industry Top-class Tracking Performance

Speed Response Frequency of 2 kHz

Speed response is representative of servo system characteristics. In the G5, the industry's fastest response has been achieved at 2 kHz. By improving the speed response by twice compared to previous OMRON models, the stabilization time has been shortened and this contributes to tact time reduction.

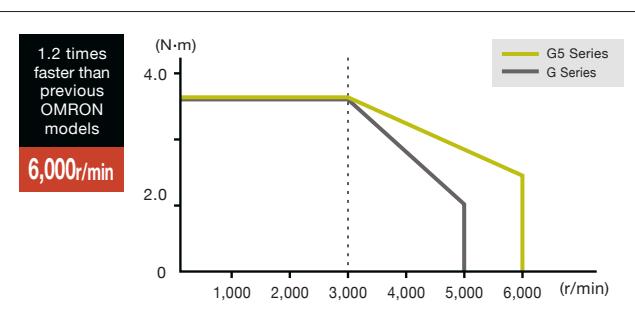


Reduced Tact Time with Higher Speed

Maximum rotation speed : 6,000 r/min*

The maximum rotation speed of R88M-series Servomotors has increased to 6,000 r/min, resulting in high-speed positioning that can reduce tact time.

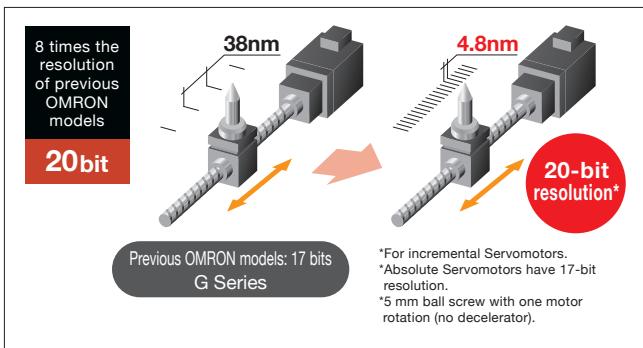
*Applicable to 100 V/200 V models with 750 W or less.



Best Positioning Accuracy

Featuring a 20-bit high-resolution incremental encoder

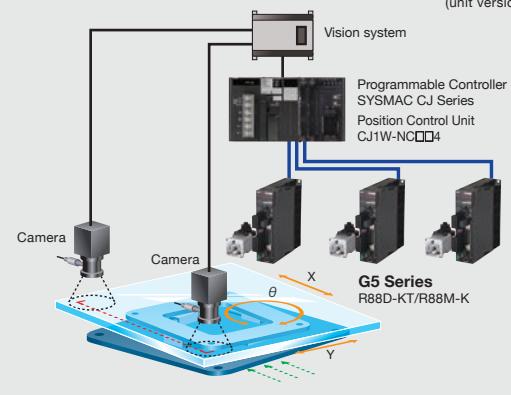
High-precision positioning can be achieved with the built-in encoder, 8 times the resolution of previous OMRON models at 20 bits.



Example of High-speed/High-precision Application

- High-Speed and, High-Precision Position Control Using Camera Compensation
- The pulse output startup time of 0.1 ms enables High-Speed camera compensation.

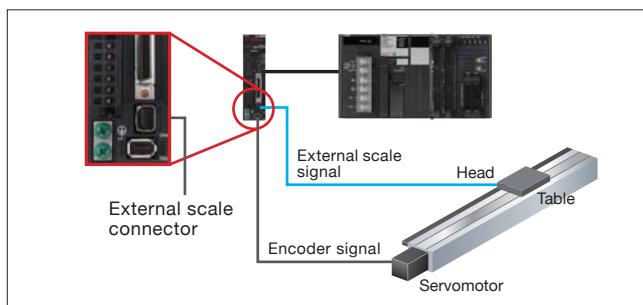
Note: Using a CJ2 CPU Unit (unit version 1.1 or later).



High-precision Positioning

Fully Closed Loop Control Is a Standard Feature

High-precision and high-response positioning can be realized without being affected by temperature changes by determining the position using direct feedback of the control position from the external scale, to enable using fully closed loop control without options.
(The external scale connector terminal is a standard feature.)



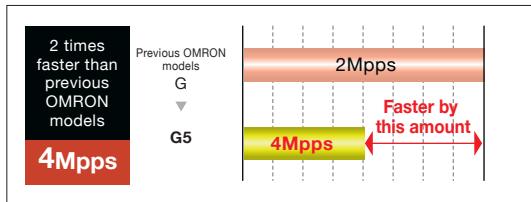
High Accuracy

Safety Motion Control That Provides Safety and Reliability

High-speed and High-precision Positioning

Pulse input response frequency: 4 Mpps

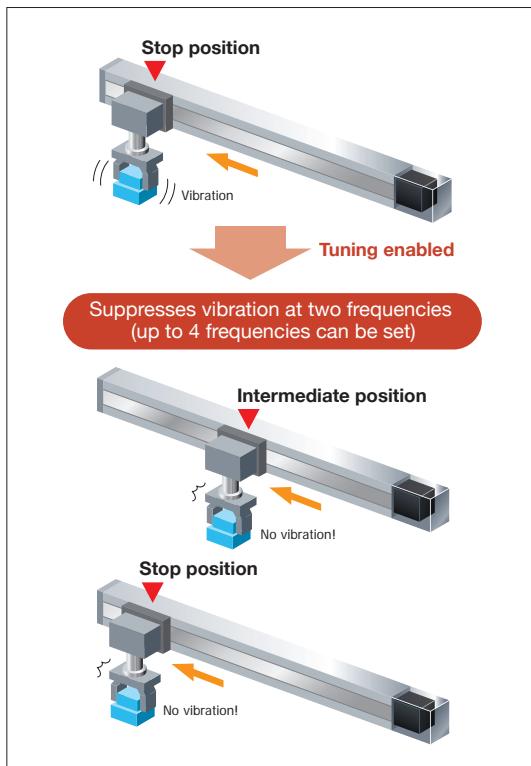
The Servo Drive response to command pulses is 4 Mpps, twice that of previous OMRON models. Response delays are thus reduced enabling high-speed and high-precision positioning.



Ideal for Applications That Require High Accuracy

Improved vibration control function

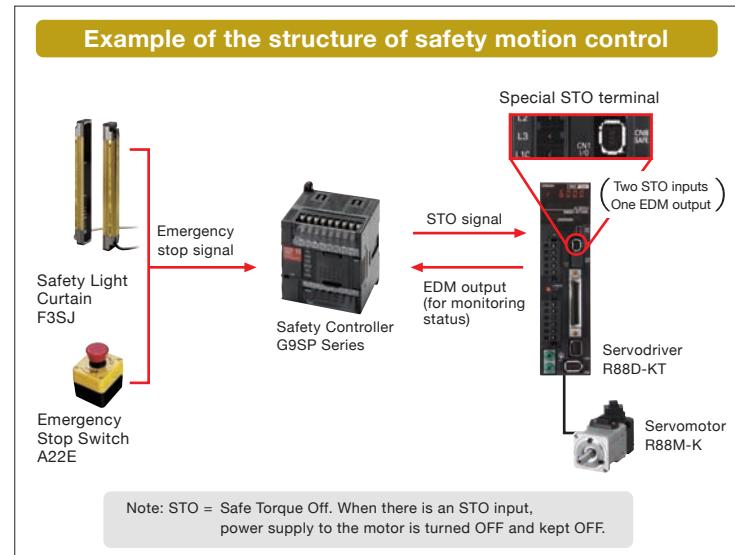
With the vibration control function, if the tip of the device is vibrating, the vibration frequency can be set to remove the vibration. It can also be used to suppress vibration resulting from starting and stopping the device, allowing precise movement.



Conforms to the Latest International Standards

Safety and Productivity

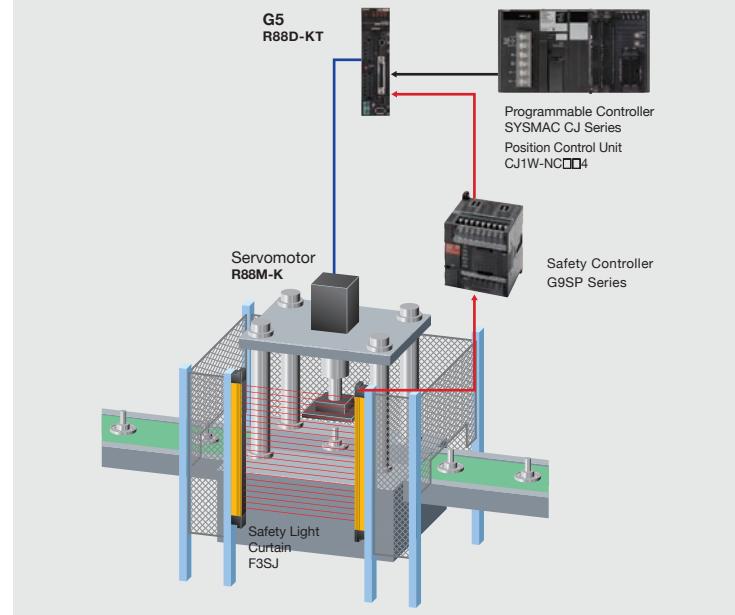
The G5 was the first to acquire international standard IEC 61800-5-2 (STO) for motion control in the industry within Japan. It also conforms to the European Directives ISO 13849-1(PLc,d) * and EN 61508 (SIL2). Safety control circuits can be constructed with the Servo Drive, delivering both safety and productivity.



* Refer to General Specification of Servo Drive for the compliance of international standards.

Safety Motion Application Example

- Safety interlocks can be controlled by combining a Safety Light Curtain and Safety Motion Control.



Easy Adjustment and Reduce works to

Complete Support from Setup to Maintenance

Software

How to Select Required Support Software for Your Controller

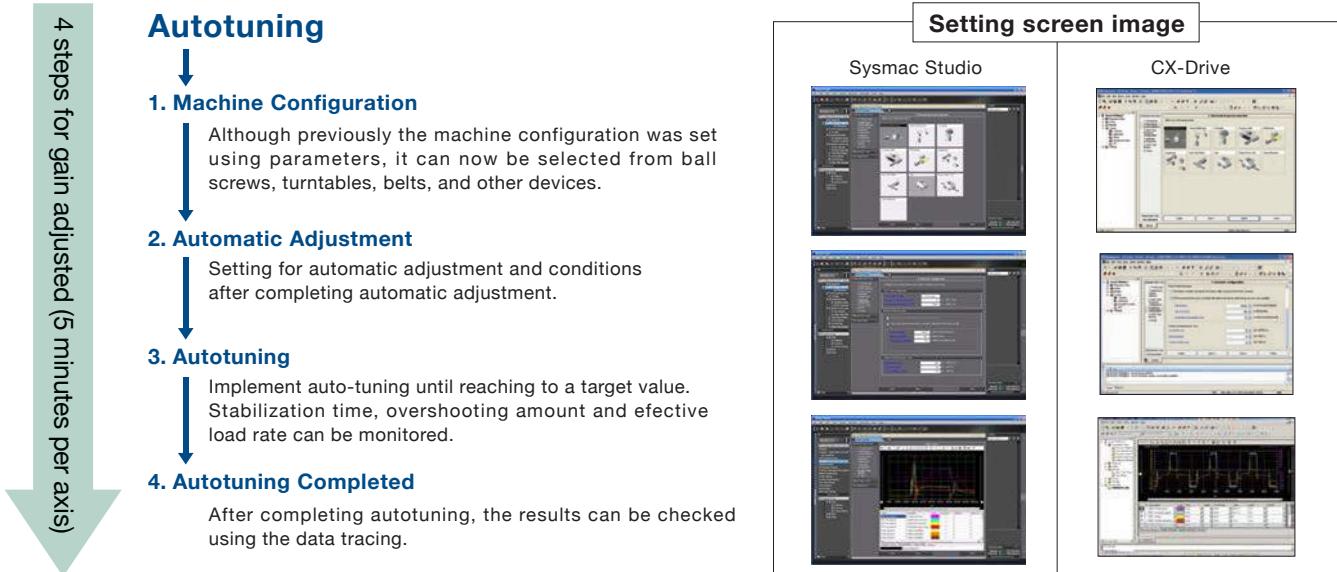
The required Support Software depends on the Controller to connect. Please check the following table when purchasing the Support Software.

Item	Omron Machine Automation Controller System	Omron PLC System
Controller	NJ-series	CS, CJ, CP, and other series
AC Servomotor/Drives	G5-series <ul style="list-style-type: none"> • EtherCAT Communications (Unit version 2.1 or later recommended) • EtherCAT Communications Linear Motor 	G5-series <ul style="list-style-type: none"> • EtherCAT Communications • EtherCAT Communications Linear Motor • General-purpose input type(PulseTrain or Analog inputs) • MECHATROLINK-II Communications
Software	Automation Software Sysmac Studio The Sysmac Studio provides an integrated development environment to set up, program, debug, and maintain NJ-series Controllers and other Machine Automation Controllers, as well as EtherCAT slaves. Setting, adjustment, monitoring/tracing with the Servo Drive can be done via an EtherCAT network. <Connecting method with the Servo Drive> - Connection via the NJ	FA Integrated Tool Package CX-One The CX-Drive software allows you to set, transfer, and compare Servo Drive parameters, to perform trial operation and adjustments, and to monitor and trace operation. CX-Drive is bundled in CX-One. <Connecting method with the Servo Drive> - Direct connection with the Servo Drive. - Connection via a PLC (possible with the Servo Drive with built-in EtherCAT communications function)

Simple Gain Adjustment

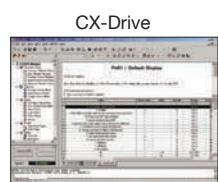
Quickly adjust the gain using a wizard.

The autotuning feature provided with the CX-Drive makes it easy to adjust the Servo Drive gain. You can use a wizard to complete gain adjustment in approximately five minutes or less per axis simply by selecting the machine configuration and entering the target set time.



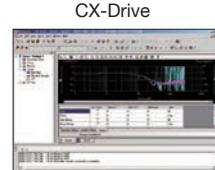
Editing Parameters

- Operation is as easy as with a digital operator.
- Easily set parameters for Inverters and Servo Drives.



Simple FFT

- Device frequency characteristics can be easily measured to analyze resonant frequencies.
- Use notch filters for resonance frequencies to improve response.



System Start-up



Automatic damping control setting

Settings for damping control for the axis at the tip of the machine in a short time

Automatic damping control setting function is useful to execute damping control for Servo Drives. Manual settings will not be necessary. JOG operation, measuring vibration and parameter settings can be made on one screen.

2 steps for damping filter settings (5 minutes per axis).

Starting automatic damping control setting

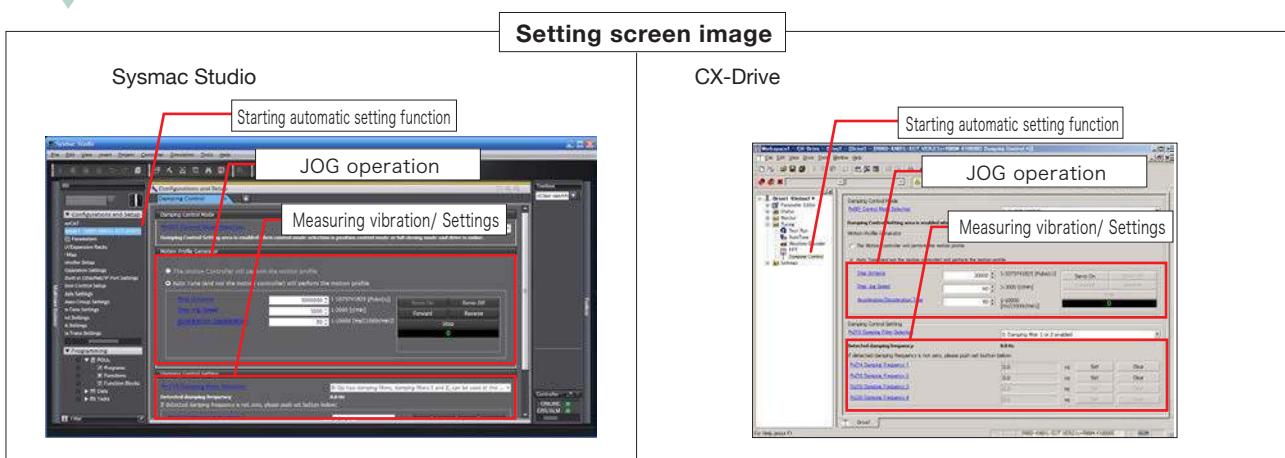
1. Measuring machine vibration

Automatically measures vibration frequency by starting JOG operation from the software or operation executed by the Controller.

2. Damping filter setting

Apply the damping filter 1 to 4 for the measured vibration frequency. Vibration can be suppressed by setting the filters.

Damping control filter setting completed



Easy Adjustment and Reduce works to System Start-up

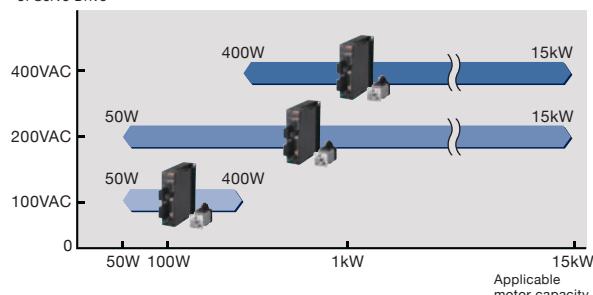
Globalization

Lineup of 400VAC Servomotors

Servomotors are available for 100VAC, 200VAC, and 400VAC. And they conform to international safety standards for easy application anywhere worldwide.

Variations

Power supply specifications of Servo Drive



Certified Standards



Reduced Work with Increased Monitor Functions

Monitoring for preventive maintenance have been improved.

Example of easier operation with improved monitoring.

Monitoring the Total Run Time When the Main Circuit Is ON



Monitoring the Causes of why the servo motor does not rotate*

A function has been provided that monitors the causes of why the Servo motor does not move even though a rotation command has been sent.

* Supported by the Servo Drive Analog/Pulse train type only.

Flexible cable pull-out direction

Direct connectors for power cable, encoder cable, and brake cable connection.

In case that user creates motor cables, cable pull-out direction can be changed by 180 degree. (Refer to G5 Series User's manual (Cat.No. I571/I572) for the information about applicable motor capacity and connection method).

If you use cables provided by Omron, cable pull-out direction is limited to only one direction.

Pre-wired Cable



Cable is pulled out in only one direction.

Connector



Connector hood installation direction can be changed by 180 degree, which allows the cables to be pulled out in two directions.

Side by side installation to save space

Possible to install multiple drivers side by side.



*Drivers with 750W or less capacity only
There are usage limitations including ambient temperature and load rate.
Refer to G5 Series User's manual (Cat.No. I571/I572) for detailed information.

Servomotors Conform to IP67

(Excluding through-shaft parts, connector pins of Servomotor Connector and connector pins of Encoder Connector)

The power cable and encoder cable also conform to IP67

*Applicable to 3 to 20m cables of 100V/200V models with 750W or less.

The Servomotor provides IP67 protection, enhancing resistance to the environment.



Reduced Stabilization Time by Suppressing Vibration

60% cogging torque reduction (compared to previous G models)

Motor torque variation is reduced due to a 60% reduction in the cogging torque, resulting in high-precision positioning. This enables smooth operation at low speeds.

Lineup of Linear Motors to Achieve Higher Speed and Higher Precision

Inherited functions and performance of G5 series with EtherCAT communications

EtherCAT

Linear motors joined the lineup and the following functions of G5 series achieve higher speed and higher precision.

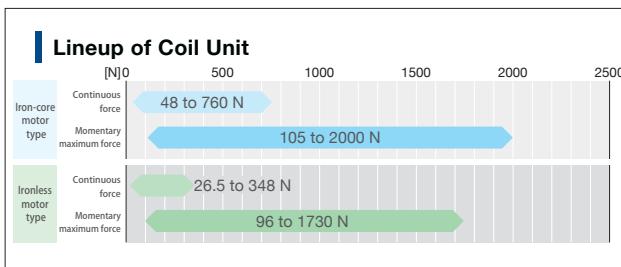
- * High-speed communication via EtherCAT communications at 100 Mbps
- * Autotuning for simple adjustment
- * Useful damping control function to improve device quality
- * Safety function STO (Safe Torque Off)



Selectable motors suitable for device

Iron-core motor type and ironless motor type

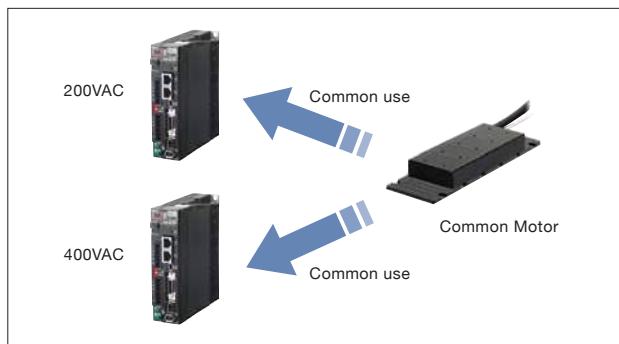
You can choose between compact and high-thrust iron-core motor type and cogging-free ironless motor type with excellent speed stability



Power supply voltage sharing iron-core motor

Using the same Iron-core motor for 200VAC/400VAC

Iron-core motor type The same motor can be used for 200VAC and 400VAC. The same maintenance parts for motors can be used regardless of device and user.



Reduced tact time with higher speed

Higher speed by direct drive

Significantly higher speed than ball screws contributes to make G5 series suitable for faster device application and reduce tact time.

Maximum speed 16 m/s*

- * This value is for R88L-EC-GW0309 200VAC motor. It is limited by power supply voltage, model, linear guide, linear scale, and load.

High-precision positioning

Available with various linear scales

High-precision and high-speed positioning Maximum speed at 0.01 μ m of scale resolution for serial communications: 4 m/s*

- * This value is for Servo Drive. It is limited by the scale specifications.

Available linear scale

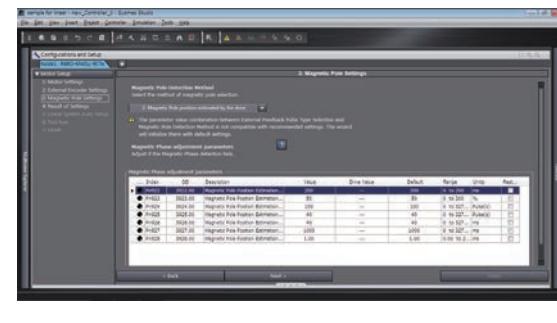
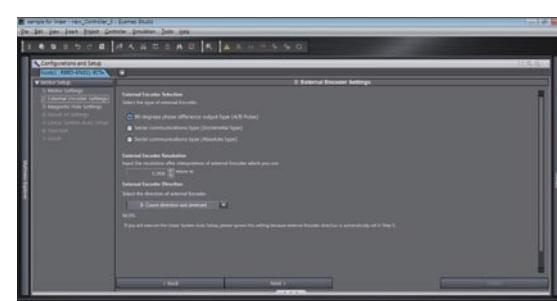
Serial communications (incremental/absolute), phase A/B/Z pulse type

Quick setup

Automatic setup

Automatic setup for motor parameters by selecting the motor. A wizard helps set the scale direction, magnetic pole, or current gain automatically.

<Sysmac Studio> Setting screen image



The optimum combination can be found from a wide range of model variations to handle various applications.

Servo Drive Variations

		G5 Series			
		EtherCAT Compatible Servo Drives	EtherCAT Compatible Servo Drives Linear Motor Type	Servo Drives Pulse/analog inputs	MECHATROLINK-II Compatible Servo Drives
Power supply	100VAC	Single-phase	Single-phase	Single-phase	Single-phase
	200VAC	Single/Three-phase	Three-phase	Single/Three-phase	Single/Three-phase
	400VAC	Three-phase		Three-phase	Three-phase
Motor Capacity/Force	100VAC	50W 100W 200W 400W	26.5N 48N 53N 58N 96N 117N 160N 175N 232N	50W 100W 200W 400W	50W 100W 200W 400W
	200VAC	Single-phase	—	26.5N 48N 53N	—
		Single/Three-phase	50W 100W 200W 400W 750W 900W 1kW 1.5kW	58N 80N 96N 117N 160N 175N	50W 100W 200W 400W 750W 900W 1kW 1.5kW
	400VAC	Three-phase	2kW 3kW 4kW 4.5kW 5kW 6kW 7.5kW 11kW 15kW	232N 240N 320N 348N 608N 760N	2kW 3kW 4kW 4.5kW 5kW 6kW 7.5kW 11kW 15kW
Interface	Command type	ECT	ECT	Pulse train Analog	ML2
	Control modes	Position control Speed control Torque control	Position control Speed control Torque control	Position control Speed control Torque control	Position control Speed control Torque control
Control modes	Control mode switching	Mode switching	Mode switching	Mode switching	Mode switching
	Vibration control	Vibration control *1	Vibration control *1	Vibration control *1	Vibration control *1
Tuning functions	Autotuning	AUTO 32	AUTO 32	AUTO 32	AUTO 32
	Realtime autotuning	Adaptive filter *2	Adaptive filter *2	Adaptive filter *2	Adaptive filter *2
Safety	Conforms to international safety standards	Safety	Safety	Safety	Safety
	Fully closed	Fully closed	Fully closed	Fully closed	Fully closed
Servo Drive functions	Torque limits	Torque limit *1	Torque limit *1	Torque limit *1	Torque limit *1
	Encoder output	ABS INC 20	—	ABS INC 20	ABS INC 20
	Internal set speeds	—	—	8 speeds	—

◎ Refer to Ordering Information for details on combining Drives and Servomotors.

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

Functions

ECT	EtherCAT: EtherCAT high-speed Servo communications motion network.	Pulse train	Pulse train: The speed and travel distance are input to the Servo as pulse trains.	Analog	Analog: The speed and torque are input to the Servo as analog signals.	ML2	ML2: MECHATROLINK-II high-speed Servo communications motion network. (See note.)
Position control	Position control: Control is applied to move to the target position and then stop at the target position.	Speed control	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	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	Command control mode switching: Switching is possible between any two of the three control modes: position control, speed control, and torque control.
Vibration control	Vibration control function: Vibration is suppressed by automatically setting a filter for the vibration frequency.	AUTO 32	Autotuning: This function automatically sets an appropriate gain based on the rigidity setting of the machine load; 32 levels of rigidity settings are possible.	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 20	Incremental output: When the controller power supply is turned ON, operation is always started from the origin. A 20-bit resolution is provided on models with incremental outputs.
Adaptive filter	Adaptive filter: The machine load inertia is calculated in realtime and the result is used to automatically set the optimum gain.	Safety	Safety function: Conforms to IEC 61800-5-2 (STO), EN ISO 13849-1: 2008 (PLc,d), ISO13849-1: 2006(PLc,d) and EN 61508 (SIL2).	Fully closed	Fully closed (fully closed loop control): Positioning using direct feedback of the current position from the external scale.	Torque limit	Torque limit: Switching is possible between the first torque limit and the second torque limit to limit the Servomotor output torque.
8 speeds	Up to 8 internal set speeds can be selected.						

Variety of functions and

Motor Variations

G5 Series AC Servomotor			
Servomotors with EtherCAT Compatible, General-purpose inputs and MECHATROLINK-II Compatible Servomotors			
R88M-K			
			
Motor type	Cylinder type		
Rated speed	1000r/min	2000r/min	3000r/min
50W			ABS INC INC 20
100W			ABS INC INC 20
200W			ABS INC INC 20
400W		ABS INC INC 20	ABS INC INC 20
600W		ABS INC INC 20	
750W			ABS INC INC 20
900W	ABS INC INC 20		
1kW		ABS INC INC 20	ABS INC INC 20
1.5kW		ABS INC INC 20	ABS INC INC 20
2kW	ABS INC INC 20	ABS INC INC 20	ABS INC INC 20
3kW	ABS INC INC 20	ABS INC INC 20	ABS INC INC 20
4kW		ABS INC INC 20	ABS INC INC 20
4.5kW	ABS INC		
5kW		ABS INC INC 20	ABS INC INC 20
6kW	ABS INC		
7.5kW		ABS INC *	
11kW		ABS INC *	
15kW		ABS INC *	

* The rated speed is 1,500 r/min

G5 Series Linear Motor		
Servomotors with EtherCAT Compatible Linear motor Type		
R88L-EC-FW-□	R88L-EC-GW-□	
		
Motor type	Iron-core	Ironless
26.5N		Iron less
48N	Iron core	
53N		Iron less
58N		Iron less
80N		Iron less
96N	Iron core	
117N		Iron less
160N	Iron core	
175N		Iron less
232N		Iron less
240N	Iron core	
320N	Iron core	
348N		Iron less
608N	Iron core	
760N	Iron core	

Functions

ABS
INC **absolute/Incremental output:** The Servomotor can be switched between an absolute output and an Incremental 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. A-17bit resolution is provided on model with an absolute output and an incremental output.

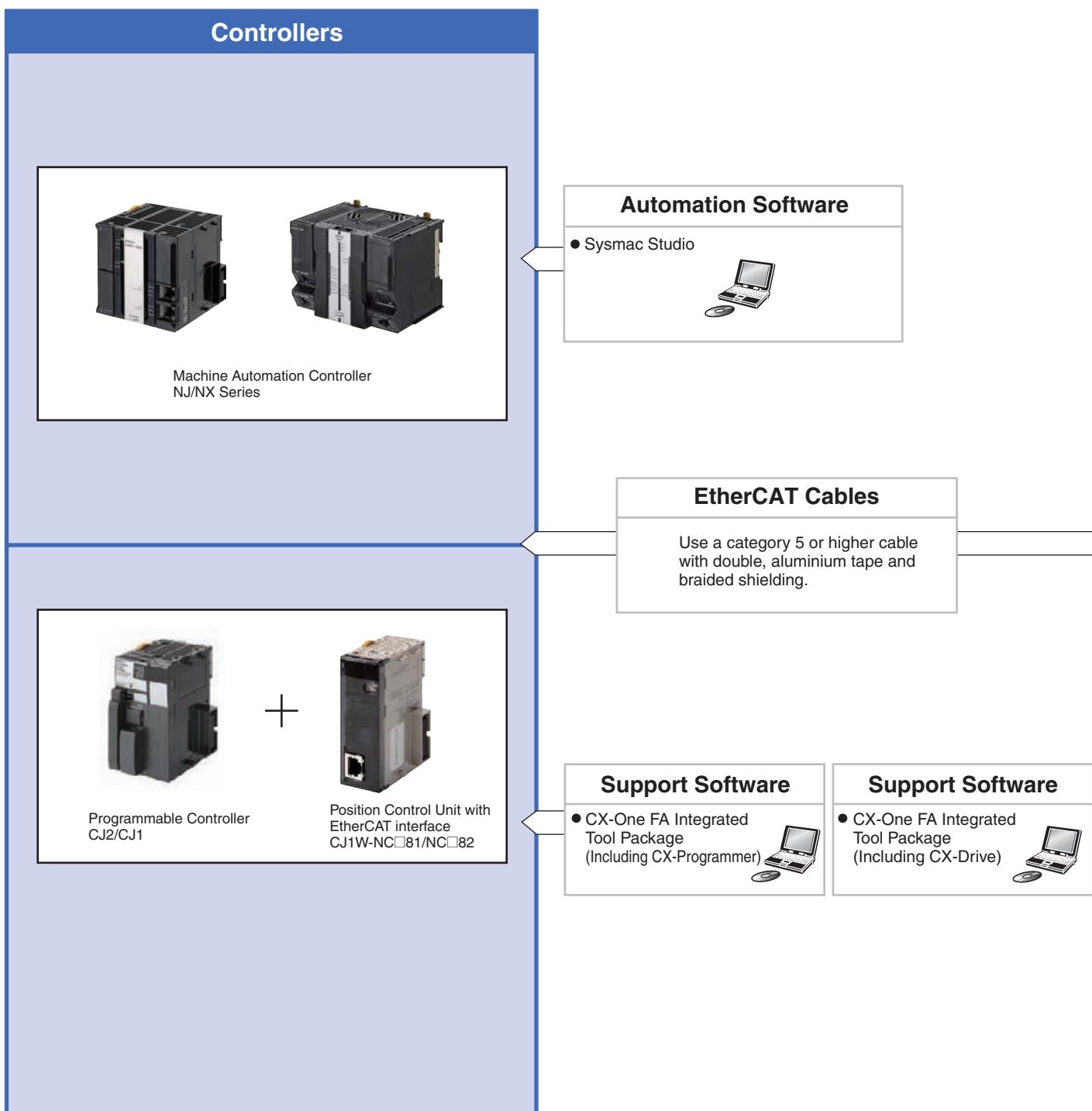
Iron
core **Iron-core:** Coil units consist of cores and coils. Compact and high-thrust type.

INC
20 **Incremental output:** When the controller power supply is turned ON, operation is always started from the origin. A 20-bit resolution is provided on models with incremental outputs.

Iron
less **Ironless:** Coil units do not include a core. Cogging-free type with excellent speed stability.

R88M-K/R88D-KN□-ECT

System Configuration

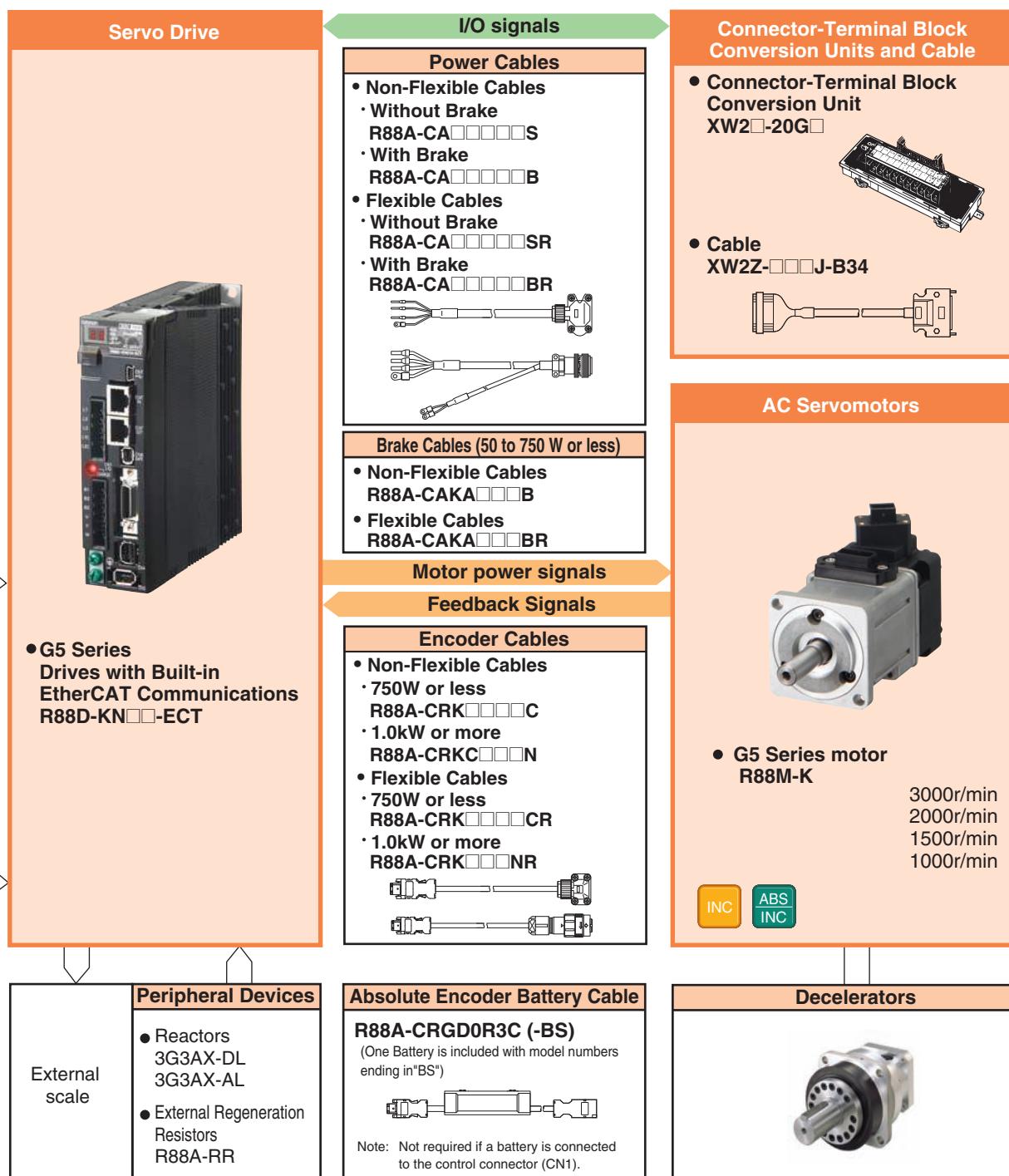


High-Speed and High-Precision G5 Series EtherCAT Communications with the Controller

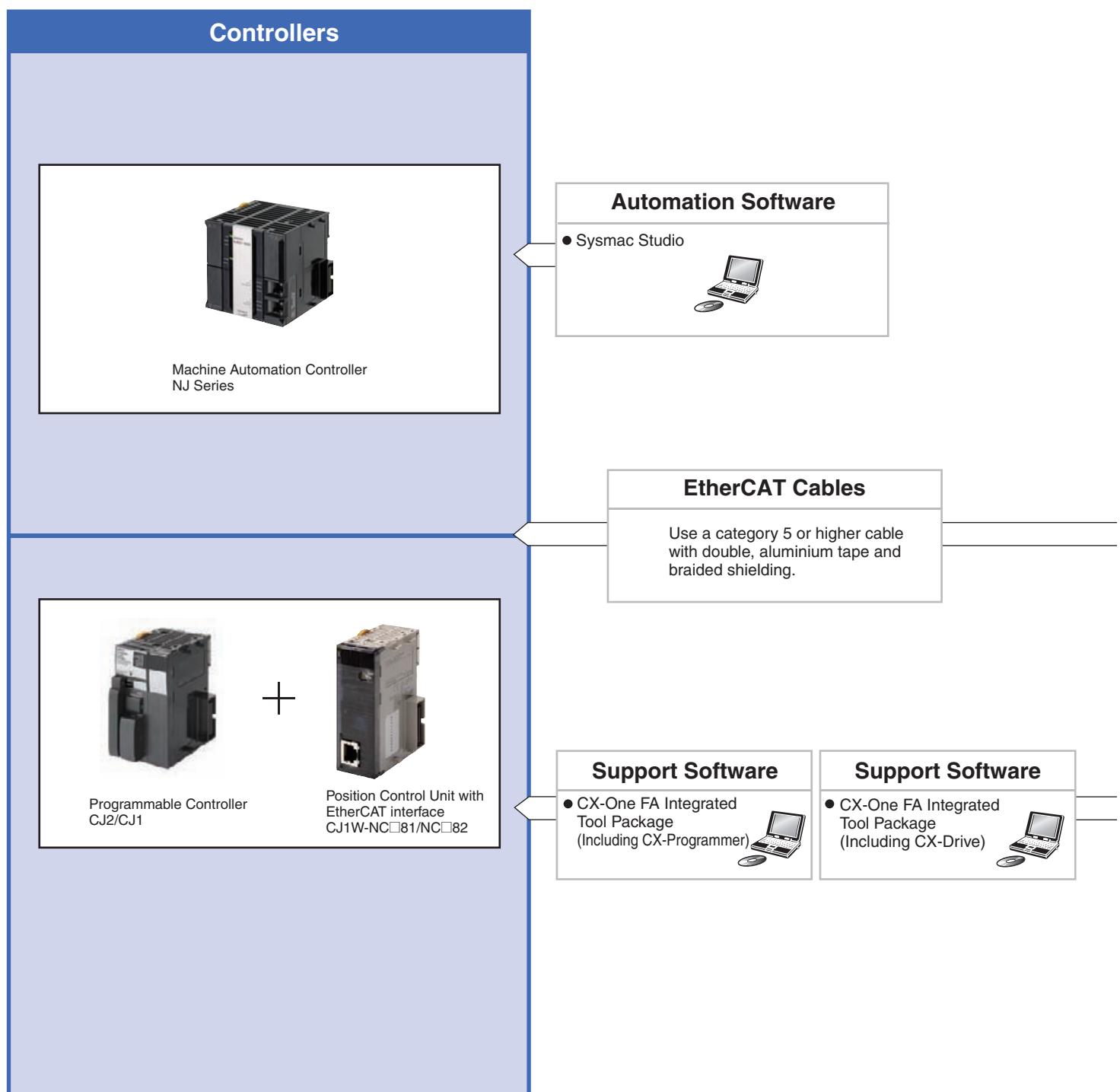
- High-accuracy positioning with fully-closed control.
- Servo Drives for 400VAC globally widens applicable systems and environment, including large-scale equipment.
- Safe design and Safe Torque Off (STO) function.
- Vibration can be suppressed in acceleration/deceleration even in low-rigidity mechanical systems.



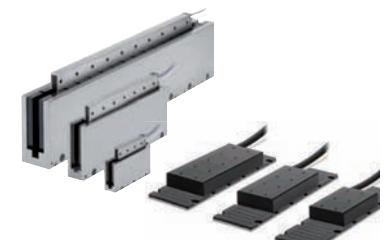
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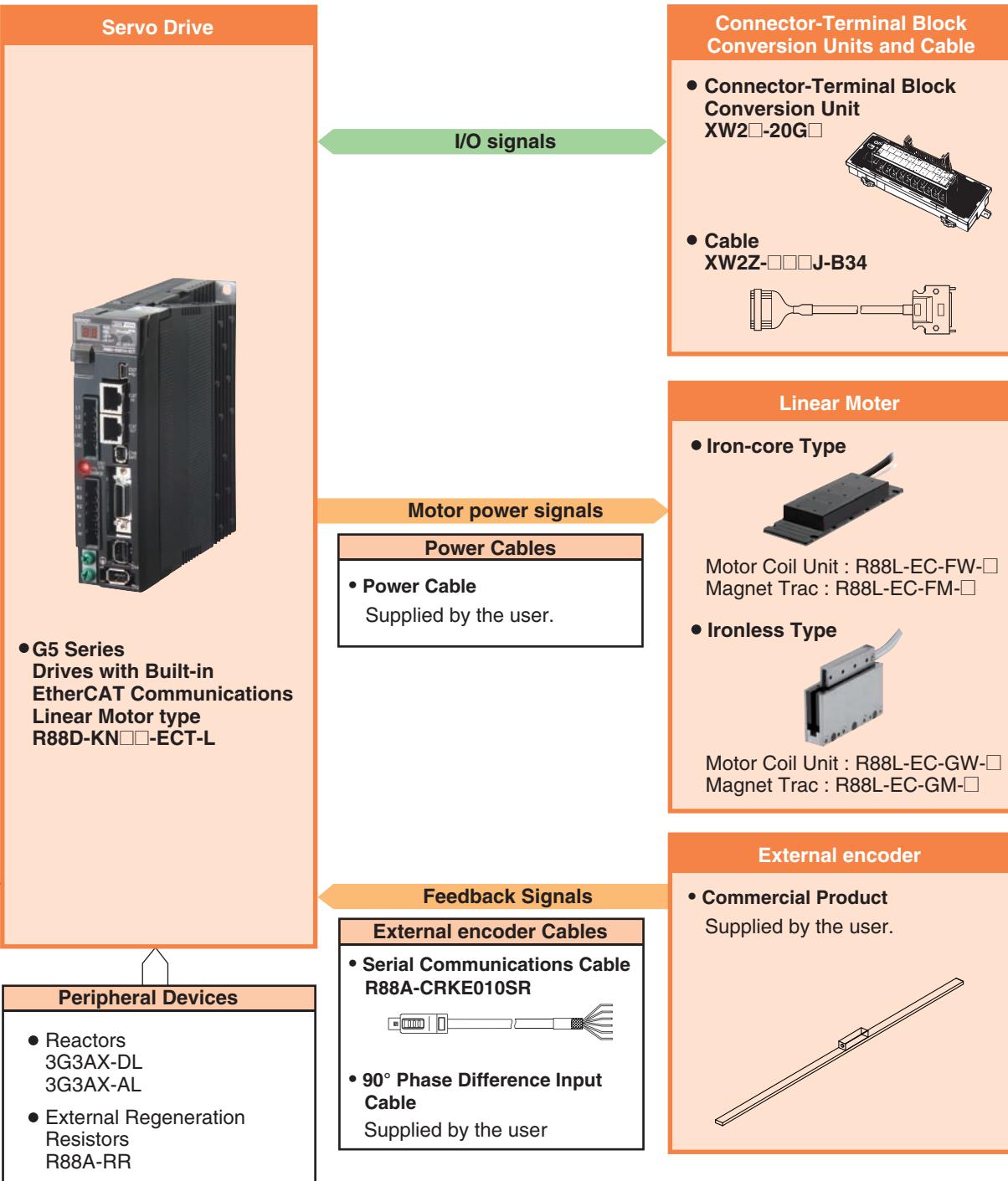
System Configuration



Linear Motor for Higher-speed and Higher-precision

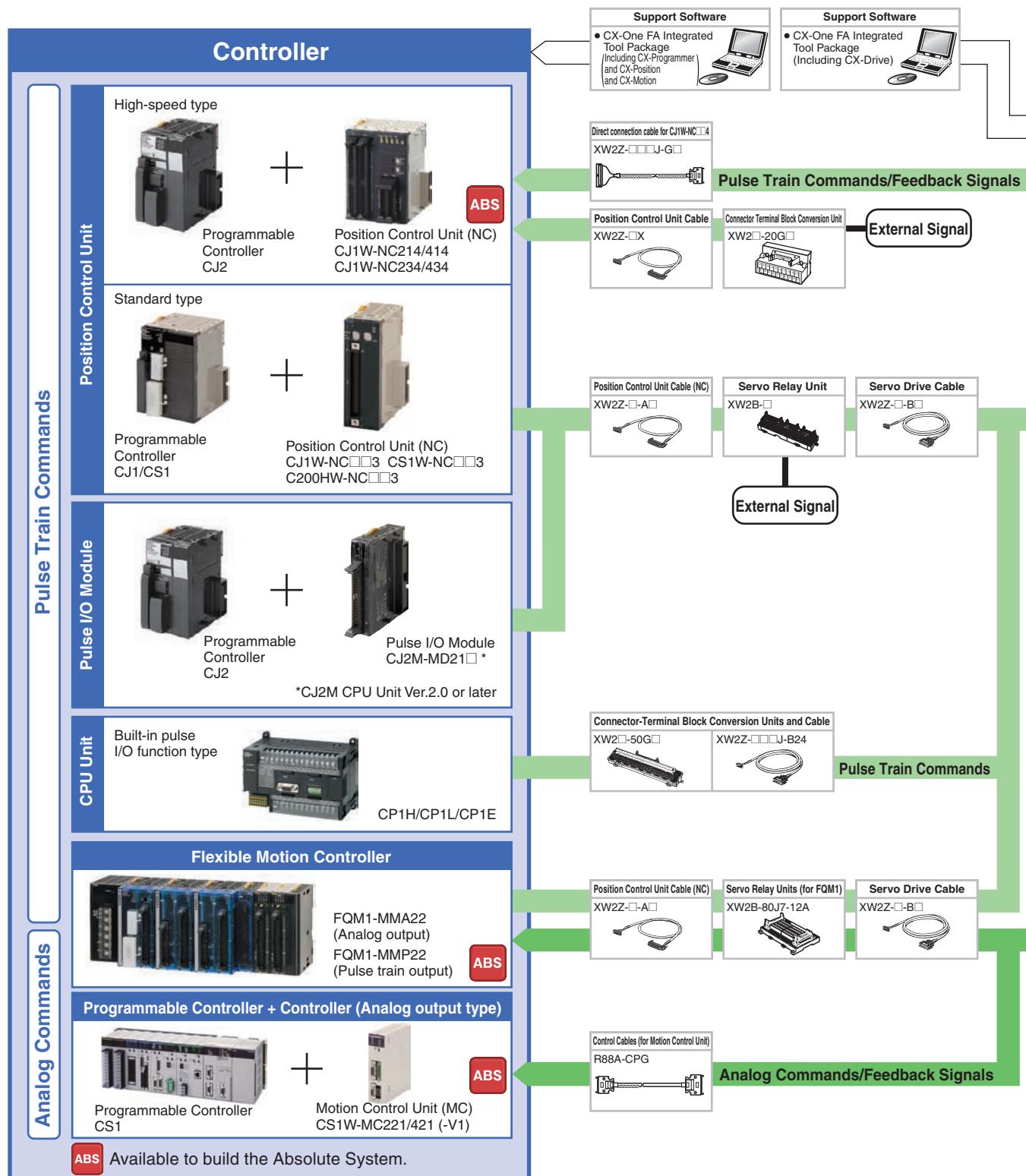


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R88M-K/R88D-KT

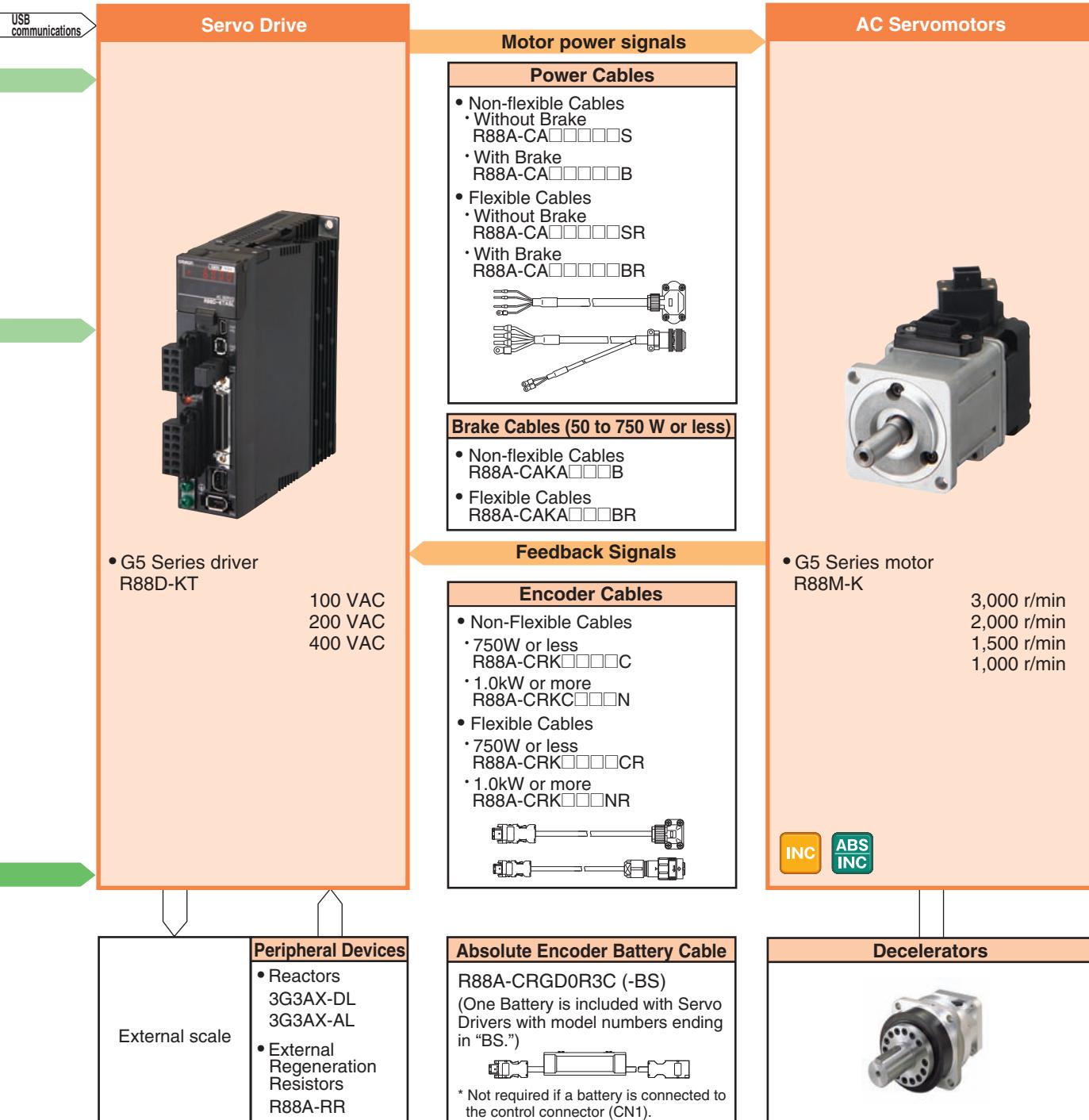
System Configuration



The Preeminent Servo That Revolutionizes Motion Control



- Industry Top-class Tracking Performance.
Speed Response Frequency of 2 kHz.
- Best Positioning Accuracy*.
Featuring a 20-bit high-resolution incremental encoder.
*8 times the resolution of previous OMRON models
- High-precision Positioning.
Fully Closed Loop Control Is a Standard Feature.
- Conforms to the Latest International Standards.
Safety and Productivity.
- Globalization. Lineup of 400 VAC Servomotors.



R88M-K/R88D-KN□-ML2

System Configuration

Controllers (MECHATROLINK-II type)



Support Software

- CX-One FA Integrated Tool Package (Including CX-Programmer and CX-Position and CX-Motion)

Support Software

- CX-One FA Integrated Tool Package (Including CX-Drive)



MECHATROLINK-II

MECHATROLINK-II Cables

(With ring core and USB connector on both ends)
FNY-W6003-□□ (OMRON model number)

(Without ring core USB connector on both ends)
FNY-W6002-□□ (OMRON model number)

MECHATROLINK-II Repeater

	Maximum transmission distance	
	0 to 30 m	30 to 50 m
Number of connected devices	1 to 15	Repeater not required.
	16	Repeater required.

High-Speed and High-Precision G5 Series MECHATROLINK-II Communications with the Controller

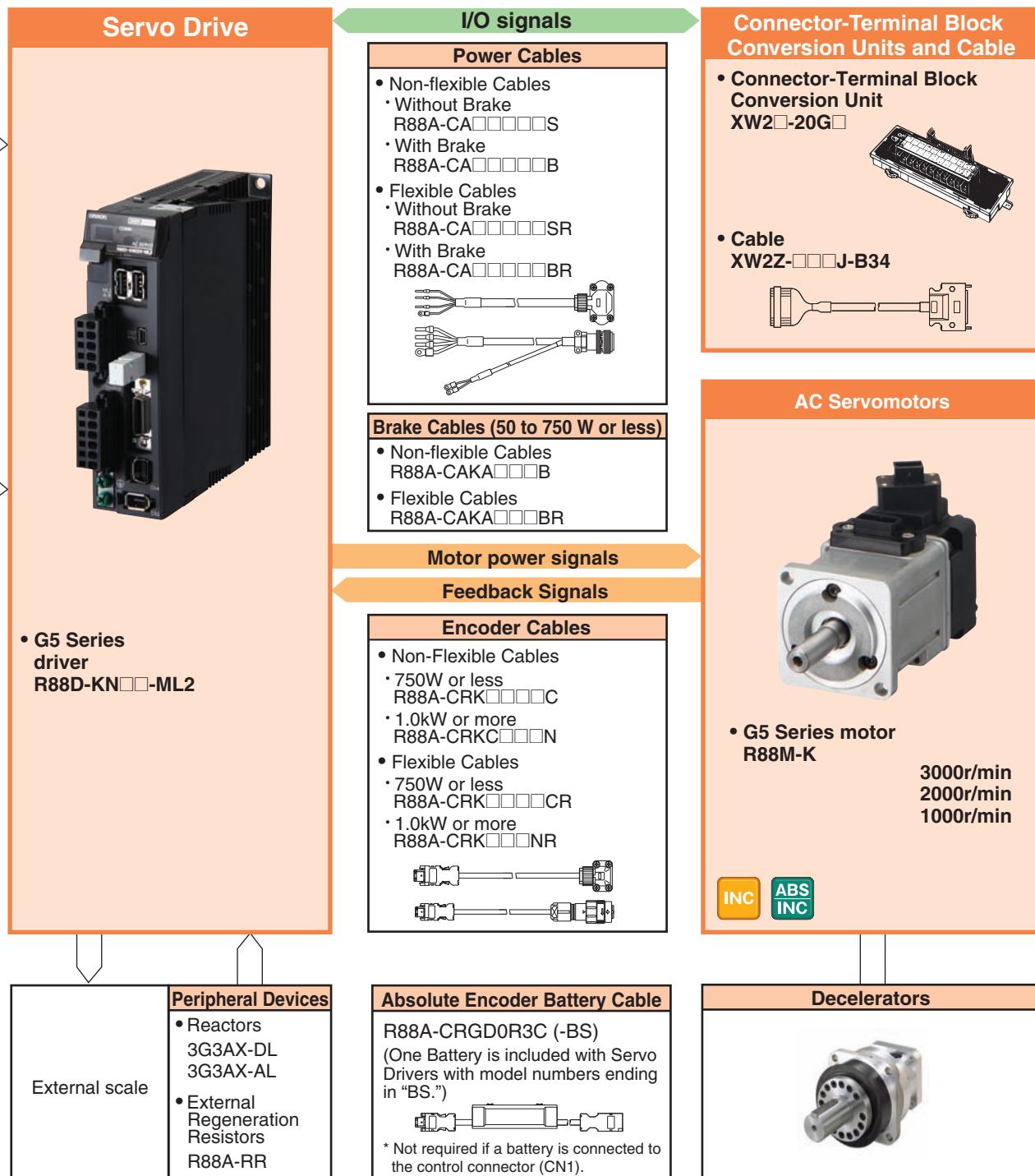


- Data transfer using MECHATROLINK-II

Communications:

All control data that can be interfaced between the Servo Driver and the Controller is transmitted using data communications. This enables maximizing the Servomotor performance without restricting the transmission performance of the control signals.

- Having a communications module built into the Servo Driver significantly saves space in the control panel.



MEMO

Ordering Information

Product name AC Servomotors / Linear Motors / Servo Drives
G5-series

Interpreting Model Numbers.....B-2

- AC Servo Drive Rotary Motor Type Model Numbers
- AC Servo Drive Linear Motor Type Model Numbers
- AC Servomotor Model Numbers
- Linear Motor Model Numbers
- Understanding Decelerator Model Numbers
(Backlash = 3' Max./Backlash = 15' Max.)

Table of AC Servomotor Variations.....B-5

Ordering InformationB-6

 AC Servo DrivesB-6

- EtherCAT Communications
- Linear Motor with built-in EtherCAT communications
- General-purpose Inputs
- MECHATROLINK-II Communications

 AC ServomotorsB-7

 Linear MotorsB-12

 Decelerators (Backlash = 3' Max./Backlash = 15' Max.).....B-14

 Accessories and Cables.....B-16

- Connection Cables (Power Cables, Brake Cables, Encoder Cables)
(Non-flexible Cables)
(Flexible Cables)

 ■ Cable/Connector

 ■ Control Cables

- For General-purpose Inputs

 ■ Communication Cables

- For MECHATROLINK-II Communications

- For EtherCAT Communications

 ■ Peripheral Devices

 (External Regeneration Resistors, Reactors, Mounting Brackets)

 ■ Support Software

Combination tableB-25

- AC Servo Drive and Servomotor Combinations
- AC Servomotor and Decelerator Combinations
- Linear Motor and AC Servo Drive Linear Motor Type Combinations
- Controller Combinations
- Cable Combinations

Related ManualsB-37

As a Sysmac Device, the G5-series AC Servomotor/Servo Drive with Built-in EtherCAT Communications is designed to provide optimal functionality and enhanced operability when used in conjunction with a Machine Automation Controller such as NJ series and the automation software Sysmac Studio. Sysmac Device is a generic term for OMRON control devices such as an EtherCAT Slave, designed with unified communications specifications and user interface specifications.

When connecting a Servo Drive to the NJ5 series Machine Automation Controller, it is recommended that you use the Servo Drive with Built-in EtherCAT Communications, R88D-KN□□□-ECT, with unit version 2.1 or later.

AC Servomotor/Drive G5-series

Interpreting Model Numbers

AC Servo Drive Rotary Motor Type Model Numbers

R88D-K N 01 H -ECT

(1) (2) (3) (4) (5)

No	Item	Symbol	Specifications	
(1)				
(2)	Drive Type	T	Analog input/Pulse train input type	
		N	Communication type	
(3)	Maximum Applicable Servomotor Capacity	A5	50 W	
		01	100 W	
		02	200 W	
		04	400 W	
		06	600 W	
		08	750 W	
		10	1 kW	
		15	1.5 kW	
		20	2 kW	
		30	3 kW	
		40	4 kW	
		50	5 kW	
		75	7.5 kW	
		150	15 kW	
(4)	Power Supply Voltage	L	100 VAC	
		H	200 VAC	
		F	400 VAC	
(5)	Network type	Blank	General-purpose Inputs	
		-ML2	MECHATROLINK-II Communications	
		-ECT	EtherCAT Communications	

AC Servo Drive Linear Motor Type Model Numbers

R88D-K N 01 H -ECT -L

(1) (2) (3) (4) (5) (6)

No	Item	Symbol	Specifications	
(1)				
(2)	Drive Type	N	Communication type	
(3)	Maximum Applicable Linear Motor Capacity	01	100 W	
		02	200 W	
		04	400 W	
		06	600 W	
		08	750 W	
		10	1 kW	
		15	1.5 kW	
		20	2 kW	
		30	3 kW	
(4)	Power Supply Voltage	L	100 VAC	
		H	200 VAC	
		F	400 VAC	
(5)	Network type	-ECT	EtherCAT Communications	
(6)	Motor type	-L	Linear Motor	

AC Servomotor Model Numbers

R88M-K □ 750 30 H -BO S2

(1) (2) (3) (4) (5) (6)

No	Item	Symbol	Specifications	
(1)				
(2)	Motor Type	Blank	G5-series Servomotor	
		050	Cylinder type	
		100	50 W	
		200	100 W	
		400	200 W	
		600	400 W	
		750	600 W	
		900	750 W	
		1K0	900 W	
		1K5	1 kW	
		2K0	1.5 kW	
		3K0	2 kW	
		4K0	3 kW	
		4K5	4 kW	
		5K0	4.5 kW	
(3)	Servomotor Capacity	6K0	5 kW	
		7K5	6 kW	
		11K0	7.5 kW	
		15K0	11 kW	
(4)	Rated Rotation Speed	10	15 kW	
		15	1,000 r/min	
		20	1,500 r/min	
		30	2,000 r/min	
(5)	Applied Voltage	F	3,000 r/min	
		H	400 VAC (with incremental encoder specifications)	INC
		L	200 VAC (with incremental encoder specifications)	INC
		C	100 VAC (with incremental encoder specifications)	INC
		T	400 VAC (with absolute encoder specifications)	ABS/INC
		S	200 VAC (with absolute encoder specifications)	ABS/INC
(6)	Option	Blank	100 VAC (with absolute encoder specifications)	ABS/INC
		B	Straight shaft	
		O	With brake	
		S2	With oil seal	
(6)				

Note: INC incremental encoder: 20bit

ABS/INC incremental encoder: 17bit, absolute encoder: 17bit

Linear Motor

● Iron-core linear motor

Motor Coil Unit

R88L-EC -FW -03 03 -A NP C

(1) (2) (3) (4) (5) (6) (7)

No	Item	Symbol	Specifications				
(1)	G5-series Linear Motor						
(2)	Part Type	FW	Iron-core type Motor Coil Unit				
(3)	Effective Magnet Width	03	30mm				
		06	60mm				
		11	110mm				
(4)	Coil Model	03	3-coil				
		06	6-coil				
		09	9-coil				
		12	12-coil				
		15	15-coil				
(5)	Version	A	Ver.A				
(6)	Connector	NP	Not Provided				
(7)	Type	C	Compact type				

● Ironless linear motor

Motor Coil Unit

R88L-EC -GW -03 03 -A NP S

(1) (2) (3) (4) (5) (6) (7)

No	Item	Symbol	Specifications				
(1)	G5-series Linear Motor						
(2)	Part Type	GW	Ironless type Motor Coil Unit				
(3)	Effective Magnet Width	03	30mm				
		05	50mm				
		07	70mm				
(4)	Coil Model	03	3-coil				
		06	6-coil				
		09	9-coil				
(5)	Version	A	Ver.A				
(6)	Connector	NP	Not Provided				
(7)	Type	S	Standard type				

Magnet Trac

R88L-EC -FM -03 096 -A

(1) (2) (3) (4) (5)

No	Item	Symbol	Specifications				
(1)	G5-series Linear Motor						
(2)	Part Type	FM	Iron-core type Magnet Trac				
(3)	Effective Magnet Width	03	30mm				
		06	60mm				
		11	110mm				
(4)	Magnet Trac Unit Length	096	96mm				
		144	144mm				
		192	192mm				
		288	288mm				
		384	384mm				
(5)	Version	A	Ver.A				

Magnet Trac

R88L-EC -GM -03 090 -A

(1) (2) (3) (4) (5)

No	Item	Symbol	Specifications				
(1)	G5-series Linear Motor						
(2)	Part Type	GM	Ironless type Magnet Trac				
(3)	Effective Magnet Width	03	30mm				
		05	50mm				
		07	70mm				
(4)	Magnet Trac Unit Length	090	90mm				
		114	114mm				
		120	120mm				
		126	126mm				
		168	168mm				
		171	171mm				
		210	210mm				
		390	390mm				
		456	456mm				
		546	546mm				
		A	Ver.A				

AC Servomotor/Drive G5-series

Understanding Decelerator Model Numbers (Backlash = 3' Max./Backlash = 15' Max.)

Refer to the *Decelerators* in *Ordering Information* for motor capacity and decelerator combinations.

Backlash = 3' Max.

R88G-HPG 14A 05 100 S B J

(1) (2) (3) (4) (5) (6) (7)

No	Item	Symbol	Specifications
(1)			
Decelerator for G□-Series Servomotors Backlash = 3' Max.			
(2)	Flange Size Number	11B	□40
		14A	□60
		20A	□90
		32A	□120
		50A	□170
		65A	□230
(3)	Gear Ratio	05	1/5
		09	1/9
		11	1/11
		20	1/20
		21	1/21
		25	1/25
		33	1/33
		45	1/45
(4)	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
		Blank	3,000-r/min cylindrical servomotors
(5)	Motor Type	S	2,000-r/min cylindrical servomotors
		T	1,000-r/min cylindrical servomotors
		B	Backlash = 3' Max
(6)	Backlash	Blank	Straight shaft
		J	With key and tap
(7)	Option	Blank	
		J	With key (without tap)

Backlash = 15' Max.

R88G-VRSF 09 B 100 C J

(1) (2) (3) (4) (5) (6) (7)

No	Item	Symbol	Specifications
(1)			
Decelerator for G□-Series Servomotors Backlash = 15' Max.			
(2)	Gear Ratio	05	1/5
		09	1/9
		15	1/15
		25	1/25
(3)	Flange Size Number	B	□52
		C	□78
		D	□98
(4)	Applicable Servomotor Capacity	050	50 W
		100	100 W
		200	200 W
		400	400 W
		750	750 W
(5)	Motor Type	Blank	3,000-r/min cylindrical servomotors
(6)	Backlash	C	Backlash = 15' Max
(7)	Option	J	With key (without tap)

Table of AC Servomotor Variations

R88M-K□□□□□□□□-□□□□

(3) (4) (5) (6) (7) (8) (9)

(3)	(4)	(5)	Model	(6)						(7)		(8)		(9)		
				Applied Voltage						With brake / Without brake		Models with oil seals		Shaft type		
				INC	INC	INC	ABS	ABS	ABS	-	B					
				F	H	L	C	T	S	Blank	With brake	Blank	O	Blank	S2	
Cylinder	50 W	3,000 r/min	R88M-K05030 *1		✓			✓		✓	✓	✓	✓	✓	✓	
			R88M-K10030		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
			R88M-K20030		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
			R88M-K40030		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
			R88M-K75030	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
			R88M-K1K030	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
			R88M-K1K530	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
			R88M-K2K030	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
			R88M-K3K030	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
			R88M-K4K030	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
	1 kW	2,000 r/min	R88M-K40020	✓			✓			✓	✓	✓	✓	✓	✓	✓
			R88M-K60020	✓			✓			✓	✓	✓	✓	✓	✓	✓
			R88M-K1K020	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K1K520	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K2K020	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K3K020	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K4K020	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K5K020	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K7K515 *2				✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K11K015 *2				✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K15K015 *2				✓	✓		✓	✓	✓	✓	✓	✓	✓
	2 kW	1,000 r/min	R88M-K90010	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K2K010	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K3K010	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K4K510				✓	✓		✓	✓	✓	✓	✓	✓	✓
			R88M-K6K010				✓	✓		✓	✓	✓	✓	✓	✓	✓
Blank: Cylinder type	example 030: 30 W 100: 100 W 1K0: 1 kW	10: 1,000 r/min 20: 2,000 r/min 30: 3,000 r/min		F: 400 VAC (with incremental encoder) INC H: 200 VAC (with incremental encoder) INC L: 100 VAC (with incremental encoder) INC C: 400 VAC (with absolute encoder) ABS/INC T: 200 VAC (with absolute encoder) ABS/INC S: 100 VAC (with absolute encoder) ABS/INC						Blank: Without brake		Blank: Without oil seals		Blank: Straight shaft		
										B: 24 VDC		O: With oil seals		S2: With key and tap		

*1. R88M-K05030H-□, R88M-K05030T-□, can be used for Power Supply Voltage of 100/200VAC.

*2. The rated speed is 1,500 r/min.

AC Servomotor/Drive G5-series

Ordering Information

AC Servo Drives

EtherCAT Communications

Specifications		Model
Power Supply Voltage	Applicable Servomotor Capacity	
Single-phase 100 VAC	50 W	R88D-KNA5L-ECT
	100 W	R88D-KN01L-ECT
	200 W	R88D-KN02L-ECT
	400 W	R88D-KN04L-ECT
Single-phase/three-phase 200 VAC	100 W	R88D-KN01H-ECT
	200 W	R88D-KN02H-ECT
	400 W	R88D-KN04H-ECT
	750 W	R88D-KN08H-ECT
	1 kW	R88D-KN10H-ECT
	1.5 kW	R88D-KN15H-ECT
Three-phase 200 VAC	2 kW	R88D-KN20H-ECT
	3 kW	R88D-KN30H-ECT
	5 kW	R88D-KN50H-ECT
	7.5 kW	R88D-KN75H-ECT
	15 kW	R88D-KN150H-ECT
	600 W	R88D-KN06F-ECT
Three-phase 400 VAC	1 kW	R88D-KN10F-ECT
	1.5 kW	R88D-KN15F-ECT
	2 kW	R88D-KN20F-ECT
	3 kW	R88D-KN30F-ECT
	5 kW	R88D-KN50F-ECT
	7.5 kW	R88D-KN75F-ECT
	15 kW	R88D-KN150F-ECT

Note: When connecting a Servo Drive to the NJ5 series Machine Automation Controller, it is recommended that you use the Servo Drive with Built-in EtherCAT Communications, R88D-KN□□□-ECT, with unit version 2.1 or later.

General-purpose Inputs (Analog input/Pulse train input type)

Specifications		Model
Power Supply Voltage	Applicable Servomotor Capacity	
Single-phase 100 VAC	50 W	R88D-KTA5L
	100 W	R88D-KT01L
	200 W	R88D-KT02L
	400 W	R88D-KT04L
Single-phase/three-phase 200 VAC	100 W	R88D-KT01H
	200 W	R88D-KT02H
	400 W	R88D-KT04H
	750 W	R88D-KT08H
	1 kW	R88D-KT10H
	1.5 kW	R88D-KT15H
Three-phase 200 VAC	2 kW	R88D-KT20H
	3 kW	R88D-KT30H
	5 kW	R88D-KT50H
	7.5 kW	R88D-KT75H
	15 kW	R88D-KT150H
	600 W	R88D-KT06F
Three-phase 400 VAC	1 kW	R88D-KT10F
	1.5 kW	R88D-KT15F
	2 kW	R88D-KT20F
	3 kW	R88D-KT30F
	5 kW	R88D-KT50F
	7.5 kW	R88D-KT75F
	15 kW	R88D-KT150F

Linear Motor with built-in EtherCAT communications

Specifications		Model
Power Supply Voltage	Applicable Servomotor Capacity	
Single-phase 100 VAC	100 W	R88D-KN01L-ECT-L
	200 W	R88D-KN02L-ECT-L
	400 W	R88D-KN04L-ECT-L
Single-phase/three-phase 200 VAC	100 W	R88D-KN01H-ECT-L
	200 W	R88D-KN02H-ECT-L
	400 W	R88D-KN04H-ECT-L
	750 W	R88D-KN08H-ECT-L
	1 kW	R88D-KN10H-ECT-L
	1.5 kW	R88D-KN15H-ECT-L
Three-phase 400 VAC	600 W	R88D-KN06F-ECT-L
	1 kW	R88D-KN10F-ECT-L
	1.5 kW	R88D-KN15F-ECT-L
	2 kW	R88D-KN20F-ECT-L
	3 kW	R88D-KN30F-ECT-L

MECHATROLINK-II Communications

Specifications		Model
Power Supply Voltage	Applicable Servomotor Capacity	
Single-phase 100 VAC	50 W	R88D-KNA5L-ML2
	100 W	R88D-KN01L-ML2
	200 W	R88D-KN02L-ML2
	400 W	R88D-KN04L-ML2
Single-phase/three-phase 200 VAC	100 W	R88D-KN01H-ML2
	200 W	R88D-KN02H-ML2
	400 W	R88D-KN04H-ML2
	750 W	R88D-KN08H-ML2
	1 kW	R88D-KN10H-ML2
	1.5 kW	R88D-KN15H-ML2
Three-phase 200 VAC	2 kW	R88D-KN20H-ML2
	3 kW	R88D-KN30H-ML2
	5 kW	R88D-KN50H-ML2
Three-phase 400 VAC	600 W	R88D-KN06F-ML2
	1 kW	R88D-KN10F-ML2
	1.5 kW	R88D-KN15F-ML2
	2 kW	R88D-KN20F-ML2
	3 kW	R88D-KN30F-ML2
	5 kW	R88D-KN50F-ML2

AC Servomotors

<Cylinder Type> 3,000-r/min servomotors

Rotation speed	Encoder	Option
3,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With incremental encoder	
		Straight shaft with key and tap	
Voltage	Rated output	Without oil seals	
Without brake	100 V	50 W	R88M-K05030H-S2
		100 W	R88M-K10030L-S2
		200 W	R88M-K20030L-S2
		400 W	R88M-K40030L-S2
	200 V	50 W	R88M-K05030H-S2
		100 W	R88M-K10030H-S2
		200 W	R88M-K20030H-S2
		400 W	R88M-K40030H-S2
		750 W	R88M-K75030H-S2
		1 kW	R88M-K1K030H-S2
		1.5 kW	R88M-K1K530H-S2
		2 kW	R88M-K2K030H-S2
		3 kW	R88M-K3K030H-S2
		4 kW	R88M-K4K030H-S2
		5 kW	R88M-K5K030H-S2
	400 V	750 W	R88M-K75030F-S2
		1 kW	R88M-K1K030F-S2
		1.5 kW	R88M-K1K530F-S2
		2 kW	R88M-K2K030F-S2
		3 kW	R88M-K3K030F-S2
		4 kW	R88M-K4K030F-S2
With brake	100 V	50 W	R88M-K05030H-BS2
		100 W	R88M-K10030L-BS2
		200 W	R88M-K20030L-BS2
		400 W	R88M-K40030L-BS2
	200 V	50 W	R88M-K05030H-BS2
		100 W	R88M-K10030H-BS2
		200 W	R88M-K20030H-BS2
		400 W	R88M-K40030H-BS2
		750 W	R88M-K75030H-BS2
		1 kW	R88M-K1K030H-BS2
		1.5 kW	R88M-K1K530H-BS2
		2 kW	R88M-K2K030H-BS2
		3 kW	R88M-K3K030H-BS2
		4 kW	R88M-K4K030H-BS2
		5 kW	R88M-K5K030H-BS2
	400 V	750 W	R88M-K75030F-BS2
		1 kW	R88M-K1K030F-BS2
		1.5 kW	R88M-K1K530F-BS2
		2 kW	R88M-K2K030F-BS2
		3 kW	R88M-K3K030F-BS2
		4 kW	R88M-K4K030F-BS2
		5 kW	R88M-K5K030F-BS2

Note: Models with oil seals are also available.

Rotation speed	Encoder	Option
3,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With incremental encoder	
		Straight shaft without key	
Voltage	Rated output	Without oil seals	
Without brake	100 V	50 W	R88M-K05030H
		100 W	R88M-K10030L
		200 W	R88M-K20030L
		400 W	R88M-K40030L
	200 V	50 W	R88M-K05030H
		100 W	R88M-K10030H
		200 W	R88M-K20030H
		400 W	R88M-K40030H
		750 W	R88M-K75030H
		1 kW	R88M-K1K030H
		1.5 kW	R88M-K1K530H
		2 kW	R88M-K2K030H
		3 kW	R88M-K3K030H
		4 kW	R88M-K4K030H
		5 kW	R88M-K5K030H
	400 V	750 W	R88M-K75030F
		1 kW	R88M-K1K030F
		1.5 kW	R88M-K1K530F
		2 kW	R88M-K2K030F
		3 kW	R88M-K3K030F
		4 kW	R88M-K4K030F
With brake	100 V	50 W	R88M-K05030H-B
		100 W	R88M-K10030L-B
		200 W	R88M-K20030L-B
		400 W	R88M-K40030L-B
	200 V	50 W	R88M-K05030H-B
		100 W	R88M-K10030H-B
		200 W	R88M-K20030H-B
		400 W	R88M-K40030H-B
		750 W	R88M-K75030H-B
		1 kW	R88M-K1K030H-B
		1.5 kW	R88M-K1K530H-B
		2 kW	R88M-K2K030H-B
		3 kW	R88M-K3K030H-B
		4 kW	R88M-K4K030H-B
	400 V	750 W	R88M-K75030F-B
		1 kW	R88M-K1K030F-B
		1.5 kW	R88M-K1K530F-B
		2 kW	R88M-K2K030F-B
		3 kW	R88M-K3K030F-B
		4 kW	R88M-K4K030F-B

Note: Models with oil seals are also available.

AC Servomotor/Drive G5-series

Rotation speed	Encoder	Option
3,000 r/min	INC ABS/INC	Without key With key

Rotation speed	Encoder	Option
3,000 r/min	INC ABS/INC	Without key With key

Specifications		Model	
		With absolute encoder	
		Straight shaft with key and tap	
Voltage		Without oil seals	
Without brake	100 V	50 W	R88M-K05030T-S2
		100 W	R88M-K10030S-S2
		200 W	R88M-K20030S-S2
		400 W	R88M-K40030S-S2
	200 V	50 W	R88M-K05030T-S2
		100 W	R88M-K10030T-S2
		200 W	R88M-K20030T-S2
		400 W	R88M-K40030T-S2
		750 W	R88M-K75030T-S2
		1 kW	R88M-K1K030T-S2
With brake	400 V	1.5 kW	R88M-K1K530T-S2
		2 kW	R88M-K2K030T-S2
		3 kW	R88M-K3K030T-S2
		4 kW	R88M-K4K030T-S2
		5 kW	R88M-K5K030T-S2
		750 W	R88M-K75030C-S2
		1 kW	R88M-K1K030C-S2
		1.5 kW	R88M-K1K530C-S2
		2 kW	R88M-K2K030C-S2
		3 kW	R88M-K3K030C-S2

Specifications		Model	
		With absolute encoder	
		Straight shaft without key	
Voltage		Without oil seals	
Without brake	100 V	50 W	R88M-K05030T
		100 W	R88M-K10030S
		200 W	R88M-K20030S
		400 W	R88M-K40030S
	200 V	50 W	R88M-K05030T
		100 W	R88M-K10030T
		200 W	R88M-K20030T
		400 W	R88M-K40030T
		750 W	R88M-K75030T
		1 kW	R88M-K1K030T
With brake	400 V	1.5 kW	R88M-K1K530T
		2 kW	R88M-K2K030T
		3 kW	R88M-K3K030T
		4 kW	R88M-K4K030T
		5 kW	R88M-K5K030T
		750 W	R88M-K75030C
		1 kW	R88M-K1K030C
		1.5 kW	R88M-K1K530C
		2 kW	R88M-K2K030C
		3 kW	R88M-K3K030C

Note: Models with oil seals are also available.

Note: Models with oil seals are also available.

2,000-r/min servomotors

Rotation speed	Encoder	Option
2,000 r/min	INC	Without key
	ABS/INC	With key

Specifications	Model	
	With incremental encoder	
	Straight shaft with key and tap	
Voltage	Rated output	Without oil seals
Without brake	1 kW	R88M-K1K020H-S2
	1.5 kW	R88M-K1K520H-S2
	2 kW	R88M-K2K020H-S2
	3 kW	R88M-K3K020H-S2
	4 kW	R88M-K4K020H-S2
	5 kW	R88M-K5K020H-S2
	400 W	R88M-K40020F-S2
	600 W	R88M-K60020F-S2
	1 kW	R88M-K1K020F-S2
	1.5 kW	R88M-K1K520F-S2
With brake	2 kW	R88M-K2K020F-S2
	3 kW	R88M-K3K020F-S2
	4 kW	R88M-K4K020F-S2
	5 kW	R88M-K5K020F-S2
	1 kW	R88M-K1K020H-BS2
	1.5 kW	R88M-K1K520H-BS2
	2 kW	R88M-K2K020H-BS2
	3 kW	R88M-K3K020H-BS2
	4 kW	R88M-K4K020H-BS2
	5 kW	R88M-K5K020H-BS2
400 V	400 W	R88M-K40020F-BS2
	600 W	R88M-K60020F-BS2
	1 kW	R88M-K1K020F-BS2
	1.5 kW	R88M-K1K520F-BS2
	2 kW	R88M-K2K020F-BS2
	3 kW	R88M-K3K020F-BS2
	4 kW	R88M-K4K020F-BS2
	5 kW	R88M-K5K020F-BS2

Note: Models with oil seals are also available.

Rotation speed	Encoder	Option
2,000 r/min	INC	Without key
	ABS/INC	With key

Specifications	Model	
	With incremental encoder	
	Straight shaft without key	
Voltage	Rated output	Without oil seals
Without brake	1 kW	R88M-K1K020H
	1.5 kW	R88M-K1K520H
	2 kW	R88M-K2K020H
	3 kW	R88M-K3K020H
	4 kW	R88M-K4K020H
	5 kW	R88M-K5K020H
	400 W	R88M-K40020F
	600 W	R88M-K60020F
	1 kW	R88M-K1K020F
	1.5 kW	R88M-K1K520F
With brake	2 kW	R88M-K2K020F
	3 kW	R88M-K3K020F
	4 kW	R88M-K4K020F
	5 kW	R88M-K5K020F
	1 kW	R88M-K1K020H-B
	1.5 kW	R88M-K1K520H-B
	2 kW	R88M-K2K020H-B
	3 kW	R88M-K3K020H-B
	4 kW	R88M-K4K020H-B
	5 kW	R88M-K5K020H-B
400 V	400 W	R88M-K40020F-B
	600 W	R88M-K60020F-B
	1 kW	R88M-K1K020F-B
	1.5 kW	R88M-K1K520F-B
	2 kW	R88M-K2K020F-B
	3 kW	R88M-K3K020F-B
	4 kW	R88M-K4K020F-B
	5 kW	R88M-K5K020F-B

Note: Models with oil seals are also available.

AC Servomotor/Drive G5-series

Rotation speed	Encoder	Option
2,000 r/min	INC	Without key
	ABS/INC	With key

Rotation speed	Encoder	Option
2,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With absolute encoder	
		Straight shaft with key and tap	
Voltage		Without oil seals	
Without brake	200 V	1 kW	R88M-K1K020T-S2
		1.5 kW	R88M-K1K520T-S2
		2 kW	R88M-K2K020T-S2
		3 kW	R88M-K3K020T-S2
		4 kW	R88M-K4K020T-S2
		5 kW	R88M-K5K020T-S2
		7.5 kW	R88M-K7K515T-S2 *
		11 kW	R88M-K11K015T-S2 *
		15 kW	R88M-K15K015T-S2 *
		400 W	R88M-K40020C-S2
With brake	400 V	600 W	R88M-K60020C-S2
		1 kW	R88M-K1K020C-S2
		1.5 kW	R88M-K1K520C-S2
		2 kW	R88M-K2K020C-S2
		3 kW	R88M-K3K020C-S2
		4 kW	R88M-K4K020C-S2
		5 kW	R88M-K5K020C-S2
		7.5 kW	R88M-K7K515C-S2 *
		11 kW	R88M-K11K015C-S2 *
		15 kW	R88M-K15K015C-S2 *
Without brake	200 V	1 kW	R88M-K1K020T-BS2
		1.5 kW	R88M-K1K520T-BS2
		2 kW	R88M-K2K020T-BS2
		3 kW	R88M-K3K020T-BS2
		4 kW	R88M-K4K020T-BS2
		5 kW	R88M-K5K020T-BS2
		7.5 kW	R88M-K7K515T-BS2 *
		11 kW	R88M-K11K015T-BS2 *
		15 kW	R88M-K15K015T-BS2 *
		400 W	R88M-K40020C-BS2
With brake	400 V	600 W	R88M-K60020C-BS2
		1 kW	R88M-K1K020C-BS2
		1.5 kW	R88M-K1K520C-BS2
		2 kW	R88M-K2K020C-BS2
		3 kW	R88M-K3K020C-BS2
		4 kW	R88M-K4K020C-BS2
		5 kW	R88M-K5K020C-BS2
		7.5 kW	R88M-K7K515C-BS2 *
		11 kW	R88M-K11K015C-BS2 *
		15 kW	R88M-K15K015C-BS2 *

Note: Models with oil seals are also available.

* The rated speed is 1,500 r/min.

Specifications		Model	
		With absolute encoder	
		Straight shaft without key	
Voltage		Without oil seals	
Without brake	200 V	1 kW	R88M-K1K020T
		1.5 kW	R88M-K1K520T
		2 kW	R88M-K2K020T
		3 kW	R88M-K3K020T
		4 kW	R88M-K4K020T
		5 kW	R88M-K5K020T
		7.5 kW	R88M-K7K515T *
		11 kW	R88M-K11K015T *
		15 kW	R88M-K15K015T *
		400 W	R88M-K40020C
With brake	400 V	600 W	R88M-K60020C
		1 kW	R88M-K1K020C
		1.5 kW	R88M-K1K520C
		2 kW	R88M-K2K020C
		3 kW	R88M-K3K020C
		4 kW	R88M-K4K020C
		5 kW	R88M-K5K020C
		7.5 kW	R88M-K7K515C *
		11 kW	R88M-K11K015C *
		15 kW	R88M-K15K015C *
Without brake	200 V	1 kW	R88M-K1K020T-B
		1.5 kW	R88M-K1K520T-B
		2 kW	R88M-K2K020T-B
		3 kW	R88M-K3K020T-B
		4 kW	R88M-K4K020T-B
		5 kW	R88M-K5K020T-B
		7.5 kW	R88M-K7K515T-B *
		11 kW	R88M-K11K015T-B *
		15 kW	R88M-K15K015T-B *
		400 W	R88M-K40020C-B
With brake	400 V	600 W	R88M-K60020C-B
		1 kW	R88M-K1K020C-B
		1.5 kW	R88M-K1K520C-B
		2 kW	R88M-K2K020C-B
		3 kW	R88M-K3K020C-B
		4 kW	R88M-K4K020C-B
		5 kW	R88M-K5K020C-B
		7.5 kW	R88M-K7K515C-B *
		11 kW	R88M-K11K015C-B *
		15 kW	R88M-K15K015C-B *

Note: Models with oil seals are also available.

* The rated speed is 1,500 r/min.

1,000-r/min servomotors

Rotation speed	Encoder	Option
1,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With incremental encoder	
		Straight shaft with key and tap	
Voltage		Without oil seals	
Without brake	200 V	900 W	R88M-K90010H-S2
		2 kW	R88M-K2K010H-S2
		3 kW	R88M-K3K010H-S2
	400 V	900 W	R88M-K90010F-S2
		2 kW	R88M-K2K010F-S2
		3 kW	R88M-K3K010F-S2
With brake	200 V	900 W	R88M-K90010H-BS2
		2 kW	R88M-K2K010H-BS2
		3 kW	R88M-K3K010H-BS2
	400 V	900 W	R88M-K90010F-BS2
		2 kW	R88M-K2K010F-BS2
		3 kW	R88M-K3K010F-BS2

Note: Models with oil seals are also available.

Rotation speed	Encoder	Option
1,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With incremental encoder	
		Straight shaft without key	
Voltage		Rated output	Without oil seals
Without brake	200 V	900 W	R88M-K90010H
		2 kW	R88M-K2K010H
		3 kW	R88M-K3K010H
	400 V	900 W	R88M-K90010F
		2 kW	R88M-K2K010F
		3 kW	R88M-K3K010F
With brake	200 V	900 W	R88M-K90010H-B
		2 kW	R88M-K2K010H-B
		3 kW	R88M-K3K010H-B
	400 V	900 W	R88M-K90010F-B
		2 kW	R88M-K2K010F-B
		3 kW	R88M-K3K010F-B

Note: Models with oil seals are also available.

Rotation speed	Encoder	Option
1,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With absolute encoder	
		Straight shaft with key and tap	
Voltage		Without oil seals	
Without brake	200 V	900 W	R88M-K90010T-S2
		2 kW	R88M-K2K010T-S2
		3 kW	R88M-K3K010T-S2
		4.5 kW	R88M-K4K510T-S2
		6 kW	R88M-K6K010T-S2
	400 V	900 W	R88M-K90010C-S2
		2 kW	R88M-K2K010C-S2
		3 kW	R88M-K3K010C-S2
		4.5 kW	R88M-K4K510C-S2
		6 kW	R88M-K6K010C-S2
With brake	200 V	900 W	R88M-K90010T-BS2
		2 kW	R88M-K2K010T-BS2
		3 kW	R88M-K3K010T-BS2
		4.5 kW	R88M-K4K510T-BS2
		6 kW	R88M-K6K010T-BS2
	400 V	900 W	R88M-K90010C-BS2
		2 kW	R88M-K2K010C-BS2
		3 kW	R88M-K3K010C-BS2
		4.5 kW	R88M-K4K510C-BS2
		6 kW	R88M-K6K010C-BS2

Note: Models with oil seals are also available.

Rotation speed	Encoder	Option
1,000 r/min	INC	Without key
	ABS/INC	With key

Specifications		Model	
		With absolute encoder	
		Straight shaft without key	
Voltage		Rated output	Without oil seals
Without brake	200 V	900 W	R88M-K90010T
		2 kW	R88M-K2K010T
		3 kW	R88M-K3K010T
		4.5 kW	R88M-K4K510T
		6 kW	R88M-K6K010T
	400 V	900 W	R88M-K90010C
		2 kW	R88M-K2K010C
		3 kW	R88M-K3K010C
		4.5 kW	R88M-K4K510C
		6 kW	R88M-K6K010C
With brake	200 V	900 W	R88M-K90010T-B
		2 kW	R88M-K2K010T-B
		3 kW	R88M-K3K010T-B
		4.5 kW	R88M-K4K510T-B
		6 kW	R88M-K6K010T-B
	400 V	900 W	R88M-K90010C-B
		2 kW	R88M-K2K010C-B
		3 kW	R88M-K3K010C-B
		4.5 kW	R88M-K4K510C-B
		6 kW	R88M-K6K010C-B

Note: Models with oil seals are also available.

AC Servomotor/Drive G5-series

Linear Motors

<Iron-core motor type>

Motor Coil Unit

Motor Coil Unit model	Continuous force [N]	Momentary maximum force [N]
R88L-EC-FW-0303-ANPC	48	105
R88L-EC-FW-0306-ANPC	96	210
R88L-EC-FW-0606-ANPC	160	400
R88L-EC-FW-0609-ANPC	240	600
R88L-EC-FW-0612-ANPC	320	800
R88L-EC-FW-1112-ANPC	608	1600
R88L-EC-FW-1115-ANPC	760	2000

Magnet Trac

Magnet Trac model	Magnet Trac Unit Length (mm)
R88L-EC-FM-03096-A	96
R88L-EC-FM-03144-A	144
R88L-EC-FM-03384-A	384
R88L-EC-FM-06192-A	192
R88L-EC-FM-06288-A	288
R88L-EC-FM-11192-A	192
R88L-EC-FM-11288-A	288

<Ironless motor type>

Motor Coil Unit

Motor Coil Unit model	Continuous force [N]	Momentary maximum force [N]
R88L-EC-GW-0303-ANPS	26.5	96
R88L-EC-GW-0306-ANPS	53	200
R88L-EC-GW-0309-ANPS	80	300
R88L-EC-GW-0503-ANPS	58	240
R88L-EC-GW-0506-ANPS	117	480
R88L-EC-GW-0509-ANPS	175	720
R88L-EC-GW-0703-ANPS	117	552
R88L-EC-GW-0706-ANPS	232	1110
R88L-EC-GW-0709-ANPS	348	1730

Magnet Trac

Magnet Trac model	Magnet Trac Unit Length (mm)
R88L-EC-GM-03090-A	90
R88L-EC-GM-03120-A	120
R88L-EC-GM-03390-A	390
R88L-EC-GM-05126-A	126
R88L-EC-GM-05168-A	168
R88L-EC-GM-05210-A	210
R88L-EC-GM-05546-A	546
R88L-EC-GM-07114-A	114
R88L-EC-GM-07171-A	171
R88L-EC-GM-07456-A	456

Combination table

Motor Coil Unit and Magnet Trac Combinations

Iron-core motor type

Motor Coil Unit model	Magnet Trac model
R88L-EC-FW-0303-ANPC	R88L-EC-FM-03096-A
R88L-EC-FW-0306-ANPC	R88L-EC-FM-03144-A
	R88L-EC-FM-03384-A
R88L-EC-FW-0606-ANPC	R88L-EC-FM-06192-A
R88L-EC-FW-0609-ANPC	R88L-EC-FM-06288-A
R88L-EC-FW-0612-ANPC	
R88L-EC-FW-1112-ANPC	R88L-EC-FM-11192-A
R88L-EC-FW-1115-ANPC	R88L-EC-FM-11288-A

Ironless motor type

Motor Coil Unit model	Magnet Trac model
R88L-EC-GW-0303-ANPS	R88L-EC-GM-03090-A
R88L-EC-GW-0306-ANPS	R88L-EC-GM-03120-A
R88L-EC-GW-0309-ANPS	R88L-EC-GM-03390-A
R88L-EC-GW-0503-ANPS	R88L-EC-GM-05126-A
R88L-EC-GW-0506-ANPS	R88L-EC-GM-05168-A
R88L-EC-GW-0509-ANPS	R88L-EC-GM-05210-A
R88L-EC-GW-0703-ANPS	R88L-EC-GM-07114-A
R88L-EC-GW-0706-ANPS	R88L-EC-GM-07171-A
R88L-EC-GW-0709-ANPS	R88L-EC-GM-07456-A

AC Servomotor/Drive G5-series

Decelerators (Backlash = 3' Max./Backlash = 15' Max.)

Backlash = 3' Max

<Cylinder Type>

● 3,000-r/min servomotors

Straight shaft without key

Motor capacity	Gear Ratio	Model (Straight shaft)
50 W	1/5	R88G-HPG11B05100B
	1/9	R88G-HPG11B09050B
	1/21	R88G-HPG14A21100B
	1/33	R88G-HPG14A33050B
	1/45	R88G-HPG14A45050B
100 W	1/5	R88G-HPG11B05100B
	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 (200 V)	1/5	R88G-HPG20A05750B
	1/11	R88G-HPG20A11750B
	1/21	R88G-HPG32A21750B
	1/33	R88G-HPG32A33750B
	1/45	R88G-HPG32A45750B
750W (400 V)	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG32A33600SB
	1/45	R88G-HPG50A451K5B
1kW	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG50A332K0B
	1/45	R88G-HPG50A451K5B
1.5kW	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG50A332K0B
	1/45	R88G-HPG50A451K5B
2kW	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG50A212K0B
	1/33	R88G-HPG50A332K0B
	1/45	R88G-HPG65A253K0SB
3kW	1/5	R88G-HPG32A053K0B
	1/11	R88G-HPG50A113K0B
	1/21	R88G-HPG50A213K0B
	1/33	R88G-HPG65A205K0SB
	1/45	R88G-HPG65A255K0SB
4kW	1/5	R88G-HPG32A054K0B
	1/11	R88G-HPG50A115K0B
	1/20	R88G-HPG65A205K0SB
	1/25	R88G-HPG65A255K0SB
	1/5	R88G-HPG50A055K0SB
5kW	1/11	R88G-HPG50A115K0SB
	1/20	R88G-HPG65A205K0SB
	1/25	R88G-HPG65A255K0SB
	1/5	R88G-HPG50A055K0SB
	1/11	R88G-HPG50A115K0B

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

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.

● 2,000-r/min servomotors

Straight shaft without key

Motor capacity	Gear Ratio	Model (Straight shaft)
400 W	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG32A33600SB
	1/45	R88G-HPG32A45400SB
600 W	1/5	R88G-HPG32A052K0B
	1/11	R88G-HPG32A112K0B
	1/21	R88G-HPG32A211K5B
	1/33	R88G-HPG32A33600SB
	1/45	R88G-HPG50A451K5B
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-HPG50A213K0B
	1/25	R88G-HPG65A253K0SB
4 kW	1/5	R88G-HPG50A055K0SB
	1/11	R88G-HPG50A115K0SB
	1/20	R88G-HPG65A205K0SB
	1/25	R88G-HPG65A255K0SB
5 kW	1/5	R88G-HPG50A055K0SB
	1/11	R88G-HPG50A115K0SB
	1/20	R88G-HPG65A205K0SB
	1/25	R88G-HPG65A255K0SB

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

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.

● 1,000-r/min servomotors

Straight shaft without key

Motor capacity	Gear Ratio	Model (Straight shaft)
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
	1/25	R88G-HPG65A255K0SB

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

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.

**Backlash = 15' Max
<Cylinder Type>**

● 3,000-r/min servomotors

Straight shaft with key

Motor capacity	Gear Ratio	Model (Straight shaft)
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

Accessories and Cables

■ Connection Cables (Power Cables, Brake Cables, Encoder Cables)

<Non-flexible Cables>

Power cable

Specifications	Without brake		With brake Model
	Model		
[100 V/200 V] 3,000-r/min Servomotors of 50 to 750 W	3 m	R88A-CAKA003S	
	5 m	R88A-CAKA005S	
	10 m	R88A-CAKA010S	
	15m	R88A-CAKA015S	
	20 m	R88A-CAKA020S	
	30 m	R88A-CAKA030S	
	40 m	R88A-CAKA040S	
	50 m	R88A-CAKA050S	
[200 V] 3,000-r/min Servomotors of 1 to 2 kW 2,000-r/min Servomotors of 1 to 2 kW 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003S	R88A-CAGB003B
	5 m	R88A-CAGB005S	R88A-CAGB005B
	10 m	R88A-CAGB010S	R88A-CAGB010B
	15 m	R88A-CAGB015S	R88A-CAGB015B
	20 m	R88A-CAGB020S	R88A-CAGB020B
	30 m	R88A-CAGB030S	R88A-CAGB030B
	40 m	R88A-CAGB040S	R88A-CAGB040B
	50 m	R88A-CAGB050S	R88A-CAGB050B
[400 V] 3,000-r/min Servomotors of 750 W to 2 kW 2,000-r/min Servomotors of 400 W to 2 kW 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003S	R88A-CAKF003B
	5 m	R88A-CAGB005S	R88A-CAKF005B
	10 m	R88A-CAGB010S	R88A-CAKF010B
	15 m	R88A-CAGB015S	R88A-CAKF015B
	20 m	R88A-CAGB020S	R88A-CAKF020B
	30 m	R88A-CAGB030S	R88A-CAKF030B
	40 m	R88A-CAGB040S	R88A-CAKF040B
	50 m	R88A-CAGB050S	R88A-CAKF050B
[200 V] [400 V] 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	R88A-CAGD003B
	5 m	R88A-CAGD005S	R88A-CAGD005B
	10 m	R88A-CAGD010S	R88A-CAGD010B
	15 m	R88A-CAGD015S	R88A-CAGD015B
	20 m	R88A-CAGD020S	R88A-CAGD020B
	30 m	R88A-CAGD030S	R88A-CAGD030B
	40 m	R88A-CAGD040S	R88A-CAGD040B
	50 m	R88A-CAGD050S	R88A-CAGD050B
[200 V] [400 V] 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:**
- Different connectors are used for the motor power and the brake on 100-V and 200-V, 3,000-r/min Servomotors of 50 to 750 W and Servomotors of 6 to 15 kW. When using a Servomotor with a brake, two cables are required: a Power Cable without Brake and a Brake Cable.
 - For non-flexible power cables for Servomotors of 11 or 15 kW, refer to the G5 series USER'S MANUAL and make your own cable. Confirm the Manual No. that is listed in Related Manuals.

Brake Cable

Specifications		Non-flexible Cables
		Model
[100 V][200 V] 3,000-r/min Servomotors of 50 to 750 W	3 m	R88A-CAKA003B
	5 m	R88A-CAKA005B
	10 m	R88A-CAKA010B
	15 m	R88A-CAKA015B
	20 m	R88A-CAKA020B
	30 m	R88A-CAKA030B
	40 m	R88A-CAKA040B
	50 m	R88A-CAKA050B
[200 V][400 V] 1,500-r/min Servomotors of 7.5 to 15 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 Cable

Specifications		Non-flexible Cables
		Model
[100 V/200 V] 3,000-r/min Servomotors of 50 to 750 W	3 m	R88A-CRKA003C
	5 m	R88A-CRKA005C
	10 m	R88A-CRKA010C
	15 m	R88A-CRKA015C
	20 m	R88A-CRKA020C
	30 m	R88A-CRKA030C
	40 m	R88A-CRKA040C
	50 m	R88A-CRKA050C
[100 V and 200 V] 3,000-r/min Servomotors of 1.0 kW or more 2,000-r/min Servomotors 1,500-r/min Servomotors 1,000-r/min Servomotors [400 V] 3,000-r/min Servomotors 2,000-r/min Servomotors 1,500-r/min Servomotors 1,000-r/min Servomotors	3 m	R88A-CRKC003N
	5 m	R88A-CRKC005N
	10 m	R88A-CRKC010N
	15 m	R88A-CRKC015N
	20 m	R88A-CRKC020N
	30 m	R88A-CRKC030N
	40 m	R88A-CRKC040N
	50 m	R88A-CRKC050N

AC Servomotor/Drive G5-series

<Flexible Cables>

Power cable

Specifications	Without brake		With brake Model
	Model		
[100 V/200 V] 3,000-r/min Servomotors of 50 to 750 W	3 m	R88A-CAKA003SR	Note: There are separate connectors for power and brakes for 3,000-r/min Servomotors of 50 to 750W. When a Servomotor with a brake is used, it is necessary to use both a PowerCable for Servomotors without brakes and Power cable.
	5 m	R88A-CAKA005SR	
	10 m	R88A-CAKA010SR	
	15 m	R88A-CAKA015SR	
	20 m	R88A-CAKA020SR	
	30 m	R88A-CAKA030SR	
	40 m	R88A-CAKA040SR	
	50 m	R88A-CAKA050SR	
[200 V] 3,000-r/min Servomotors of 1 to 2 kW 2,000-r/min Servomotors of 1 to 2 kW 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003SR	R88A-CAGB003BR
	5 m	R88A-CAGB005SR	R88A-CAGB005BR
	10 m	R88A-CAGB010SR	R88A-CAGB010BR
	15 m	R88A-CAGB015SR	R88A-CAGB015BR
	20 m	R88A-CAGB020SR	R88A-CAGB020BR
	30 m	R88A-CAGB030SR	R88A-CAGB030BR
	40 m	R88A-CAGB040SR	R88A-CAGB040BR
	50 m	R88A-CAGB050SR	R88A-CAGB050BR
[400 V] 3,000-r/min Servomotors of 750 W to 2 kW 2,000-r/min Servomotors of 400 W to 2 kW 1,000-r/min Servomotors of 900 W	3 m	R88A-CAGB003SR	R88A-CAKF003BR
	5 m	R88A-CAGB005SR	R88A-CAKF005BR
	10 m	R88A-CAGB010SR	R88A-CAKF010BR
	15 m	R88A-CAGB015SR	R88A-CAKF015BR
	20 m	R88A-CAGB020SR	R88A-CAKF020BR
	30 m	R88A-CAGB030SR	R88A-CAKF030BR
	40 m	R88A-CAGB040SR	R88A-CAKF040BR
	50 m	R88A-CAGB050SR	R88A-CAKF050BR
[200 V] [400 V] 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 4.5 kW	3 m	R88A-CAGD003SR	R88A-CAGD003BR
	5 m	R88A-CAGD005SR	R88A-CAGD005BR
	10 m	R88A-CAGD010SR	R88A-CAGD010BR
	15 m	R88A-CAGD015SR	R88A-CAGD015BR
	20 m	R88A-CAGD020SR	R88A-CAGD020BR
	30 m	R88A-CAGD030SR	R88A-CAGD030BR
	40 m	R88A-CAGD040SR	R88A-CAGD040BR
	50 m	R88A-CAGD050SR	R88A-CAGD050BR

Note: 1. Different connectors are used for the motor power and the brake on 100-V and 200-V, 3,000-r/min Servomotors of 50 to 750 W and Servomotors of 6 to 15 kW. When using a Servomotor with a brake, two cables are required: a Power Cable without Brake and a Brake Cable.

Note: 2. For flexible power cables for Servomotors of 11 to 15 kW, refer to the G5 series USER'S MANUAL and make your own cable.
For flexible power cables for Servomotors of 6 to 7.5 kW, refer to the G5 series USER'S MANUAL and make your own power cable.

Brake Cable

Specifications	Flexible Cables	
	Model	
[100 V] [200 V] 3,000-r/min Servomotors of 50 to 750 W	3 m	R88A-CAKA003BR
	5 m	R88A-CAKA005BR
	10 m	R88A-CAKA010BR
	15 m	R88A-CAKA015BR
	20 m	R88A-CAKA020BR
	30 m	R88A-CAKA030BR
	40 m	R88A-CAKA040BR
	50 m	R88A-CAKA050BR

Note: For flexible brake cables for Servomotors of 6 to 15 kW, refer to the G5 series USER'S MANUAL and make your own brake cable. Confirm the Manual No. that is listed in Related Manuals.

Encoder Cable

Specifications	Flexible Cables	
	Model	
[100 V/200 V] 3,000-r/min Servomotors of 50 to 750 W (for both absolute encoders and incremental encoders)	3 m	R88A-CRKA003CR
	5 m	R88A-CRKA005CR
	10 m	R88A-CRKA010CR
	15 m	R88A-CRKA015CR
	20 m	R88A-CRKA020CR
	30 m	R88A-CRKA030CR
	40 m	R88A-CRKA040CR
	50 m	R88A-CRKA050CR
[100 V and 200 V] 3,000-r/min Servomotors of 1.0 kW or more 2,000-r/min Servomotors 1,500-r/min Servomotors 1,000-r/min Servomotors [400 V] 3,000-r/min Servomotors 2,000-r/min Servomotors 1,500-r/min Servomotors 1,000-r/min Servomotors	3 m	R88A-CRK003NR
	5 m	R88A-CRK005NR
	10 m	R88A-CRK010NR
	15 m	R88A-CRK015NR
	20 m	R88A-CRK020NR
	30 m	R88A-CRK030NR
	40 m	R88A-CRK040NR
	50 m	R88A-CRK050NR

■ Cable/Connector**Absolute Encoder Battery Cable**

Name	Length	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

Analog Monitor Cable

Name	Length	Model
Analog Monitor Cable	1 m	R88A-CMK001S

Servo Drive Connectors (common)

Name	Connects to	Model
Encoder Connector	CN2	R88A-CNW01R
External Scale Connector	CN4	R88A-CNK41L
safety bypass connector	CN8	R88A-CNK81S

Servo Drive Connectors

Name	Connects to	Drive type	Model
Control I/O Connector	CN1	General-purpose Input	R88A-CNU11C
		MECHATROLINK-II Communications EtherCAT Communications EtherCAT Communications Linear motor	R88A-CNW01C

Servomotor Connector

Name	Applicable Servomotor Capacity	Model
	[100 V/200 V] 3,000 r/min (50 to 750 W)	R88A-CNKO2R
Servomotor Connector for Encoder Cable	[100 V/200 V] 3,000 r/min (1 to 5 kW) 2,000r/min, 1,000/r/min [400 V] 3,000 r/min, 2,000 r/min, 1,000 r/min	R88A-CNKO4R
	(750 W max.)	R88A-CNKO4R
Power Cable Connector	(750 W max.)	R88A-CNKO4R
Brake Cable Connector	(750 W max.)	R88A-CNKO4R

External Encoder Cable

Name	Lengths	Model
Serial Communications Cable	10 m	R88A-CRKE010SR

AC Servomotor/Drive G5-series

■ Control Cables

Control Cables (for Connector Terminal Block/CN1)

Name	Specifications		Model
Connector Terminal Block Cables	General-purpose Input	Length 1.0 m	XW2Z-100J-B24
		Length 2.0 m	XW2Z-200J-B24
	MECHATROLINK-II Communications	Length 1.0 m	XW2Z-100J-B34
	EtherCAT Communications	Length 2.0 m	XW2Z-200J-B34
Connector Terminal Block Conversion Unit	General-purpose Input	Conversion Unit for General-purpose Controllers (M3 screws)	XW2B-50G4
		Conversion Unit for General-purpose Controllers (M3.5 screws)	XW2B-50G5
		Conversion Unit for General-purpose Controllers (M3 screws)	XW2D-50G6
	MECHATROLINK-II Communications	Conversion Unit for General-purpose Controllers (M3 screws)	XW2B-20G4
		Conversion Unit for General-purpose Controllers (M3.5 screws)	XW2B-20G5
		Conversion Unit for General-purpose Controllers (M3 screws)	XW2D-20G6

● General-purpose Inputs (Analog input/Pulse train input type)

Connection Cables (for CN1)

Specifications		The number of axes	Length	Model
Name	Unit			
Position Control Unit (High-speed type) for Line-driver output	CJ1W-NC234/434	for 1 axis	1 m	XW2Z-100J-G9
			5 m	XW2Z-500J-G9
			10 m	XW2Z-10MJ-G9
		for 2 axis	1 m	XW2Z-100J-G1
			5 m	XW2Z-500J-G1
			10 m	XW2Z-10MJ-G1
Position Control Unit (High-speed type) for Open collector output	CJ1W-NC214/NC414	for 1 axis	1 m	XW2Z-100J-G13
			3 m	XW2Z-300J-G13
		for 2 axis	1 m	XW2Z-100J-G5
			3 m	XW2Z-300J-G5
Control Cables for Motion Control Unit	CS1W-MC221 (-V1) CS1W-MC421 (-V1)	for 1 axis	1 m	R88A-CPG001M1
			2 m	R88A-CPG002M1
			3 m	R88A-CPG003M1
			5 m	R88A-CPG005M1
		for 2 axis	1 m	R88A-CPG001M2
			2 m	R88A-CPG002M2
			3 m	R88A-CPG003M2
			5 m	R88A-CPG005M2
			1 m	R88A-CPG001S
			2 m	R88A-CPG002S
General-purpose Control Cables with Connector on One End	Cables for General-purpose Controllers	-		

Device for External Signal Connection / Connecting Cables (for CJ1W-NC□□4)

Name		Specifications		Model
Connector Terminal Block Cables	Connection Cables	Normal wiring	Length 0.5 m	XW2Z-C50X
			Length 1.0 m	XW2Z-100X
			Length 2.0 m	XW2Z-200X
			Length 3.0 m	XW2Z-300X
			Length 5.0 m	XW2Z-500X
			Length 10.0 m	XW2Z-010X
	Connector Terminal Block Conversion Unit	20 pin M3 screw Terminal Block type	Through type	XW2B-20G4
		20 pin M3.5 screw Terminal Block type	Through type	XW2B-20G5
		20 pin M3 screw Terminal Block type	Slim type	XW2D-20G6

Servo Relay Units (for CN1)

Specifications	The number of axes	Model
Position Control Unit: For CJ1W-NC113/NC133 For CS1W-NC113/NC133 For C200HW-NC113	for 1 axis	XW2B-20J6-1B
Position Control Unit: For CJ1W-NC213/NC233/NC413/NC433 For CS1W-NC213/NC233/NC413/NC433 For C200HW-NC213/NC413	for 2 axis	XW2B-40J6-2B
For CJ2M-CPU31/CPU32/CPU33/CPU34/CPU35 For CJ2M-CPU11/CPU12/CPU13/CPU14/CPU15	for 1 axis	XW2B-20J6-8A
	for 2 axis	XW2B-40J6-9A
For FQM1-MMA22 (Analog output) For FQM1-MMP22 (Pulse train output)	for 2 axis	XW2B-80J7-12A

Servo Relay Unit cable (for Servo Drive/CN1)

Specifications	Length	Model
Position Control Unit: For CJ1W-NC□□3□	1 m	XW2Z-100J-B25
For CS1W/C200HW-NC□□□ (XW2B-20J6-1B, XW2B-40J6-2B)	2 m	XW2Z-200J-B25
For CJ2M-CPU31/CPU32/CPU33/CPU34/CPU35 For CJ2M-CPU11/CPU12/CPU13/CPU14/CPU15 (XW2B-20J6-8A, XW2B-40J6-9A)	1 m	XW2Z-100J-B31
	2 m	XW2Z-200J-B31
For FQM1-MMA22 (Analog output) (XW2B-80J7-12A)	1 m	XW2Z-100J-B27
	2 m	XW2Z-200J-B27
For FQM1-MMP22 (Pulse train output) (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 cable (Position Control Unit)

Specifications	The number of axes	Length	Model
CJ1W line-driver output type For CJ1W-NC133 (XW2B-20J6-1B)	for 1 axis	0.5 m	XW2Z-050J-A18
		1 m	XW2Z-100J-A18
CJ1W line-driver output type For CJ1W-NC233/NC433 (XW2B-40J6-2B)	for 2 axis	0.5 m	XW2Z-050J-A19
		1 m	XW2Z-100J-A19
CS1W line-driver output type For CS1W-NC133 (XW2B-20J6-1B)	for 1 axis	0.5 m	XW2Z-050J-A10
		1 m	XW2Z-100J-A10
CS1W line-driver output type For CS1W-NC233/NC433 (XW2B-40J6-2B)	for 2 axis	0.5 m	XW2Z-050J-A11
		1 m	XW2Z-100J-A11
CJ1W open collector output type For CJ1W-NC113 (XW2B-20J6-1B)	for 1 axis	0.5 m	XW2Z-050J-A14
		1 m	XW2Z-100J-A14
CJ1W open collector output type For CJ1W-NC213/NC413 (XW2B-40J6-2B)	for 2 axis	0.5 m	XW2Z-050J-A15
		1 m	XW2Z-100J-A15
CS1W/C200HW open collector output type For CS1W-NC113 For C200HW-NC113 (XW2B-20J6-1B)	for 1 axis	0.5 m	XW2Z-050J-A6
		1 m	XW2Z-100J-A6
CS1W/C200HW open collector output type For CS1W-NC213/NC413 For C200HW-NC213/NC413 (XW2B-40J6-2B)	for 2 axis	0.5 m	XW2Z-050J-A7
		1 m	XW2Z-100J-A7
CJ1M open collector output type For CJ2M-CPU31/CPU32/CPU33/CPU34/CPU35 For CJ2M-CPU11/CPU12/CPU13/CPU14/CPU15 (XW2B-20J6-8A, XW2B-40J6-9A)	for 1 axis	0.5 m	XW2Z-050J-A33
		1 m	XW2Z-100J-A33
For FQM1-MMA22 (Analog output) (XW2B-80J7-12A)	General-purpose I/O (26 pin)	for 2 axis	0.5 m XW2Z-050J-A28
			1 m XW2Z-100J-A28
			2 m XW2Z-200J-A28
	Special I/O (40 pin)	for 2 axis	0.5 m XW2Z-050J-A31
			1 m XW2Z-100J-A31
			2 m XW2Z-200J-A31
For FQM1-MMP22 (Pulse train output) (XW2B-80J7-12A)	General-purpose I/O (26 pin)	for 2 axis	0.5 m XW2Z-050J-A28
			1 m XW2Z-100J-A28
			2 m XW2Z-200J-A28
	Special I/O (40 pin)	for 2 axis	0.5 m XW2Z-050J-A30
			1 m XW2Z-100J-A30
			2 m XW2Z-200J-A30

AC Servomotor/Drive G5-series

■ Communication Cables

● MECHATROLINK-II Communications

MECHATROLINK-related Devices and Cables (Manufactured by Yaskawa Corporation)

Name	Length	Model (OMRON model number)	Yaskawa model number
MECHATROLINK-II Cables (without ring core and USB connector on both ends) * Can be connected to R88D-GN and R88D-KN only.	0.5 m	FNY-W6002-A5	JEPMC-W6002-A5-E
	1.0 m	FNY-W6002-01	JEPMC-W6002-01-E
	3.0 m	FNY-W6002-03	JEPMC-W6002-03-E
	5.0 m	FNY-W6002-05	JEPMC-W6002-05-E
MECHATROLINK-II Cables (with ring core and USB connector on both ends)	0.5 m	FNY-W6003-A5	JEPMC-W6003-A5
	1.0 m	FNY-W6003-01	JEPMC-W6003-01
	3.0 m	FNY-W6003-03	JEPMC-W6003-03
	5.0 m	FNY-W6003-05	JEPMC-W6003-05
	10.0 m	FNY-W6003-10	JEPMC-W6003-10
	20.0 m	FNY-W6003-20	JEPMC-W6003-20
	30.0 m	FNY-W6003-30	JEPMC-W6003-30
MECHATROLINK-II Terminating Resistor	Terminating resistance	FNY-W6022	JEPMC-W6022
MECHATROLINK-II Repeater	Communications Repeater	-	JEPMC-REP2000-E

- MECHATROLINK-related Devices and Cables are manufactured by Yaskawa Corporation, but they can be ordered directly from OMRON using the OMRON model numbers. (Yaskawa-brand products will be delivered even when they are ordered from OMRON.)

● Recommended EtherCAT Communications Cables

Use Straight STP (shielded twisted-pair) cable of category 5 or higher with double shielding (braiding and aluminum foil tape) for EtherCAT.

Cable with Connectors

Item	Appearance	Recommended manufacturer	Cable length(m)	Model
Cable with Connectors on Both Ends (RJ45/RJ45) Standard RJ45 plugs type *1 Wire Gauge and Number of Pairs: AWG26, 4-pair Cable Cable Sheath material: LSZH *2 Cable color: Yellow		OMRON	0.3	XS6W-6LSZH8SS30CM-Y
			0.5	XS6W-6LSZH8SS50CM-Y
			1	XS6W-6LSZH8SS100CM-Y
			2	XS6W-6LSZH8SS200CM-Y
			3	XS6W-6LSZH8SS300CM-Y
			5	XS6W-6LSZH8SS500CM-Y
Cable with Connectors on Both Ends (RJ45/RJ45) Rugged RJ45 plugs type *1 Wire Gauge and Number of Pairs: AWG22, 2-pair Cable Cable color: Light blue		OMRON	0.3	XS5W-T421-AMD-K
			0.5	XS5W-T421-BMD-K
			1	XS5W-T421-CMD-K
			2	XS5W-T421-DMD-K
			5	XS5W-T421-GMD-K
			10	XS5W-T421-JMD-K
Cable with Connectors on Both Ends (M12 Straight/M12 Straight) Shield Strengthening Connector cable *4 M12/Smartclick Connectors Wire Gauge and Number of Pairs: AWG22, 2-pair Cable Cable color: Black		OMRON	0.5	XS5W-T421-BM2-SS
			1	XS5W-T421-CM2-SS
			2	XS5W-T421-DM2-SS
			3	XS5W-T421-EM2-SS
			5	XS5W-T421-GM2-SS
			10	XS5W-T421-JM2-SS
Cable with Connectors on Both Ends (M12 Straight/RJ45) Shield Strengthening Connector cable *4 M12/Smartclick Connectors Rugged RJ45 plugs type Wire Gauge and Number of Pairs: AWG22, 2-pair Cable Cable color: Black		OMRON	0.5	XS5W-T421-BMC-SS
			1	XS5W-T421-CMC-SS
			2	XS5W-T421-DMC-SS
			3	XS5W-T421-EMC-SS
			5	XS5W-T421-GMC-SS
			10	XS5W-T421-JMC-SS

*1. Standard type cables length 0.2, 0.3, 0.5, 1, 1.5, 2, 3, 5, 7.5, 10, 15 and 20 m are available.

Rugged type cables length 0.3, 0.5, 1, 2, 3, 5, 10 and 15 m are available.

For details, refer to Cat.No.G019.

*2. The lineup features Low Smoke Zero Halogen cables for in-cabinet use and PUR cables for out-of-cabinet use. Although the LSZH cable is single shielded, its communications and noise characteristics meet the standards.

*3. Cables colors are available in blue, yellow, or Green.

*4. For details, contact your OMRON representative.

Cables / Connectors

Wire Gauge and Number of Pairs: AWG24, 4-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	—	Hitachi Metals, Ltd.	NETSTAR-C5E SAB * 0.5 x 4P
	—	Kuramo Electric Co.	KETH-SB *
	—	SWCC Showa Cable Systems Co.	FAE-5004 *
RJ45 Connectors	—	Panduit Corporation	MPS588-C *

* We recommend you to use above cable and connector together.

Wire Gauge and Number of Pairs: AWG22, 2-pair Cable

Item	Appearance	Recommended manufacturer	Model
Cables	—	Kuramo Electric Co.	KETH-PSB-OMR *
		JMACS Japan Co., Ltd.	PNET/B *
RJ45 Assembly Connector		OMRON	XS6G-T421-1 *

* We recommend you to use above cable and connector together.

Note: Connect both ends of cable shielded wires to the connector hoods.

■ Peripheral Devices (External Regeneration Resistors, Reactors, Mounting Brackets)

External Regeneration Resistors

Specifications	Model
80 W 50 Ω	R88A-RR08050S
80 W 100 Ω	R88A-RR080100S
220 W 47 Ω	R88A-RR22047S1
500 W 20 Ω	R88A-RR50020S

Reactors

Specifications				Model
General-purpose Inputs	MECHATROLINK-II Communications	EtherCAT Communications	Linear Motor with built-in EtherCAT communications	
R88D-KTA5L/-KT01H (For single-phase input)	R88D-KNA5L-ML2/-KN01H-ML2 (For single-phase input)	R88D-KNA5L-ECT/-KN01H-ECT (For single-phase input)	R88D-KN01H-ECT-L (For single-phase input)	3G3AX-DL2002
R88D-KT01L/-KT02H (For single-phase input)	R88D-KN01L-ML2/-KN02H-ML2 (For single-phase input)	R88D-KN01L-ECT/-KN02H-ECT (For single-phase input)	R88D-KN01L-ECT-L/-KN02H-ECT-L (For single-phase input)	3G3AX-DL2004
R88D-KT02L/-KT04H (For single-phase input)	R88D-KN02L-ML2/-KN04H-ML2 (For single-phase input)	R88D-KN02L-ECT/-KN04H-ECT (For single-phase input)	R88D-KN02L-ECT-L/-KN04H-ECT-L (For single-phase input)	3G3AX-DL2007
R88D-KT04L/-KT08H/ -KT10H (For single-phase input)	R88D-KN04L-ML2/-KN08H-ML2/ -KN10H-ML2 (For single-phase input)	R88D-KN04L-ECT/-KN08H-ECT/ -KN10H-ECT (For single-phase input)	R88D-KN04L-ECT-L/-KN08H-ECT-L/ -KN10H-ECT-L (For single-phase input)	3G3AX-DL2015
R88D-KT15H (For single-phase input)	R88D-KN15H-ML2 (For single-phase input)	R88D-KN15H-ECT (For single-phase input)	R88D-KN15H-ECT-L (For single-phase input)	3G3AX-DL2022
R88D-KT01H/-KT02H/ -KT04H/-KT08H/ -KT10H/-KT15H (For three-phase input)	R88D-KN01H-ML2/-KN02H-ML2/ -KN04H-ML2/-KN08H-ML2/ -KN10H-ML2/-KN15H-ML2 (For three-phase input)	R88D-KN01H-ECT/-KN02H-ECT/ -KN04H-ECT/-KN08H-ECT/ -KN10H-ECT/-KN15H-ECT (For three-phase input)	R88D-KN01H-ECT-L/-KN02H-ECT-L/ -KN04H-ECT-L/-KN08H-ECT-L/ -KN10H-ECT-L/-KN15H-ECT-L (For three-phase input)	3G3AX-AL2025
R88D-KT20H/-KT30H	R88D-KN20H-ML2/-KN30H-ML2	R88D-KN20H-ECT/-KN30H-ECT	—	3G3AX-AL2055
R88D-KT50H	R88D-KN50H-ML2	R88D-KN50H-ECT	—	3G3AX-AL2110
R88D-KT06F/-KT10F/-KT15F	R88D-KN06F-ML2/-KN10F-ML2/ -KN15F-ML2	R88D-KN06F-ECT/-KN10F-ECT/ -KN15F-ECT	R88D-KN06F-ECT-L/-KN10F-ECT-L/ -KN15F-ECT-L	3G3AX-AL4025
R88D-KT20F/-KT30F	R88D-KN20F-ML2/-KN30F-ML2	R88D-KN20F-ECT/-KN30F-ECT	R88D-KN20F-ECT-L/-KN30F-ECT-L	3G3AX-AL4055
R88D-KT50F	R88D-KN50F-ML2	R88D-KN50F-ECT	—	3G3AX-AL4110
R88D-KT75H/-KT150F	—	R88D-KT75H-ECT/-KT150F-ECT	—	3G3AX-AL4220

Mounting Brackets (L Brackets for Rack Mounting)

Specifications				Model
General-purpose Inputs	MECHATROLINK-II Communications	EtherCAT Communications	Linear Motor with built-in EtherCAT communications	
R88D-KTA5L/-KT01L/ -KT01H/-KT02H	R88D-KNA5L-ML2/-KN01L-ML2/ -KN01H-ML2/-KN02H-ML2	R88D-KNA5L-ECT/-KN01L-ECT/ -KN01H-ECT/-KN02H-ECT	R88D-KN01L-ECT-L/-KN01H-ECT-L/ -KN02H-ECT-L	R88A-TK01K
R88D-KT02L/-KT04H	R88D-KN02L-ML2/-KN04H-ML2	R88D-KN02L-ECT/-KN04H-ECT	R88D-KN02L-ECT-L/-KN04H-ECT-L	R88A-TK02K
R88D-KT04L/-KT08H	R88D-KN04L-ML2/-KN08H-ML2	R88D-KN04L-ECT/-KN08H-ECT	R88D-KN04L-ECT-L/-KN08H-ECT-L	R88A-TK03K
R88D-KT10H/KT15H/ -KT06F/-KT10F/-KT15F	R88D-KN10H-ML2/-KN15H-ML2/ -KN06F-ML2/-KN10F-ML2/ -KN15F-ML2	R88D-KN10H-ECT/-KN15H-ECT/ -KN06F-ECT/-KN10F-ECT/ -KN15F-ECT	R88D-KN10H-ECT-L/-KN15H-ECT-L/ -KN06F-ECT-L/-KN10F-ECT-L/ -KN15F-ECT-L	R88A-TK04K

Note: Mounting brackets are provided with Servo Drives of 2 to 15 kW.

AC Servomotor/Drive G5-series

■ Software

How to Select Required Support Software for Your Controller

The required Support Software depends on the Controller to connect. Please check the following table when purchasing the Support Software.

Item	Omron PLC System	Omron Machine Automation Controller System
Controller	CS, CJ, CP, and other series	NJ-series
AC Servomotor/Drivers	G5-series <ul style="list-style-type: none"> • EtherCAT Communications • EtherCAT Communications Linear Motor • General-purpose input type(PulseTrain or Analog inputs) • MECHATROLINK-II Communications 	G5-series <ul style="list-style-type: none"> • EtherCAT Communications (Unit version 2.1 or later recommended) • EtherCAT Communications Linear Motor
Software	FA Intergrated Tool Package CX-One	Automation Software Sysmac Studio

■ FA Integrated Tool Package CX-One

Product name	Specifications	Number of licenses	Media	Model	Standards
FA Integrated Tool Package CX-One Ver. 4.□	<p>The CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components.</p> <p>CX-One runs on following OS. OS: Windows XP (Service Pack 3 or higher, 32-bit version) / Windows Vista (32-bit/64-bit version) / Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version) / Windows 10 (32-bit/64-bit version)</p> <p>CX-One Version.4.□ includes CX-Drive Ver.2.□.</p>	1 license *	DVD	CXONE-AL01D-V4	—

* Multi licenses (3, 10, 30, or 50 licenses) and DVD media without licenses are also available for the CX-One.

■ Automation Software Sysmac Studio

Please purchase a DVD and required number of licenses the first time you purchase the Sysmac Studio. DVDs and licenses are available individually. Each model of licenses does not include any DVD.

Product name	Specifications	Number of licenses	Media	Model	Standards
Sysmac Studio Standard Edition Ver.1.□□	<p>The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX-series CPU Units, NY-series Industrial PC, EtherCAT Slave, and the HMI.</p> <p>Sysmac Studio runs on the following OS. Windows 7 (32-bit/64-bit version) / Windows 8 (32-bit/64-bit version) / Windows 8.1 (32-bit/64-bit version) / Windows 10 (32-bit/64-bit version)</p> <p>The Sysmac Studio Standard Edition DVD includes Support Software to set up EtherNet/IP Units, DeviceNet slaves, Serial Communications Units, and Support Software for creating screens on HMIs (CX-Designer). For details, refer to the Sysmac Catalog (Cat. No. P072).</p>	— (Media only)	DVD	SYSMAC-SE200D	—
		1 license *	—	SYSMAC-SE201L	—

* Multi licenses are available for the Sysmac Studio (3, 10, 30, or 50 licenses).

Combination table

AC Servo Drive and Servomotor Combinations (3,000 r/min, 2,000 r/min, 1,500r/min, 1,000 r/min)

<Cylinder Type>

● 3,000-r/min servomotors

Power Supply Voltage	Servo Drive Model Numbers			Servomotor Model Numbers	
	General-purpose Inputs	MECHATROLINK-II	EtherCAT	Output	With incremental encoder
Single-phase 100 to 120 VAC	R88D-KTA5L	R88D-KNA5L-ML2	R88D-KNA5L-ECT	50 W	R88M-K05030H-□
	R88D-KT01L	R88D-KN01L-ML2	R88D-KN01L-ECT	100 W	R88M-K10030L-□
	R88D-KT02L	R88D-KN02L-ML2	R88D-KN02L-ECT	200 W	R88M-K20030L-□
	R88D-KT04L	R88D-KN04L-ML2	R88D-KN04L-ECT	400 W	R88M-K40030L-□
Single-phase/three-phase 200 to 240 VAC	R88D-KT01H *	R88D-KN01H-ML2 *	R88D-KN01H-ECT *	50 W	R88M-K05030H-□ *
	R88D-KT01H	R88D-KN01H-ML2	R88D-KN01H-ECT	100 W	R88M-K10030H-□
	R88D-KT02H	R88D-KN02H-ML2	R88D-KN02H-ECT	200 W	R88M-K20030H-□
	R88D-KT04H	R88D-KN04H-ML2	R88D-KN04H-ECT	400 W	R88M-K40030H-□
	R88D-KT08H	R88D-KN08H-ML2	R88D-KN08H-ECT	750 W	R88M-K75030H-□
	R88D-KT15H *	R88D-KN15H-ML2 *	R88D-KN15H-ECT *	1 kW	R88M-K1K030H-□ *
	R88D-KT15H	R88D-KN15H-ML2	R88D-KN15H-ECT	1.5 kW	R88M-K1K530H-□
Three-phase 200 to 240 VAC	R88D-KT20H	R88D-KN20H-ML2	R88D-KN20H-ECT	2 kW	R88M-K2K030H-□
	R88D-KT30H	R88D-KN30H-ML2	R88D-KN30H-ECT	3 kW	R88M-K3K030H-□
	R88D-KT50H	R88D-KN50H-ML2	R88D-KN50H-ECT *	4 kW	R88M-K4K030H-□
	R88D-KT50H	R88D-KN50H-ML2	R88D-KN50H-ECT	5 kW	R88M-K5K030H-□
Three-phase 400 to 480 VAC	R88D-KT10F	R88D-KN10F-ML2	R88D-KN10F-ECT *	750 W	R88M-K75030F-□
	R88D-KT15F *	R88D-KN15F-ML2 *	R88D-KN15F-ECT *	1 kW	R88M-K1K030F-□ *
	R88D-KT15F	R88D-KN15F-ML2	R88D-KN15F-ECT	1.5 kW	R88M-K1K530F-□
	R88D-KT20F	R88D-KN20F-ML2	R88D-KN20F-ECT	2 kW	R88M-K2K030F-□
	R88D-KT30F	R88D-KN30F-ML2	R88D-KN30F-ECT	3 kW	R88M-K3K030F-□
	R88D-KT50F	R88D-KN50F-ML2	R88D-KN50F-ECT *	4 kW	R88M-K4K030F-□
	R88D-KT50F	R88D-KN50F-ML2	R88D-KN50F-ECT	5 kW	R88M-K5K030F-□

● 1,500r/min, 2,000-r/min servomotors

Power Supply Voltage	Servo Drive Model Numbers			Servomotor Model Numbers	
	General-purpose Inputs	MECHATROLINK-II	EtherCAT	Output	With incremental encoder
Single-phase/three-phase 200 to 240 VAC	R88D-KT10H	R88D-KN10H-ML2	R88D-KN10H-ECT	1 kW	R88M-K1K020H-□
	R88D-KT15H	R88D-KN15H-ML2	R88D-KN15H-ECT	1.5 kW	R88M-K1K520H-□
Three-phase 200 to 240 VAC	R88D-KT20H	R88D-KN20H-ML2	R88D-KN20H-ECT	2 kW	R88M-K2K020H-□
	R88D-KT30H	R88D-KN30H-ML2	R88D-KN30H-ECT	3 kW	R88M-K3K020H-□
	R88D-KT50H *	R88D-KN50H-ML2 *	R88D-KN50H-ECT *	4 kW	R88M-K4K020H-□ *
	R88D-KT50H	R88D-KN50H-ML2	R88D-KN50H-ECT	5 kW	R88M-K5K020H-□
	R88D-KT75H	—	R88D-KN75H-ECT	7.5 kW	—
	R88D-KT150H *	—	R88D-KN150H-ECT *	11 kW	—
	R88D-KT150H	—	R88D-KN150H-ECT	15 kW	—
Three-phase 400 to 480 VAC	R88D-KT06F	R88D-KN06F-ML2	R88D-KN06F-ECT*	400 W	R88M-K40020F-□
	R88D-KT06F	R88D-KN06F-ML2	R88D-KN06F-ECT	600 W	R88M-K60020F-□
	R88D-KT10F	R88D-KN10F-ML2	R88D-KN10F-ECT	1 kW	R88M-K1K020F-□
	R88D-KT15F	R88D-KN15F-ML2	R88D-KN15F-ECT	1.5 kW	R88M-K1K520F-□
	R88D-KT20F	R88D-KN20F-ML2	R88D-KN20F-ECT	2 kW	R88M-K2K020F-□
	R88D-KT30F	R88D-KN30F-ML2	R88D-KN30F-ECT	3 kW	R88M-K3K020F-□
	R88D-KT50F *	R88D-KN50F-ML2 *	R88D-KN50F-ECT *	4 kW	R88M-K4K020F-□ *
	R88D-KT50F	R88D-KN50F-ML2	R88D-KN50F-ECT	5 kW	R88M-K5K020F-□
	R88D-KT75F	—	R88D-KN75F-ECT	7.5 kW	—
	R88D-KT150F *	—	R88D-KN150F-ECT *	11 kW	—
	R88D-KT150F	—	R88D-KN150F-ECT	15 kW	—

* Please use the Servo Drive and Servomotor in this combination although their capacity is not same.

AC Servomotor/Drive G5-series

● 1,000-r/min servomotors

Power Supply Voltage	Servo Drive Model Numbers			Servomotor Model Numbers		
	General-purpose Inputs	MECHATROLINK-II	EtherCAT	Output	With incremental encoder	With absolute encoder
Single-phase/ three-phase 200 to 240 VAC	R88D-KT15H *	R88D-KN15H-ML2 *	R88D-KN15H-ECT *	900 W	R88M-K90010H-□ *	R88M-K90010T-□ *
Three-phase 200 to 240 VAC	R88D-KT30H *	R88D-KN30H-ML2 *	R88D-KN30H-ECT *	2 kW	R88M-K2K010H-□ *	R88M-K2K010T-□ *
	R88D-KT50H *	R88D-KN50H-ML2 *	R88D-KN50H-ECT *	3 kW	R88M-K3K010H-□ *	R88M-K3K010T-□ *
	R88D-KT50H *	—	R88D-KN50H-ECT *	4.5 kW	—	R88M-K4K510T-□ *
	R88D-KT75H *	—	R88D-KN75H-ECT *	6 kW	—	R88M-K6K010T-□ *
Three-phase 400 to 480 VAC	R88D-KT15F *	R88D-KN15F-ML2 *	R88D-KN15F-ECT *	900 W	R88M-K90010F-□ *	R88M-K90010C-□ *
	R88D-KT30F *	R88D-KN30F-ML2 *	R88D-KN30F-ECT *	2 kW	R88M-K2K010F-□ *	R88M-K2K010C-□ *
	R88D-KT50F *	R88D-KN50F-ML2 *	R88D-KN50F-ECT *	3 kW	R88M-K3K010F-□ *	R88M-K3K010C-□ *
	R88D-KT50F *	—	R88D-KN50F-ECT *	4.5 kW	—	R88M-K4K510C-□ *
	R88D-KT75F *	—	R88D-KN75F-ECT *	6 kW	—	R88M-K6K010C-□ *

* Please use the Servo Drive and Servomotor in this combination although their capacity is not same.

AC Servomotor and Decelerator Combinations (3,000 r/min, 2,000 r/min, 1,000 r/min)**<Cylinder Type>****● 3,000-r/min servomotors**

Motor model	1/5	1/11 (1/9 for flange size No.11)	1/21	1/33	1/45
R88M-K05030□	R88G-HPG11B05100B□	R88G-HPG11B09050B□ (Gear ratio 1/9)	R88G-HPG14A21100B□	R88G-HPG14A33050B□	R88G-HPG14A45050B□
R88M-K10030□		R88G-HPG14A11100B□		R88G-HPG20A33100B□	R88G-HPG20A45100B□
R88M-K20030□	R88G-HPG14A05200B□	R88G-HPG14A11200B□	R88G-HPG20A21200B□	R88G-HPG20A33200B□	R88G-HPG20A45200B□
R88M-K40030□	R88G-HPG14A05400B□	R88G-HPG20A11400B□	R88G-HPG20A21400B□	R88G-HPG32A33400B□	R88G-HPG32A45400B□
R88M-K75030H/T (200 V)	R88G-HPG20A05750B□	R88G-HPG20A11750B□	R88G-HPG32A21750B□	R88G-HPG32A33750B□	R88G-HPG32A45750B□
R88M-K75030F/C (400 V)	R88G-HPG32A052K0B□	R88G-HPG32A112K0B□	R88G-HPG32A211K5B□	R88G- HPG32A33600SB□ (Also used with R88M- K60020□)	R88G-HPG50A451K5B□
R88M-K1K030□				R88G-HPG50A332K0B□	
R88M-K1K530□			R88G-HPG50A212K0B□	—	—
R88M-K2K030□			R88G-HPG50A213K0B□	—	—
R88M-K3K030□	R88G-HPG32A053K0B□	R88G-HPG50A113K0B□	R88G-HPG50A213K0B□	—	—
R88M-K4K030□	R88G-HPG32A054K0B□	R88G-HPG50A115K0B□	—	—	—
R88M-K5K030□	R88G-HPG50A055K0B□		—	—	—

● 2,000-r/min servomotors

Motor model	1/5	1/11	1/21 (1/20 for flange size No.65)	1/33 (1/25 for flange size No.65)	1/45
R88M-K40020□ (Only 400 V)	R88G-HPG32A052K0B□ (Also used with R88M- K2K030□)	R88G-HPG32A112K0B□ (Also used with R88M- K2K030□)	R88G-HPG32A211K5B□ (Also used with R88M- K1K530□)	R88G- HPG32A33600SB□	R88G- HPG32A45400SB□
R88M-K60020□ (Only 400 V)		R88G- HPG50A451K5B□ (R88M-K1K530□)			
R88M-K1K020□	R88G-HPG32A053K0B□ (Also used with R88M- K3K030□)	R88G- HPG32A112K0SB□	R88G- HPG32A211K0SB□	R88G- HPG50A332K0SB□	R88G- HPG50A451K0SB□
R88M-K1K520□			R88G-HPG50A213K0B□ (Also used with R88M- K3K030□)		—
R88M-K2K020□			—		—
R88M-K3K020□	R88G-HPG32A054K0B□ (Also used with R88M- K4K030□)	R88G-HPG50A115K0B□ (Also used with R88M- K5K030□)	R88G- HPG50A213K0SB□	R88G- HPG65A253K0SB□	—
R88M-K4K020□	R88G- HPG50A055K0SB□	R88G- HPG50A115K0SB□	R88G- HPG65A205K0SB□	R88G- HPG65A255K0SB□	—
R88M-K5K020□			R88G- HPG65A205K0SB□		—

● 1,000-r/min servomotors

Motor model	1/5	1/11	1/21 (1/20 for flange size No.65)	1/33 (1/25 for flange size No.65)
R88M-K90010□	R88G-HPG32A05900TB□	R88G-HPG32A11900TB□	R88G-HPG50A21900TB□	R88G-HPG50A33900TB□
R88M-K2K010□	R88G-HPG32A052K0TB□	R88G-HPG50A112K0TB□	R88G-HPG50A212K0TB□	R88G-HPG65A255K0SB□ (Also used with R88M- K5K020□)
R88M-K3K010□	R88G-HPG50A055K0SB□ (Also used with R88M- K5K020□)	R88G-HPG50A115K0SB□ (Also used with R88M- K5K020□)	R88G-HPG65A205K0SB□ (Also used with R88M- K5K020□)	R88G-HPG65A255K0SB□ (Also used with R88M- K5K020□)

Linear Motor and AC Servo Drive Linear Motor Type Combinations

● Iron-core Linear Motor type

Linear Motor Model Numbers	Power Supply Voltage (V)	Servo Drive Model Numbers	Maximum speed (m/s)
R88L-EC-FW-0303-ANPC	100	R88D-KN01L-ECT-L	2.5
	200	R88D-KN02H-ECT-L	5
	400	R88D-KN06F-ECT-L	10
R88L-EC-FW-0306-ANPC	100	R88D-KN02L-ECT-L	2.5
	200	R88D-KN04H-ECT-L	5
	400	R88D-KN10F-ECT-L	10
R88L-EC-FW-0606-ANPC	100	R88D-KN04L-ECT-L	2
	200	R88D-KN08H-ECT-L	4
	400	R88D-KN15F-ECT-L	8
R88L-EC-FW-0609-ANPC	200	R88D-KN10H-ECT-L	4
	400	R88D-KN20F-ECT-L	8
R88L-EC-FW-0612-ANPC	200	R88D-KN15H-ECT-L	4
	400	R88D-KN30F-ECT-L	8
R88L-EC-FW-1112-ANPC	200	R88D-KN15H-ECT-L	2
	400	R88D-KN30F-ECT-L	4
R88L-EC-FW-1115-ANPC	200	R88D-KN15H-ECT-L	2
	400	R88D-KN30F-ECT-L	4

● Ironless Linear Motor type

Linear Motor Model Numbers	Power Supply Voltage (V)	Servo Drive Model Numbers	Maximum speed (m/s)
R88L-EC-GW-0303-ANPS	100	R88D-KN01L-ECT-L	8
	200	R88D-KN02H-ECT-L	16
R88L-EC-GW-0306-ANPS	100	R88D-KN04L-ECT-L	8
	200	R88D-KN08H-ECT-L	16
R88L-EC-GW-0309-ANPS	200	R88D-KN10H-ECT-L	16
R88L-EC-GW-0503-ANPS	100	R88D-KN01L-ECT-L	2.2
	200	R88D-KN01H-ECT-L	4.4
R88L-EC-GW-0506-ANPS	100	R88D-KN02L-ECT-L	2.2
	200	R88D-KN04H-ECT-L	4.4
R88L-EC-GW-0509-ANPS	100	R88D-KN04L-ECT-L	2.2
	200	R88D-KN08H-ECT-L	4.4
R88L-EC-GW-0703-ANPS	100	R88D-KN02L-ECT-L	1.2
	200	R88D-KN04H-ECT-L	2.4
R88L-EC-GW-0706-ANPS	100	R88D-KN04L-ECT-L	1.2
	200	R88D-KN08H-ECT-L	2.4
R88L-EC-GW-0709-ANPS	200	R88D-KN10H-ECT-L	2.4

Note: The maximum operation speed is limited by considering the guide mechanism, encoder, and other aspects. If it is 5 m/s or higher, please consult with your OMRON representative.

Controller Combinations

● Position Control unit ,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		
C200HW-NC113				
CS1W-NC213				
CS1W-NC413	XW2Z-□□□J-A7	XW2B-40J6-2B		
C200HW-NC213				
C200HW-NC413				
CS1W-NC133	XW2Z-□□□J-A10	XW2B-20J6-1B		
CS1W-NC233	XW2Z-□□□J-A11	XW2B-40J6-2B	XW2Z-□□□J-B25	
CS1W-NC433				
CJ1W-NC113	XW2Z-□□□J-A14	XW2B-20J6-1B		
CJ1W-NC213	XW2Z-□□□J-A15	XW2B-40J6-2B		
CJ1W-NC413				
CJ1W-NC133	XW2Z-□□□J-A18	XW2B-20J6-1B		
CJ1W-NC233	XW2Z-□□□J-A19	XW2B-40J6-2B		
CJ1W-NC433				
CJ2M-CPU31	XW2Z-□□□J-A33	For 1 axis	XW2B-20J6-8A	XW2Z-□□□J-B31
CJ2M-CPU32		For 2 axis	XW2B-40J6-9A	
CJ2M-CPU33				
CJ2M-CPU34				
CJ2M-CPU35				
CJ2M-CPU11				
CJ2M-CPU12				
CJ2M-CPU13				
CJ2M-CPU14				
CJ2M-CPU15				
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		
	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.
 2. Two Servo Driver Cables are required if 2-axis control is performed using one Position Control Unit.
 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

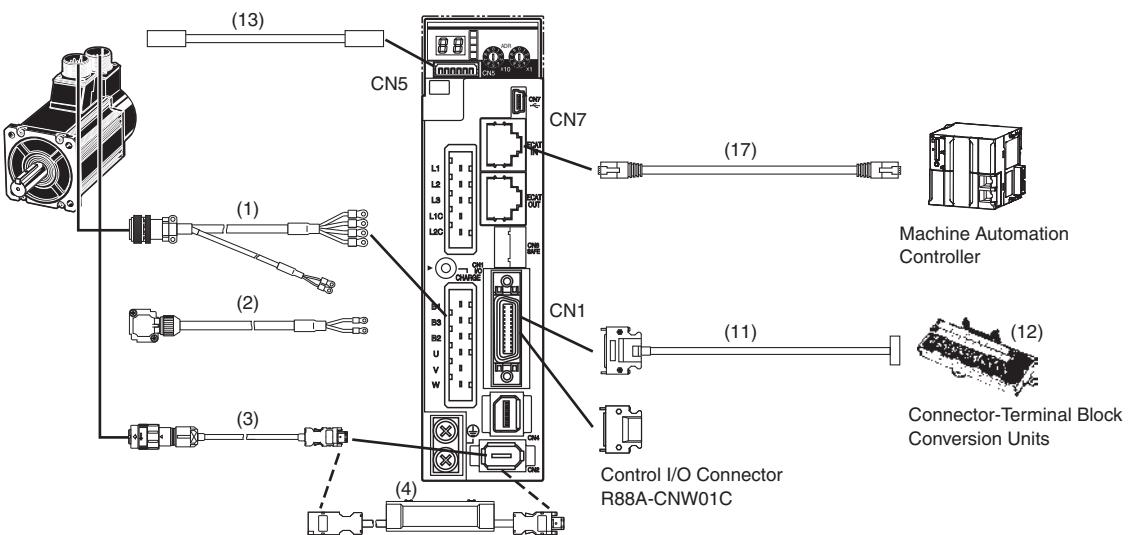
● Motion Control Unit Cables

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.

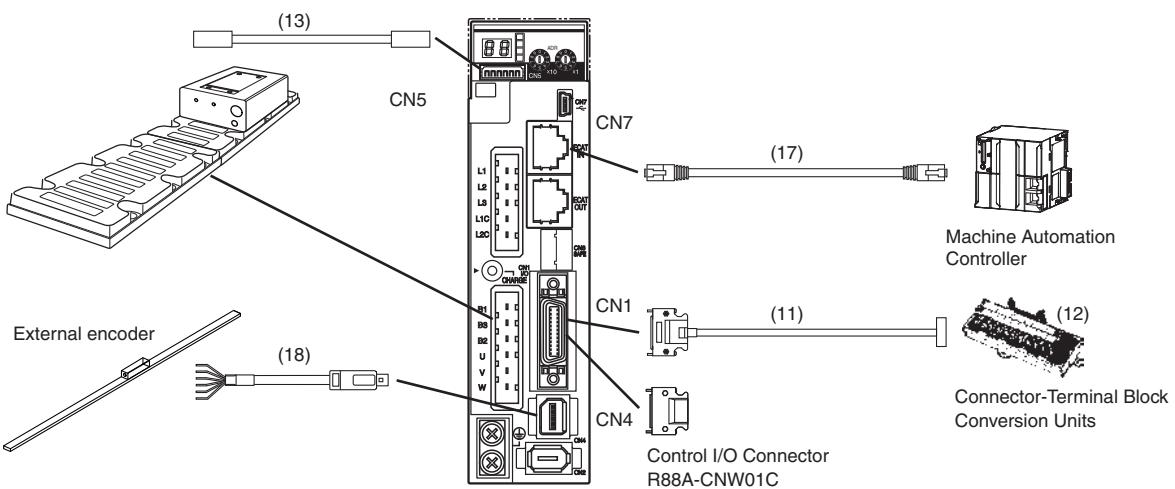
Motion Control Unit	Cable		Remarks
CS1W-MC221-V1 CS1W-MC421-V1	For 1 axis	R88A-CPG□□□M1	The □□□ digits in the model number indicate the cable length. Motion Control Unit Cables come in four lengths: 1 m, 2 m, 3 m, and 5 m. Example model number for 2-m 1-axis cable: R88A-CPG002M1
	For 2 axis	R88A-CPG□□□M2	

Cable Combinations

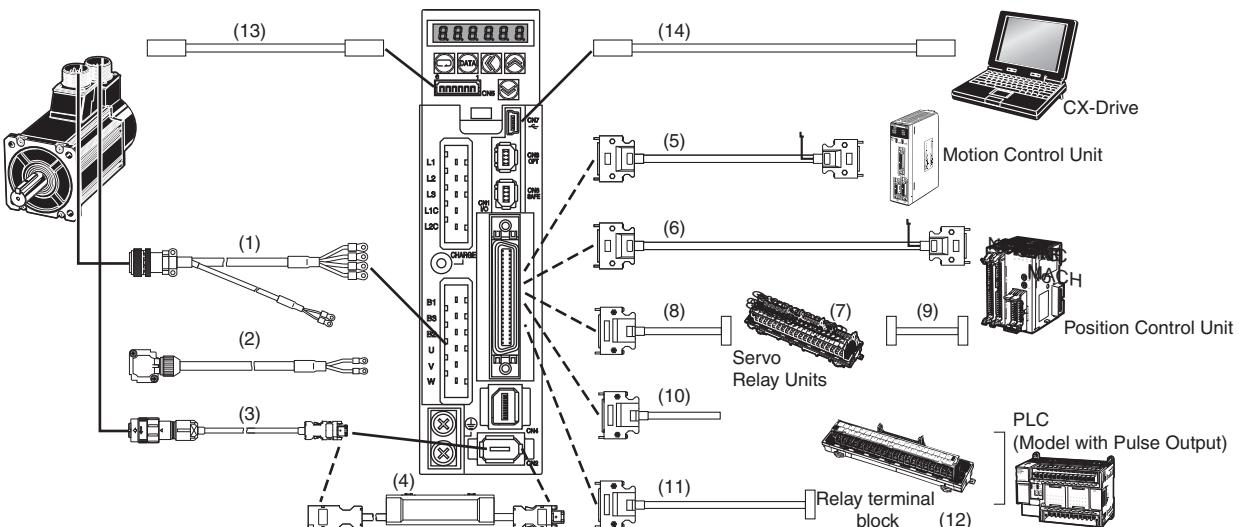
● EtherCAT Communications



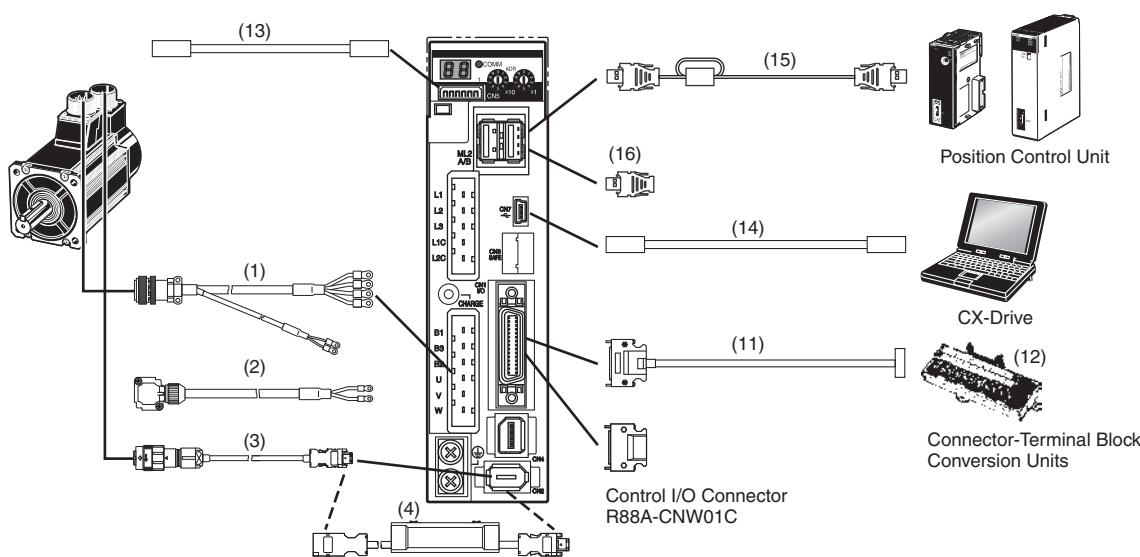
● EtherCAT Communications Linear Motor Type



● General-purpose Input



● MECHATROLINK-II Communications



AC Servomotor/Drive G5-series

Servomotor Power Cables (For CNB)

Symbol		Name	Connected to	Model	Description
(1)	Without Brakes	Standard Servomotor Power Cables for Servomotors without Brakes	[100 V] [200 V] Cylindrical Servomotors, 3,000 r/min, 50 to 750 W	R88A-CAKA□□□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.	
			[200 V] Cylindrical Servomotors, 3,000 r/min, 1 to 2 kW Cylindrical Servomotors, 2,000 r/min, 1 to 2 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.	
			[400 V] Cylindrical Servomotors, 3,000 r/min, 750 W to 2 kW Cylindrical Servomotors, 2,000 r/min, 400 W to 2 kW Cylindrical Servomotors, 1,000 r/min, 900 W	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.	
			[200 V] [400 V] 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.	
			Note: Different connectors are used for the motor power and the brake on 100-V and 200-V, 3,000-r/min Servomotors of 50 to 750 W and Servomotors of 6 to 15 kW. When using a Servomotor with a brake, two cables are required: a Power Cable without Brake and a Brake Cable.		
	Non-flexible Cables	Standard Servomotor Power Cables for Servomotors with Brakes	[200 V] Cylindrical Servomotors, 3,000 r/min, 1 to 2 kW Cylindrical Servomotors, 2,000 r/min, 1 to 2 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.	
			[400 V] Cylindrical Servomotors, 3,000 r/min, 750W to 2 kW Cylindrical Servomotors, 2,000 r/min, 400 W to 2 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAKF□□□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.	
			[200 V] [400 V] 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 3 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.	
	With Brakes	Standard Servomotor Power Cables for Servomotors with Brakes	Note: Insert the cable length into the boxes in the model number of cables. (3 m: 003, 5 m: 005, 10 m: 010)		

Note: Insert the cable length into the boxes in the model number of cables. (3 m: 003, 5 m: 005, 10 m: 010)

Symbol		Name	Connected to	Model	Description	
(1)	Without Brakes	Robot Servomotor Power Cables for Servomotors without Brakes	[100 V] [200 V] Cylindrical Servomotors, 3,000 r/min, 50 to 750 W	R88A-CAKA□□□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.		[Servomotor Connector] Angle plug: JN8FT04SJ1 (Japan Aviation Electronics Industry, Ltd.) Connector pins: ST-TMH-S-C1B-3500-A534G (Japan Aviation Electronics Industry, Ltd.)
			[200 V] Cylindrical Servomotors, 3,000 r/min, 1 to 2 kW Cylindrical Servomotors, 2,000 r/min, 1 to 2 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.		[Servomotor Connector] Straight plug: N/MS3106B20-4S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
			[400 V] Cylindrical Servomotors, 3,000 r/min, 750 W to 2 kW Cylindrical Servomotors, 2,000 r/min, 400 W to 2 kW Cylindrical Servomotors, 1,000 r/min, 900 W	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.		[Servomotor Connector] Straight plug: N/MS3106B22-22S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
			[200 V] [400 V] 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.		[Servomotor Connector] Straight plug: N/MS3106B22-22S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
			Note: Different connectors are used for the motor power and the brake on 100-V and 200-V, 3,000-r/min Servomotors of 50 to 750 W and Servomotors of 6 to 15 kW. When using a Servomotor with a brake, two cables are required: a Power Cable without Brake and a Brake Cable.			
	With Brakes	Robot Servomotor Power Cables for Servomotors with Brakes	[200 V] Cylindrical Servomotors, 3,000 r/min, 1 to 2 kW Cylindrical Servomotors, 2,000 r/min, 1 to 2 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.		[Servomotor Connector] Straight plug: N/MS3106B20-18S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-12A (Japan Aviation Electronics Industry, Ltd.)
			[400 V] Cylindrical Servomotors, 3,000 r/min, 750 W to 2 kW Cylindrical Servomotors, 2,000 r/min, 400 W to 2 kW Cylindrical Servomotors, 1,000 r/min, 900 W	R88A-CAKF□□□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.		[Servomotor Connector] Straight plug: N/MS3106B24-11S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-16A (Japan Aviation Electronics Industry, Ltd.)
			[200 V] [400 V] 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 3 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.		[Servomotor Connector] Straight plug: N/MS3106B24-11S (Japan Aviation Electronics Industry, Ltd.) Cable clamp: N/MS3057-16A (Japan Aviation Electronics Industry, Ltd.)

Note: Insert the cable length into the boxes in the model number of cables. (3 m: 003, 5 m: 005, 10 m: 010)

Brake Cables

Symbol		Name	Connected to	Model	Description	
(2)	Non-flexible Cables	Brake Cables (Non-flexible Cables)	[100 V] [200 V] Cylindrical Servomotors, 3,000 r/min, 50 to 750 W	R88A-CAKA□□□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. (3 to 20 m: 4.4 dia 30 to 50 m: 5.4 dia)		[Servomotor Connector] Angle plug: JN4FT02SJ1-R (Japan Aviation Electronics Industry, Ltd.) Connector pins: ST-TMH-S-C1B-3500-(A534G) (Japan Aviation Electronics Industry, Ltd.)
			[200 V] [400 V] Cylindrical Servomotors, 1,500 r/min, 7.5 to 15 kW 1,000 r/min, 6 kW	R88A-CAGE□□□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. (5.4 dia)		[Servomotor Connector] Angle plug: N/MS3106B14S-2S (Japan Aviation Electronics Industry, Ltd.) Connector pins: N/MS3057-6A (Japan Aviation Electronics Industry, Ltd.)
	Flexible Cables	Brake Cables (Flexible Cables)	[100 V] [200 V] Cylindrical Servomotors, 3,000 r/min, 50 to 750 W	R88A-CAKA□□□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. (3 to 20 m: 4.4 dia 30 to 50 m: 6.1 dia)		[Servomotor Connector] Angle plug: JN4FT02SJ1-R (Japan Aviation Electronics Industry, Ltd.) Connector pins: ST-TMH-S-C1B-3500-(A534G) (Japan Aviation Electronics Industry, Ltd.)

Note: Insert the cable length into the boxes in the model number of cables. (3 m: 003, 5 m: 005, 10 m: 010)

AC Servomotor/Drive G5-series

Encoder Cables (for CN2)

Symbol	Name	Connected to	Model	Description
(3)	Non-flexible Cables Standard Encoder Cables with Connectors	Cylindrical Servomotors, 3,000 r/min, 50 to 750 W (Absolute encoder/ Incremental encoder)	R88A-CRKA□□□□C 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. (3 to 20 m: 5.2 dia 30 to 50 m: 6.8 dia)	[Servo Drive Connector] Connector: 55100-0670 (Molex Japan Co., Ltd.) [Servomotor Connector] Angle clamp: JN6FR07SM1 (Japan Aviation Electronics Industry, Ltd.) Connector pins: LY10-C1-A1-10000 (Japan Aviation Electronics Industry, Ltd.)
		Cylindrical Servomotors, 3,000 r/min, For 1 kW (200 V) For 750 W (400 V) Cylindrical Servomotors, 2,000 r/min, Cylindrical Servomotors, 1,000 r/min, (Absolute encoder/ Incremental encoder)	R88A-CRK□□□□N 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.	[Servo Drive Connector] Connector: 55100-0670 (Molex Japan Co., Ltd.) [Servomotor Connector] Straight plug: JN2DS10SL2-R (Japan Aviation Electronics Industry, Ltd.) Contact: JN1-22-22S-10000 (Japan Aviation Electronics Industry, Ltd.)
	Flexible Cables Robot Encoder Cables with Connectors	Cylindrical Servomotors, 3,000 r/min, 50 to 750 W (Absolute encoder/ Incremental encoder)	R88A-CRKA□□□□CR 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. (3 to 20 m: 5.2 dia 30 to 50 m: 6.8 dia)	[Servo Drive Connector] Connector: 55100-0670 (Molex Japan Co., Ltd.) [Servomotor Connector] Angle clamp: JN6FR07SM1 (Japan Aviation Electronics Industry, Ltd.) Connector pins: LY10-C1-A1-10000 (Japan Aviation Electronics Industry, Ltd.)
		Cylindrical Servomotors, 3,000 r/min, For 1 kW (200 V) For 750 W (400 V) Cylindrical Servomotors, 2,000 r/min, Cylindrical Servomotors, 1,000 r/min, (Absolute encoder/ Incremental encoder)	R88A-CRK□□□□NR 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. (3 to 20 m: 6.8 dia 30 to 50 m: 7.7 dia)	[Servo Drive Connector] Connector: 55100-0670 (Molex Japan Co., Ltd.) [Servomotor Connector] Straight plug: JN2DS10SL2-R (Japan Aviation Electronics Industry, Ltd.) Contact: JN1-22-22S-10000 (Japan Aviation Electronics Industry, Ltd.)

Note: Insert the cable length into the boxes in the model number of cables. (3 m: 003, 5 m: 005, 10 m: 010)

Absolute Encoder Backup Battery and Absolute Encoder Battery Cable

Symbol	Name	Specifications	Model	Description
(4)	Absolute Encoder Battery Cable	Battery not included	0.3 m R88A-CRGD0R3C	
		One R88A-BAT01G Battery included.	0.3 m R88A-CRGD0R3C-BS	
	Absolute Encoder Backup Battery	—	R88A-BAT01G	—

Control Cables (for CN1)

Symbol	Name	Connected to	Model
(5)	Control Cables for Motion Control Units	Motion Control Units (for all SYSMAC CS1/C200H)	R88A-CPG□□□M◊ The empty boxes in the model number are for the cable length. The cable can be 1, 2, 3, or 5 m long. The empty diamond in the model number is for the number of axes. One axis: 1, Two axes: 2
(6)	Control Cables Direct connection cable for Position Control Unit (High-speed type)	Line-driver output type (High-speed type) for CJ1W-NC234/434	For 1 axis XW2Z-□□□J-G9 The empty boxes in the model number are for the cable length. The cable can be 1, 5, or 10 m long.
		Line-driver output type (High-speed type) for CJ1W-NC234/434	For 2 axis XW2Z-□□□J-G1 The empty boxes in the model number are for the cable length. The cable can be 1, 5, or 10 m long.
		Open collector output type (High-speed type) for CJ1W-NC214/NC414	For 1 axis XW2Z-□□□J-G13 The empty boxes in the model number are for the cable length. The cable can be 1, or 3 m long.
		Open collector output type (High-speed type) for CJ1W-NC214/NC414	For 2 axis XW2Z-□□□J-G5 The empty boxes in the model number are for the cable length. The cable can be 1, or 3 m long.

Note: Use the following codes in □□□ for the cable length: 0.5 m: 050, 1 m: 100, 2 m: 200, 3 m: 300, 5 m: 500, and 10 m:10M.
However, for General-purpose Control Cables, use "001" for a 1-m cable.

Symbol	Name	Connected to	Model
(7)	Servo Relay Units	Position Control Unit: For CJ1W-NC113/NC133 For CS1W-NC113/NC133 (For C200HW-NC113)	For 1 axis XW2B-20J6-1B
		Position Control Unit: For CJ1W-NC213/NC233/NC413/NC433 For CS1W-NC213/NC233/NC413/NC433 (For C200HW-NC213/NC413)	For 2 axis XW2B-40J6-2B
		For CJ1M-CPU21/CPU22/CPU23	For 1 axis XW2B-20J6-8A
			For 2 axis XW2B-40J6-9A
(8)	Servo Relay Unit Cables for Servo Drives	For FQM1-MMA22 (Analog output) For FQM1-MMP22 (Pulse train output)	For 2 axis XW2B-80J7-12A
		Position Control Unit: For CJ1W-NC□□□3, CS1W/C200HW-NC□□□ (XW2B-20J6-1B, XW2B-40J6-2B)	XW2Z-□□□J-B25 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.
		For CJ1M-CPU21/CPU22/CPU23 (XW2B-20J6-8A, XW2B-40J6-9A)	XW2Z-□□□J-B31 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.
		For FQM1-MMA22 (Analog output) (XW2B-80J7-12A)	XW2Z-□□□J-B27 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.
		For FQM1-MMP22 (Pulse train output) (XW2B-80J7-12A)	XW2Z-□□□J-B26 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.
(9)	Servo Relay Units/Connection Cables	CJ1W line-driver output type for CJ1W-NC133	For 1 axis XW2Z-□□□J-A18 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CJ1W line-driver output type for CJ1W-NC233/NC433	For 2 axis XW2Z-□□□J-A19 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CS1W line-driver output type for CS1W-NC133	For 1 axis XW2Z-□□□J-A10 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CS1W line-driver output type for CS1W-NC233/NC433	For 2 axis XW2Z-□□□J-A11 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CJ1W open collector output type for CJ1W-NC113	For 1 axis XW2Z-□□□J-A14 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CJ1W open collector output type for CJ1W-NC213/NC413	For 2 axis XW2Z-□□□J-A15 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CS1W/C200HW open collector output type for CS1W-NC113 for C200HW-NC113	For 1 axis XW2Z-□□□J-A6 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CS1W/C200HW open collector output type for CS1W-NC213/NC413 for C200HW-NC213/NC413	For 2 axis XW2Z-□□□J-A7 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.
		CSW/C200HW open collector output type for CJ1M-CPU21/CPU22/CPU23	For 1 axis XW2Z-□□□J-A33 The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.

Note: Use the following codes in □□□ for the cable length: 0.5 m: 050, 1 m: 100, 2 m: 200, 3 m: 300, 5 m: 500, and 10 m:10M.

AC Servomotor/Drive G5-series

Symbol	Name	Connected to	Model		
(9)	Connection Cables	For FQM1-MMA22 (Analog output) For FQM1-MMP22 (Pulse train output)	XW2Z-□□□J-A28 The empty boxes in the model number are for the cable length. The cable can be 0.5, 1, or 2 m long.		
		For FQM1-MMA22 (Analog output)	XW2Z-□□□J-A31 The empty boxes in the model number are for the cable length. The cable can be 0.5, 1, or 2 m long.		
		For FQM1-MMP22 (Pulse train output)	XW2Z-□□□J-A30 The empty boxes in the model number are for the cable length. The cable can be 0.5, 1, or 2 m long.		
(10)	General-purpose Control Cables with Connector on One End	Cables for General-purpose Controllers	R88A-CPG□□□S The empty boxes in the model number are for the cable length. The cable can be 0.5, or 1 m long.		
(11)	Connector Terminal Block Cables	Cable for General-purpose Controllers	XW2Z-□□□J-B24 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.		
		Cable for MECHATROLINK-II Communications	XW2Z-□□□J-B34 The empty boxes in the model number are for the cable length. The cable can be 1, or 2 m long.		
(12)	For Connector Terminal Block	Connector-Terminal Block Conversion Units	Cable for General-purpose Controllers	M3 screws	XW2B-50G4
			M3.5 screws	XW2B-50G5	
			M3 screws	XW2D-50G6	
		Connector-Terminal Block Conversion Units	Cable for MECHATROLINK-II Communications	M3 screws	XW2B-20G4
			M3.5 screws	XW2B-20G5	
			M3 screws	XW2D-20G6	

Note: Use the following codes in □□□ for the cable length: 0.5 m: 050, 1 m: 100, 2 m: 200, 3 m: 300, 5 m: 500, and 10 m:10M.
However, for General-purpose Control Cables, use "001" for a 1-m cable.

Monitor Connector (for CN5)

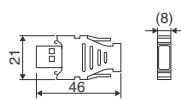
Symbol	Name	Lengths	Model
(13)	Analog Monitor Cable	1 m	R88A-CMK001S

Communications Connector (for CN7)

Symbol	Name	Description
(14)	USB communications cable	General purpose USB cable can be used

Note: Use a commercially available USB cable that is shielded, equipped with a ferrite core for noise immunity, and supporting for USB2.0. The Mini B type USB cable can be used.

MECHATROLINK-II Communication Cable

Symbol	Name	Length (L)	Model (OMRON model number)	Yaskawa model number	Description
(15)	MECHATROLINK-II Communication Cable * Can be connected to R88D-GN and R88D-KN only.	0.5m	FNY-W6002-A5	JEPMC-W6002-A5-E	(without ring core and USB connector on both ends)
		1m	FNY-W6002-01	JEPMC-W6002-01-E	
		3m	FNY-W6002-03	JEPMC-W6002-03-E	
		5m	FNY-W6002-05	JEPMC-W6002-05-E	
(15)	MECHATROLINK-II Communication Cable	0.5m	FNY-W6003-A5	JEPMC-W6003-A5	(with ring core and USB connector on both ends)
		1m	FNY-W6003-01	JEPMC-W6003-01	
		3m	FNY-W6003-03	JEPMC-W6003-03	
		5m	FNY-W6003-05	JEPMC-W6003-05	
		10m	FNY-W6003-10	JEPMC-W6003-10	
		20m	FNY-W6003-20	JEPMC-W6003-20	
		30m	FNY-W6003-30	JEPMC-W6003-30	
(16)	MECHATROLINK-II Terminating resistance	-	FNY-W6022	JEPMC-W6022	

EtherCAT Communication Cable

Symbol	Name	Description
(17)	Ethernet Cable	EtherCAT Communication Cables <ul style="list-style-type: none"> • Use a category 5 or higher cable with double, aluminum tape and braided shielding. Connector (Modular Plug) Specifications • Use a category 5 or higher, shielded connector.

External encoder Cables

Symbol	Name	Length (L)	Model	Description
(18)	Serial Communications Cable	10m	R88A-CRKE010SR	CN4 with Connectors 

Connectors

Connectors	Name	Model
CN1	Control I/O Connector (General-purpose Input)	R88A-CNU11C
	Control I/O Connector (MECHATROLINK-II Communications) (EtherCAT Communications)	R88A-CNW01C
CN2	Encoder Connector	R88A-CNW01R
CN4	External scale connector	R88A-CNK41L
CN8	Safety connector	R88A-CNK81S

Servomotor Connector

Connectors	Name	Connected to	Model
–	Motor connector for encoder cable	3,000 r/min, 50 to 750 W	R88A-CNKO2R
		3,000 r/min, 1 to 5 kW (200 V)/750 W to 5 kW (400 V) 2,000 r/min, 1,000 r/min	R88A-CNKO4R
–	Power cable connector	750 W max. (100 V/200 V)	R88A-CNKO1A
–	Brake cable connector	750 W max. (100 V/200 V)	R88A-CNKO1B

Related Manuals

Please read the relevant manuals of G5-Series

English Cat. No.	Japanese Cat. No.	Type	Name
I571	SBCE-357	R88D-KT/R88M-K	G5-SERIES AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL
I572	SBCE-358	R88D-KN□-ML2/R88M-K	G5-SERIES MECHATROLINK-II Communications AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL
I573	SBCE-360	R88D-KN□-ECT-R/R88M-K	G5-SERIES EtherCAT Communications for Position Control AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL
I576	SBCE-365	R88D-KN□-ECT/R88M-K	G5-SERIES EtherCAT Communications AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL
I577	SBCE-366	R88D-KN□-ECT-L/R88L-EC	G5-SERIES EtherCAT Communications Linear Motor Type LINEARMOTOR AND DRIVE USER'S MANUAL
W487	SBCE-359	CJ1W-NC□81/CJ1W-NC□82	CJ-series Position Control Unit Operation Manual
W446	SBCA-337	CXONE-AL□□D-V□	CX-Programmer Operation Manual
W453	SBCE-375	CXONE-AL□□D-V□	CX-Drive OPERATION MANUAL
W504	SBCA-362	SYSMAC-SE2□□□	Sysmac Studio Version 1 Operation Manual

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